Chevron

Global Gas

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Alameda County
Environmental Health

November 15, 2010

Mr. Jerry Wickham
Department of Environmental Health
Alameda County Health Agency
1131 Harbor Bay Parkway
Alameda, CA 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 – Third Quarter 2010 Groundwater Monitoring Report**" are true and correct to the best of my knowledge at the present time.

Sincerely,

Kimberly Tourloukis

K. H. (Kimberly) Tourloukis

KHT/rmf

REPORT

THIRD QUARTER 2010 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

November 2010

URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612

26815217

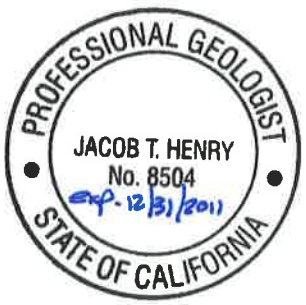
This letter report ("**Third Quarter 2010 Groundwater Monitoring Report**") was prepared under my direct supervision. The information presented in this report is based on our review of available data obtained during our quarterly sampling activities and our previous subsurface investigation efforts. 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 Third Quarter 2010 Groundwater Monitoring Report discussed herein was developed in accordance with the standard of care used to develop this type of report. The assumptions that were made and the recommendations for continued field activities were based on our professional experience and protocols reported in the literature for similar investigations.

URS Corporation
Approved by:

Joe Morgan III

Jacob Henry, P.G.



URS

November 15, 2010

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

Subject: SLIC Case No. RO0002892, Chevron Pipeline Company, Sunol Spill, 2793 Calaveras Rd, Sunol, CA, Third Quarter 2010 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 (CPL) Sunol Spill Site (Site). In response to this request and on behalf of CPL, URS Corporation (URS) has prepared the Site groundwater monitoring report for the third quarter 2010.

If you have any questions on this report, please call Mr. Joe Morgan or Mr. Jacob Henry of URS at 510-874-3201 or 510-874-3252, respectively.

Sincerely yours,

URS Corporation

PROFESSIONAL GEOLOGIST
JACOB T. HENRY
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Jacob Henry, P.G.
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cc: Ms. Kimberly Tourloukis, Chevron Pipeline Company
Ms. Rachel Naccarati, URS Oakland

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On September 28 and 29, 2010, 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. Monitoring well and surface water sampling locations are provided on Figure 2.

URS gauged the depth to groundwater at groundwater monitoring wells MW-1 through MW-4 and MW-8 through MW-11. URS collected groundwater samples for laboratory analysis from groundwater monitoring wells MW-8 through MW-11. The groundwater elevations in monitoring wells MW-1 through MW-4 were below bedrock and hydraulically disconnected from the unconfined water bearing zone, therefore, they were not sampled as part of this sampling event. URS also collected a surface water sample from the very small stream, located northwest of the release location. Monitoring wells MW-5 through MW-7 were abandoned on June 23, 2008, and are no longer part of the groundwater monitoring program.

1.1 SITE HYDROGEOLOGY

Prior to collecting groundwater samples, depth to groundwater measurements were recorded from monitoring wells MW-1 through MW-4 and MW-8 through MW-11 from the top of casing using an electronic oil/water interface probe. Product (0.01 feet) was detected in monitoring well MW-8 during the third quarter 2010. Depth to groundwater measurements are presented in Table 1 and calculated groundwater elevations above mean sea level are presented in Table 2.

Unconfined Water Bearing Zone

The groundwater surface elevation decreased in all monitoring wells (MW-1 through MW-4 and MW-8 through MW-11) relative to the last sampling event in June 2010. The groundwater surface elevation change at MW-1 and MW-4 resulted in hydraulic disconnection. The groundwater elevations for monitoring wells MW-1 through MW-4 and MW-9 through MW-11 were 290.68, 290.74, 290.85, 290.69, 290.26, 290.00, and 285.05 feet above average mean sea level (msl), respectively. The groundwater elevation for MW-8, which is screened in an apparent hillside groundwater recharge source for the Valley Crest Tree Company's (nursery) unconfined water-bearing zone, was 311.70 feet above msl.

Groundwater monitoring wells MW-1 through MW-4 were not accessible on September 28, 2010 due to spraying of pesticides at the nursery. Based on these wells being inaccessible on September 28, all the monitoring wells were gauged on September 29, 2010, after MW-8 and MW-10 were purged. The monitoring wells were gauged on September 29, 2010 after MW-10 and MW-11 had been sampled. Monitoring wells MW-10 and MW-11 had not fully recharged and MW-2 through MW-4 were hydraulically disconnected. Therefore, groundwater contours could not be completed and groundwater flow direction was not determined for the third quarter 2010.

Figure 3 provides the bedrock surface elevations for the gravel-siltstone contact for comparison.

2.1 QUARTERLY MONITORING ACTIVITIES

After measuring the depth to groundwater at each monitoring well, URS conducted groundwater sampling on September 28 and 29, 2010. The rationale for the method used at each monitoring well is described below:

- MW-9 through MW-11 were sampled using low-flow methods.
- MW-8 was sampled using a disposable bailer.
- A surface water sample was collected using a clean disposable cup from the very small stream northwest of the release location.

2.1.1 MW-1 and MW-9 Sorbent Booms

From March 2007 until May 2009, URS placed sorbent booms (booms) in MW-1 and MW-9 as an interim remedial measure. The booms were effective in passively collecting and facilitating degradation of petroleum hydrocarbons within the monitoring wells and allowing for quarterly groundwater sample collection. Since May 2009, MW-1 and MW-9 have been gauged monthly, including during the third quarter 2010 groundwater monitoring event, with no measurable product observed. URS will continue to monitor MW-1 and MW-9 during the monthly groundwater gauging events for product.

2.1.2 MW-9 through MW-11

Low-flow purging rates of 175-200 milliliters per minute (mL/min) were used dependent on the rate of recharge at each monitoring 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, 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-22XD. The multi-parameter device was calibrated prior the sampling event. 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.

2.1.3 Surface Water Sample

The sampling location along the very small stream is located at the base of the alluvial terrace within the Alameda Creek floodplain and is shown on Figure 2. The former sampling point (SW-Creek, sampled prior to the first quarter of 2007) is also provided on Figure 2 for reference. To the west, beyond the current sampling location, the very small stream fans out into the floodplain and surface flow terminates within floodplain grasses. A stream sample was collected on September 28, 2010 using a clean disposable cup.

3.1 ANALYTICAL PROGRAM

The groundwater samples from monitoring wells MW-8 through MW-11 were collected in clean laboratory provided containers. The containers were labeled with unique 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.

Monitoring wells MW-1 through MW-4 were not sampled because groundwater levels were below the bedrock indicating the monitoring wells were hydraulically disconnected from the water bearing zone.

Groundwater samples collected during quarterly sampling activities 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

Geochemical Indicator Parameters

- Nitrate and sulfate by USEPA Method 300.0
- Total manganese and dissolved iron by USEPA Method 6010B
- Ferrous iron by SM20 Method 3500-FE B Modified
- Methane by USEPA Method 8015B Modified
- Alkalinity including breakdown products by USEPA Method 310.1
- Total dissolved solids (TDS) by USEPA Method 160.1

Geochemical parameters were not collected from the sample collected from MW-8 due to the amount of water located in the well.

3.2 GROUNDWATER ANALYTICAL RESULTS DISCUSSION

A tabulated summary of the analytical results for the gasoline compounds and associated environmental screening levels (ESLs), for groundwater as a current or potential source of drinking water, developed by the Regional Water Quality Control Board (RWQCB 2008) are presented in Table 3. Complete laboratory analytical results and chain of custody forms are presented as Appendix B.

3.2.1 Unconfined Water-Bearing Zone Monitoring Wells

The unconfined water bearing zone wells sampled during the third quarter sampling event included MW-8 through MW-11. The third quarter 2010 groundwater sample results are as follows:

- The MW-8 sample contained TPH-GRO at 74,000 µg/L, benzene at 1,400 µg/L, toluene at 16,000 µg/L, ethylbenzene at 3,200 µg/L, and total xylenes at 16,000 µg/L. Samples results increased since the sampling event in June 2010 due to the small amount of product encountered in the well and the decreased water levels in the aquifer.
- The MW-9 sample contained TPH-GRO at 24,000 µg/L, ethylbenzene at 440 µg/L, and total xylenes at 2,100 µg/L. Benzene and toluene were not detected above laboratory reporting limits. Sample results slightly increased since the June 2010 sampling event, most likely due to the decreased water levels in the aquifer.

- The analytical results from MW-10, and MW-11 were below laboratory method detection limits for TPH-GRO and BTEX.

Groundwater analytical results are presented in Table 3.

3.2.2 Surface Water Sample

A surface water sample was collected on September 28, 2010. TPH-GRO and BTEX were below method detection limits in the sample collected from the stream (Table 3).

3.2.3 Analytical Result Comparison to ESLs

The TPH-GRO analytical results for monitoring wells MW-8 and MW-9 exceeded the TPH-GRO ESL of 100 µg/L with concentrations of 74,000 µg/L, and 24,000 µg/L, respectively.

The benzene analytical result for monitoring well MW-8 exceeded the benzene ESL of 1 µg/L with a concentration of 1,400 µg/L.

The toluene analytical result for monitoring well MW-8 exceeded the toluene ESL of 40 µg/L with a concentration of 16,000 µg/L.

The ethylbenzene analytical results for monitoring wells MW-8 and MW-9 exceeded the ethylbenzene ESL of 30 µg/L with concentrations of 3,200 µg/L and 440 µg/L, respectively.

The total xylenes analytical results for monitoring wells MW-8 and MW-9 exceeded the total xylenes ESL of 20 µg/L with concentrations of 16,000 µg/L and 2,100 µg/L, respectively.

3.2.4 Geochemical Analytical Results

The groundwater samples collected from MW-9 through MW-11 were also analyzed for geochemical parameters. Geochemical parameters were not collected from the sample collected from MW-8 due to the amount of water in the well. Overall, the geochemical parameters indicate a low oxygen (anaerobic) environment. URS will continue to collect geochemical parameters when possible from all monitoring wells. Current and historical geochemical results are presented in Table 4.

3.2.4.1 Oxidation Reduction Potential

ORP in groundwater generally ranges from -400 mV (reducing conditions) to +800 mV (oxidizing conditions). ORP levels in MW-1 ranged from -147 mV to 88.15 mV. ORP levels in MW-8 ranged from -165 mV to -74 mV. ORP levels in MW-9 ranged from -197 mV to 4 mV. In general, reducing conditions appear to exist at the Site.

3.2.4.2 Dissolved Oxygen

DO is the most thermodynamically favored electron acceptor used in the aerobic biodegradation of petroleum hydrocarbons. DO concentrations in MW-1 ranged from 0.0 milligrams per liter (mg/L) to 2.45 mg/L DO concentrations in MW-8 ranged from 0.0 mg/L to 0.05 mg/L. DO concentrations in MW-9 ranged from 0.0 mg/L to 3.35 mg/L. Recent DO concentrations in all monitoring wells have reached 0.0 mg/L indicating anaerobic conditions at the Site.

3.2.4.3 Nitrates

After DO has been depleted in the groundwater, nitrate may be consumed during the anaerobic biodegradation of TPH-g and 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. In general, nitrate levels in MW-2 through MW-4, MW-10, and MW-11 are higher than in MW-1, MW-8, and MW-9.

Nitrate concentrations in MW-1 ranged from 0.37 mg/L to 10.3 mg/L; however, overall nitrate concentrations are much lower. Nitrate concentrations in MW-8 ranged from <0.25 mg/L to 0.27 mg/L. Nitrate concentrations in MW-9 ranged from <0.25 mg/L to 0.39 mg/L. The lack of nitrate may indicate that it has either been consumed by the denitrification process or is not naturally present at the Site.

3.2.4.4 Ferric Iron

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

Ferrous iron concentrations in MW-1 ranged from <0.008 mg/L to 0.22 mg/L. Ferrous iron concentrations in MW-8 ranged from 0.14 mg/L to 7.8 mg/L. Ferrous iron concentrations in MW-9 ranged from 0.099 mg/L to 3.3 mg/L, however, recent ferrous iron concentrations have been decreasing. In general, elevated levels of ferrous iron are present at MW-8 indicating that anaerobic biodegradation is occurring at that location.

3.2.4.5 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.

Sulfate concentrations in MW-1 ranged from 48.3 mg/L to 108 mg/L. Sulfate concentrations in MW-8 ranged from 1.7 mg/L to 90.2 mg/L, though recent sulfate concentrations have been below 10 mg/L. Sulfate concentrations in MW-9 ranged from 4.5 mg/L to 60.5 mg/L with recent sulfate concentrations above 30 mg/L. The elevated levels of sulfate in the nursery groundwater (MW-1 and MW-9) indicate that sulfate reduction is not occurring in this area. However, lower levels of sulfate in the groundwater at MW-8 (eastern side of Calaveras Road) indicate sulfate reduction may be ongoing.

It is worth noting the background levels of sulfate at MW-2 are slightly higher than those observed at MW-1 and MW-9 further indicating that sulfate reduction is not occurring in the nursery at this time.

3.2.4.6 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.

It was observed that the methane levels in nursery monitoring wells MW-1 (0.067 mg/L) and MW-9 (0.012 mg/L) were low with sulfate levels being high, indicating methanogenesis is not occurring. However, the methane level observed at MW-8 (0.65 mg/L) was slightly higher with lower sulfate levels indicating methanogenesis is occurring.

In conclusion, biodegradation parameters indicate that anaerobic conditions exist within the plume and anaerobic biodegradation is occurring within the plume. However, the soluble electron acceptors within the plume are depleted and may be limiting the rate of biodegradation activity. Hence, addition of electron acceptors to stimulate biodegradation activity appears to be a viable remedial approach for the Site.

3.2.4.7 TPH-g and BTEX Concentration Trends

TPH-g and BTEX concentrations have steadily decreased since the pipeline release. The highest concentrations of TPH-g (16,000 mg/L to 74,000 mg/L) were in groundwater at monitoring well MW-9 located in the nursery. Monitoring well MW-9 has had free product in the past but not since early 2007. The highest concentrations of benzene (76 mg/L to 1,500 mg/L) were in groundwater at monitoring well MW-8 located on the eastern side of Calaveras Road. The highest concentrations of toluene (57 mg/L to 7,200 mg/L) were in groundwater at monitoring well MW-8. The highest concentrations of ethylbenzene (210 mg/L to 2,200 mg/L) were in groundwater at monitoring well MW-9. The highest concentrations of total xylenes (1,300 mg/L to 17,000 mg/L) were in groundwater at monitoring well MW-9. MW-1 has had free product in the past but not since late 2008.

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

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. All samples were analyzed within the appropriate hold times, with the exception of ferrous iron. The ferrous iron hold time of 24 hours for

Method SM20 3500 Fe B was exceeded in samples MW-9, MW-10 and MW-11. The ferrous iron detections in these samples were qualified as estimated and flagged with a "J."

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), indicating no evidence of contamination from laboratory instrumentation.

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.

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.

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, or were outside laboratory QC limits but did not require qualification, with the exception of the following:

- High duplicate RPD was observed for ferrous iron in the duplicate sample from MW-11. The ferrous iron detection in MW-11 was qualified as estimated and flagged with a "J."

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 30% for compounds detected in the field sample and corresponding field duplicate sample. The following field sample/duplicate sample pair had RPDs greater than 30%:

- RPDs of 36%, 44% and 79% were observed for toluene, xylene and TPH-GRO, respectively, in field sample/duplicate sample pair MW-8/MW-X. The toluene, xylene and TPH-GRO results in samples MW-8 and MW-X were qualified with a "J," indicating heterogeneity of the sample matrix.

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, or were outside laboratory QC limits but did not require qualification.

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 "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.

SUMMARY OF QA/QC REVIEW FINDINGS

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

The ferrous iron hold time of 24 hours for Method SM20 3500 Fe B was exceeded in samples MW-9, MW-10 and MW-11. The ferrous iron detections in these samples were qualified as estimated and flagged with a "J."

High duplicate RPD was observed for ferrous iron in the duplicate sample from MW-11. The ferrous iron detection in MW-11 was qualified as estimated and flagged with a "J."

RPDs of 36%, 44% and 79% were observed for toluene, xylene and TPH-GRO, respectively, in field sample/duplicate sample pair MW-8/MW-X. The toluene, xylene and TPH-GRO results in samples MW-8 and MW-X were qualified with a "J," indicating heterogeneity of the sample matrix.

Reporting limits were raised due to interference from the sample matrix for Method 8260B analysis in sample MW-9, and the sample was diluted by a factor of 20. As a result, benzene and toluene were non-detect at the elevated laboratory reporting limit of 10 µg/L.

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.

Quarterly groundwater monitoring field activities conducted on September 28 and 29, 2010 included measuring the depth to groundwater at monitoring wells MW-1 through MW-4 and MW-8 through MW-11 and collecting analytical samples from groundwater monitoring wells MW-8 through MW-11, and the stream. The findings are as follows:

- Free product was observed in monitoring well MW-8 at a thickness of 0.01 feet during the third quarter 2010 groundwater monitoring activities.
- The groundwater elevations decreased in all monitoring wells since the last sampling event in June 2010. Groundwater elevations collected on September 29, 2010 could not be used to determine the groundwater gradient and flow direction within the nursery's unconfined water bearing zone due to MW-1 through MW-4 being hydraulically disconnected.
- The MW-8 sample contained TPH-GRO at 74,000 µg/L, benzene at 1,400 µg/L, toluene at 16,000 µg/L, ethylbenzene at 3,200 µg/L, and total xylenes at 16,000 µg/L. Sample results increased since the sampling event in June 2010 due to the small amount of product encountered in the well and may be associated with the decreased water levels in the aquifer.
- The MW-9 sample contained TPH-GRO at 24,000 µg/L, ethylbenzene at 440 µg/L, and total xylenes at 2,100 µg/L. Sample results slightly increased since the June 2010 sampling event which is associated with the decreased water levels in the aquifer.
- Groundwater samples collected from monitoring wells MW-10 and MW-11 have remained non-detect since the sampling event in June 2010.
- Other than the initial release (August 2005), the known petroleum hydrocarbon along the hillside has had limited contact with groundwater which is the transportation mechanism for petroleum hydrocarbons to the nursery.

Based on the September 28 and 29, 2010 field observations and analytical results URS makes the following recommendations:

- Continue monthly groundwater gauging to assess the effect of seasonal and long-term groundwater elevation fluctuations within the unconfined water-bearing zone.
- Reduce the groundwater sampling schedule from quarterly to semiannual sampling. URS proposes sampling during the first and third quarter because these quarters represent the highest and lowest groundwater levels, respectively.

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.

TABLE 1
Monitoring Well Groundwater Levels
Third Quarter 2010 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Screen Interval (feet bgs)[1]	Date	Depth to Groundwater (feet TOC-N)[2]	Depth to Product (feet TOC-N)	Product Thickness (feet)
MW-1	29.3-39.3	2/21/2006	36.34	--	--
		6/7/2006	34.28	--	--
		8/22/2006	37.11	37.08	0.03
		11/14/2006	37.05	--	--
		2/20/2007	36.14	--	--
		6/5/2007	37.21	--	--
		9/12/2007	37.67	37.55	0.12
		12/11/2007	37.49	37.46	0.03
		3/19/2008	35.94	--	--
		5/20/2008	35.51	--	--
		6/5/2008	35.69	--	--
		9/18/2008	37.62	37.61	0.01
		12/15/2008	37.53	37.52	0.01
		3/27/2009	35.24	--	--
		6/9/2009	37.05	--	--
		9/28/2009	37.61	--	--
		12/9/2009	37.56	--	--
		3/9/2010	34.41	--	--
		6/23/2010	37.49	--	--
		9/29/2010	37.36	--	--
MW-2	23.3-38.3	2/21/2006	32.19	--	--
		6/7/2006	30.23	--	--
		8/22/2006	33.11	--	--
		11/14/2006	33.01	--	--
		2/20/2007	31.93	--	--
		6/5/2007	33.23	--	--
		9/12/2007	33.62	--	--
		12/5/2007	33.52	--	--
		3/19/2008	31.76	--	--
		5/20/2008	31.41	--	--
		6/5/2008	31.56	--	--
		9/18/2008	33.65	--	--
		12/15/2008	33.59	--	--
		3/27/2009	31.14	--	--
		6/9/2009	33.08	--	--
		9/28/2009	33.62	--	--
		12/9/2009	33.61	--	--
		3/9/2010	30.36	--	--
		6/23/2010	32.66	--	--
		9/29/2010	33.41	--	--
MW-3	21.3-36.3	2/21/2006	31.97	--	--
		6/7/2006	30.91	--	--
		8/22/2006	34.66	--	--
		11/14/2006	34.71	--	--
		2/20/2007	31.66	--	--
		6/5/2007	34.63	--	--
		9/12/2007	34.71	--	--
		12/11/2007	34.77	--	--
		3/19/2008	31.64	--	--
		5/20/2008	31.26	--	--
		6/5/2008	31.45	--	--
		9/18/2008	34.81	--	--
		12/15/2008	34.79	--	--
		3/27/2009	30.87	--	--
		6/9/2009	34.48	--	--
		9/28/2009	34.82	--	--

TABLE 1
Monitoring Well Groundwater Levels
Third Quarter 2010 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Screen Interval (feet bgs)[1]	Date	Depth to Groundwater (feet TOC-N)[2]	Depth to Product (feet TOC-N)	Product Thickness (feet)
MW-3 cont.	21.3-36.3	12/9/2009	34.83	--	--
		3/9/2010	30.60	--	--
		6/23/2010	33.94	--	--
		9/29/2010	34.80	--	--
MW-4	30.7-40.7	2/21/2006	36.72	--	--
		6/7/2006	35.76	--	--
		8/22/2006	38.79	--	--
		11/14/2006	38.84	--	--
		2/20/2007	36.54	--	--
		6/5/2007	38.77	--	--
		9/12/2007	38.93	--	--
		12/11/2008	39.00	--	--
		3/19/2008	36.29	--	--
		5/20/2008	36.27	--	--
		6/5/2008	36.38	--	--
		9/18/2008	39.03	--	--
		12/15/2008	39.03	--	--
		3/27/2009	36.10	--	--
		6/9/2009	38.62	--	--
		9/28/2009	39.04	--	--
		12/9/2009	39.09	--	--
		3/9/2010	35.69	--	--
		6/23/2010	37.41	--	--
		9/29/2010	38.98	--	--
MW-8	14.5-24.5	8/22/2006	18.71	--	--
		11/14/2006	18.73	--	--
		2/20/2007	19.23	--	--
		6/5/2007	20.48	--	--
		9/12/2007	21.47	--	--
		12/11/2007	19.58	--	--
		Q1 2008	NM	--	--
		Q2 2008	NM	--	--
		9/18/2008	21.67	--	--
		12/15/2008	20.73	--	--
		3/27/2009	19.54	--	--
		6/9/2009	23.31	--	--
		9/28/2009	22.58	--	--
		12/9/2009	20.66	20.65	0.01
		3/9/2010	18.97	--	--
		6/23/2010	19.82	--	--
		9/29/2010	22.23	22.22	0.01
MW-9	36.0-46.0	8/22/2006	42.59	42.55	0.04
		11/14/2006	42.62	42.54	0.08
		2/20/2007	41.91	41.86	0.05
		6/5/2007	42.71	42.69	0.02
		9/12/2007	43.09	43.01	0.08
		12/11/2007	42.91	--	--
		3/20/2007	41.76	41.75	0.01
		12/11/2007	42.91	--	--
		5/20/2008	41.33	--	--
		6/5/2008	41.57	--	--
		9/18/2008	43.07	--	--
		12/15/2008	43.00	--	--
		3/27/2009	41.02	--	--
		6/9/2009	42.53	--	--
		9/28/2009	43.02	--	--

TABLE 1
Monitoring Well Groundwater Levels
Third Quarter 2010 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Screen Interval (feet bgs)[1]	Date	Depth to Groundwater (feet TOC-N)[2]	Depth to Product (feet TOC-N)	Product Thickness (feet)
MW-9 cont.	36.0-46.0	12/9/2009	42.99	--	--
		3/9/2010	39.97	--	--
		6/23/2010	41.94	--	--
		9/29/2010	42.81	--	--
MW-10	40.3-55.3	9/5/2007	54.86	--	--
		12/12/2007	46.84	--	--
		3/20/2008	44.41	--	--
		5/20/2008	44.09	--	--
		6/5/2008	43.67	--	--
		9/18/2008	45.89	--	--
		12/15/2008	45.91	--	--
		3/27/2009	43.82	--	--
		6/9/2009	45.19	--	--
		9/28/2009	45.94	--	--
		12/9/2009	46.02	--	--
		3/9/2010	42.62	--	--
		6/23/2010	44.52	--	--
		9/29/2010	45.89	--	--
MW-11	37.0-47.0	9/6/2007	Dry	--	--
		12/12/2007	42.73	--	--
		3/20/2008	37.29	--	--
		5/20/2008	37.06	--	--
		6/4/2008	37.18	--	--
		9/18/2008	38.97	--	--
		12/15/2008	39.36	--	--
		3/27/2009	36.87	--	--
		6/9/2009	38.30	--	--
		9/28/2009	39.21	--	--
		12/9/2009	39.73	--	--
		3/9/2010	36.28	--	--
		6/23/2010	37.72	--	--
		9/29/2010	44.84	--	--

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

TABLE 2
Monitoring Well Groundwater Elevations
Third Quarter 2010 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Date Completed	Ground Surface Elevation (feet msl)[1]	Top of Casing Elevation (feet msl)[1, 2]	Date Measured	Groundwater Elevation (feet msl)[1]	Product Elevation (feet msl)[1]	Product Thickness (feet)
MW-1	10/20/2005	328.49	328.04	2/21/2006	291.70	--	--
				6/7/2006	293.76	--	--
				8/22/2006	290.93	290.96	0.03
				11/14/2006	290.99	--	--
				2/20/2007	291.90	--	--
				6/5/2007	290.83	--	--
				9/12/2007	290.37	--	--
				12/11/2007	290.55	290.58	0.03
				3/19/2008	292.10	--	--
				5/20/2008	292.53	--	--
				6/5/2008	292.35	--	--
				9/18/2008	290.42	290.43	0.01
				12/15/2008	290.51	290.52	0.01
				3/27/2009	292.80	--	--
				6/9/2009	290.99	--	--
				9/28/2009	290.43	--	--
				12/9/2009	290.48	--	--
				3/9/2010	293.63	--	--
				6/23/2010	290.55	--	--
				9/28/2010	290.68	--	--
MW-2	10/21/2005	324.85	324.15	2/21/2006	291.96	--	--
				6/7/2006	293.92	--	--
				8/22/2006	291.04	--	--
				11/14/2006	291.14	--	--
				2/20/2007	292.22	--	--
				6/5/2007	290.92	--	--
				9/12/2007	290.53	--	--
				12/5/2007	290.63	--	--
				3/19/2008	292.39	--	--
				5/20/2008	292.74	--	--
				6/5/2008	292.59	--	--
				9/18/2008	290.50	--	--
				12/15/2008	290.56	--	--
				3/27/2009	293.01	--	--
				6/9/2009	291.07	--	--
				9/28/2009	290.53	--	--
				12/9/2009	290.54	--	--
				3/9/2010	293.79	--	--
				6/23/2010	291.49	--	--
				9/28/2010	290.74	--	--
MW-3	10/21/2005	326.05	325.65	2/21/2006	293.68	--	--
				6/7/2006	294.74	--	--
				8/22/2006	290.99	--	--
				11/14/2006	290.94	--	--
				2/20/2007	293.99	--	--
				6/5/2007	291.02	--	--
				9/12/2007	290.94	--	--
				12/11/2007	290.88	--	--
				3/19/2008	294.01	--	--
				5/20/2008	294.39	--	--
				6/5/2008	294.20	--	--
				9/18/2008	290.84	--	--
				12/15/2008	290.86	--	--
				3/27/2009	294.78	--	--

TABLE 2
Monitoring Well Groundwater Elevations
Third Quarter 2010 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Date Completed	Ground Surface Elevation (feet msl)[1]	Top of Casing Elevation (feet msl)[1, 2]	Date Measured	Groundwater Elevation (feet msl)[1]	Product Elevation (feet msl)[1]	Product Thickness (feet)
MW-3 cont.				6/9/2009	291.17	--	--
				9/28/2009	290.83	--	--
				12/9/2009	290.82	--	--
				3/9/2010	295.05	--	--
				6/23/2010	291.71	--	--
				9/28/2010	290.85	--	--
MW-4	1/31/2006	329.97	329.67	2/21/2006	292.95	--	--
				6/7/2006	293.91	--	--
				8/22/2006	290.88	--	--
				11/14/2006	290.83	--	--
				2/20/2007	293.13	--	--
				6/5/2007	290.90	--	--
				9/12/2007	290.74	--	--
				12/11/2007	290.67	--	--
				3/19/2008	293.38	--	--
				5/20/2008	293.40	--	--
				6/5/2008	293.29	--	--
				9/18/2008	290.64	--	--
				12/15/2008	290.64	--	--
				3/27/2009	293.57	--	--
				6/9/2009	291.05	--	--
				9/28/2009	290.63	--	--
				12/9/2009	290.58	--	--
				3/9/2010	293.98	--	--
				6/23/2010	292.26	--	--
				9/28/2010	290.69	--	--
MW-8	8/15/2006	335.23	333.93	8/22/2006	315.22	--	--
				11/14/2006	315.20	--	--
				2/20/2007	314.70	--	--
				6/5/2007	313.45	--	--
				9/12/2007	312.46	--	--
				12/11/2007	314.35	--	--
				Q1 2008	NM	--	--
				Q2 2008	NM	--	--
				9/18/2008	312.26	--	--
				12/15/2008	313.20	--	--
				3/27/2009	314.39	--	--
				6/9/2009	310.62	--	--
				9/28/2009	311.35	--	--
				12/9/2009	313.27	313.28	0.01
				3/9/2010	314.96	--	--
				6/23/2010	314.11	--	--
				9/28/2010	311.70	311.71	0.01
MW-9	8/16/2006	333.49	333.07	8/22/2006	290.48	290.52	0.04
				11/14/2006	290.45	290.53	0.08
				2/20/2007	291.16	291.21	0.05
				6/5/2007	290.36	290.38	0.02
				9/12/2007	289.98	290.06	0.08
				12/11/2007	290.16	--	--
				3/20/2007	291.31	--	--
				12/11/2007	290.16	--	--
				5/20/2008	291.74	--	--
				6/5/2008	291.50	--	--
				9/18/2008	290.00	--	--
				12/15/2008	290.07	--	--

TABLE 2
Monitoring Well Groundwater Elevations
Third Quarter 2010 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Date Completed	Ground Surface Elevation (feet msl)[1]	Top of Casing Elevation (feet msl)[1, 2]	Date Measured	Groundwater Elevation (feet msl)[1]	Product Elevation (feet msl)[1]	Product Thickness (feet)
MW-9 cont.				3/27/2009	292.05	--	--
				6/9/2009	290.54	--	--
				9/28/2009	290.05	--	--
				12/9/2009	290.08	--	--
				3/9/2010	293.10	--	--
				6/23/2010	291.13	--	--
				9/28/2010	290.26	--	--
MW-10	9/5/2007	336.55	335.89	9/12/2007	281.03	--	--
				12/12/2007	289.05	--	--
				3/20/2008	291.48	--	--
				5/20/2008	291.80	--	--
				6/5/2008	292.22	--	--
				9/18/2008	290.00	--	--
				12/15/2008	289.98	--	--
				3/27/2009	292.07	--	--
				6/9/2009	290.70	--	--
				9/28/2009	289.95	--	--
				12/9/2009	289.87	--	--
				3/9/2010	293.27	--	--
				6/23/2010	291.37	--	--
				9/28/2010	290.00	--	--
MW-11	9/6/2007	330.29	329.89	9/12/2007	Dry	--	--
				12/12/2007	287.16	--	--
				3/20/2008	292.60	--	--
				5/20/2008	292.83	--	--
				6/5/2008	292.71	--	--
				9/18/2008	290.92	--	--
				12/15/2008	290.53	--	--
				3/27/2009	293.02	--	--
				6/9/2009	291.59	--	--
				9/28/2009	290.68	--	--
				12/9/2009	290.16	--	--
				3/9/2010	293.61	--	--
				6/23/2010	292.17	--	--
				9/28/2010	285.05	--	--

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

TABLE 3
Summary of Groundwater Analytical Results
Gasoline Compounds
Third Quarter 2010 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Date	Gasoline Compounds				
		TPH-GRO	Benzene	Toluene	Ethylbenzene	Xylenes
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
ESL[1)]		100	1	40	30	20
MW-1	2/22/2006	**57,000**	**38**	**2,700**	**3,000**	**8,700**
	6/8/2006	**37,000**	**10**	**330**	**120**	**8,200**
	Q3 2006[3)]	NS	NS	NS	NS	NS
	11/15/2006	**38,000**	**14**	**110**	**38**	**5,900**
	2/21/2007	**18,000**	**4**	**7**	**8**	**1,600**
	6/5/2007	**17,000**	**3**	**7**	**4**	**1,100**
	Q3 2007[3)]	NS	NS	NS	NS	NS
	Q4 2007[3)]	NS	NS	NS	NS	NS
	3/19/2008	**12,000**	**0.8**	**1**	**1**	**320**
	6/6/2008	**8,200**	**1**	**2**	**3**	**150**
	Q3 2008[4)]	NS	NS	NS	NS	NS
	Q4 2008[4)]	NS	NS	NS	NS	NS
	3/31/2009	**3,700**	<0.5	**1**	**1**	**44**
	6/10/2009	**5,000**	<0.5	<0.5	**0.7**	**13**
	Q3 2009 [4)]	NS	NS	NS	NS	NS
	Q4 2009 [4)]	NS	NS	NS	NS	NS
	3/10/2010	**3,800**	<0.5	<0.5	<0.5	**4**
	Q2 2010 [4)]	NS	NS	NS	NS	NS
	Q3 2010 [4)]	NS	NS	NS	NS	NS
MW-2	2/21/2006[2)]	<50 / <50	<0.5 / <0.5	<0.5 / <0.5	<0.5 / <0.5	<0.5 / <0.5
	6/7/2006	<50	<0.5	<0.5	<0.5	<0.5
	8/23/2006	<50	0.5	<0.5	<0.5	<0.5
	11/14/2006	<50	**0.7**	<0.5	<0.5	<0.5
	2/21/2007	<50	<0.5	<0.5	<0.5	<0.5
	6/5/2007	<50	<0.5	<0.5	<0.5	<0.5
	Q3 2007[4)]	NS	NS	NS	NS	NS
	Q4 2007[4)]	NS	NS	NS	NS	NS
	3/19/2008	<50	<0.5	<0.5	<0.5	<0.5
	6/5/2008 [2)]	<50 / <50	<0.5 / <0.5	<0.5 / <0.5	<0.5 / <0.5	<0.5 / <0.5
	Q3 2008[4)]	NS	NS	NS	NS	NS
	Q4 2008[4)]	NS	NS	NS	NS	NS
	3/27/2009	<50	<0.5	<0.5	<0.5	<0.5
	Q2 2009 [4)]	NS	NS	NS	NS	NS
	Q3 2009 [4)]	NS	NS	NS	NS	NS
	Q4 2009 [4)]	NS	NS	NS	NS	NS
	3/10/2010	<50	<0.5	<0.5	<0.5	**2**
	6/23/2010	<50	<0.5	<0.5	<0.5	<0.5
	Q3 2010 [4)]	NS	NS	NS	NS	NS
MW-3	2/21/2006	<50	<0.5	<0.5	<0.5	<0.5
	6/7/2006	<50	<0.5	<0.5	<0.5	<0.5
	8/23/2006	**170**	<0.5	<0.5	<0.5	<0.5
	11/14/2006	**86**	<0.5	**1**	<0.5	<0.5
	2/21/2007	<50	<0.5	<0.5	<0.5	<0.5
	Q2 2007[4)]	NS	NS	NS	NS	NS
	Q3 2007[4)]	NS	NS	NS	NS	NS
	Q4 2007[4)]	NS	NS	NS	NS	NS
	3/19/2008	<50	<0.5	<0.5	<0.5	<0.5

TABLE 3
Summary of Groundwater Analytical Results
Gasoline Compounds
Third Quarter 2010 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Date	Gasoline Compounds				
		TPH-GRO	Benzene	Toluene	Ethylbenzene	Xylenes
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
ESL[1]		100	1	40	30	20
MW-3 cont.	6/5/2008	<50	<0.5	<0.5	<0.5	<0.5
	Q3 2008[4]	NS	NS	NS	NS	NS
	Q4 2008[4]	NS	NS	NS	NS	NS
	3/31/2009	<50	<0.5	<0.5	<0.5	<0.5
	Q2 2009[4]	NS	NS	NS	NS	NS
	Q3 2009[4]	NS	NS	NS	NS	NS
	Q4 2009[4]	NS	NS	NS	NS	NS
	3/9/2010	<50	<0.5	<0.5	<0.5	<0.5
	Q2 2010[4]	NS	NS	NS	NS	NS
	Q3 2010[4]	NS	NS	NS	NS	NS
MW-4	2/21/2006	<50	<0.5	<0.5	<0.5	<0.5
	6/7/2006	<50	<0.5	<0.5	<0.5	<0.5
	8/23/2006	**70**	**0.6**	<0.5	<0.5	**1**
	11/15/2006	<50	<0.5	<0.5	<0.5	0.5
	2/21/2007	<50	<0.5	<0.5	<0.5	<0.5
	Q2 2007[4]	NS	NS	NS	NS	NS
	Q3 2007[4]	NS	NS	NS	NS	NS
	Q4 2007[4]	NS	NS	NS	NS	NS
	3/19/2008	<50	<0.5	<0.5	<0.5	<0.5
	6/6/2008	<50	<0.5	<0.5	<0.5	<0.5
	Q3 2008[4]	NS	NS	NS	NS	NS
	Q4 2008[4]	NS	NS	NS	NS	NS
	3/31/2009	<50	<0.5	<0.5	<0.5	<0.5
	Q2 2009[4]	NS	NS	NS	NS	NS
	Q3 2009[4]	NS	NS	NS	NS	NS
	Q4 2009[4]	NS	NS	NS	NS	NS
	3/9/2010	<50	<0.5	<0.5	<0.5	<0.5
	6/23/2010	<50	<0.5	<0.5	<0.5	<0.5
	Q3 2010[4]	NS	NS	NS	NS	NS
MW-8/MW-X	8/24/2006	**18,000**	**190**	**2,600**	**590**	**2,800**
	11/16/2006	**990**	**76**	**80**	**69**	**190**
	2/20/2007	**2,000**	**180**	**57**	**170**	**74**
	6/6/2007	**3,600**	**340**	**92**	**370**	**210**
	9/12/2007	**4,200**	**470**	**230**	**630**	**320**
	12/11/2007	**4,900**	**350**	**300**	**490**	**650**
	Q1 2008[5]	NS	NS	NS	NS	NS
	Q2 2008[5]	NS	NS	NS	NS	NS
	9/18/2008[2]	**11,000 / 9,200**	**740 / 690**	**320 / 290**	**790 / 720**	**2,600 / 2,100**
	12/15/2008	**12,000**	**810**	**920**	**880**	**3,300**
	3/27/2009	**29,000/29,000J**	**1,500/1,200**	**7,200/4,500**	**1,200/1,100**	**4,700/4,100**
	Q2 2009[4]	NS	NS	NS	NS	NS
	Q3 2009[4]	NS	NS	NS	NS	NS
	12/10/2009	**19,000**	**930**	**1,600**	**1,200**	**3,800**
	3/10/2010	**10,000 / 10,000**	**570 / 580**	**500 / 500**	**730 / 730**	**1,800 / 1,800**
	6/24/2010	**14,000**	**630**	**680**	**870**	**2,500**
	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**

TABLE 3
Summary of Groundwater Analytical Results
Gasoline Compounds
Third Quarter 2010 Groundwater Monitoring Report
Chevron Sunol Pipeline

Well ID	Date	Gasoline Compounds				
		TPH-GRO	Benzene	Toluene	Ethylbenzene	Xylenes
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
ESL[1)]		100	1	40	30	20
MW-9	Q3 2006[3)]	NS	NS	NS	NS	NS
	11/15/2006	**74,000**	**480**	**12,000**	**2,200**	**17,000**
	Q1 2007[3)]	NS	NS	NS	NS	NS
	Q2 2007[3)]	NS	NS	NS	NS	NS
	Q3 2007[3)]	NS	NS	NS	NS	NS
	12/11/2007	**48,000**	**62**	**5,400**	**1,700**	**12,000**
	Q1 2008[3)]	NS	NS	NS	NS	NS
	6/6/2008	**31,000**	**5**	**1,000**	**1,300**	**9,000**
	9/18/2008	**25,000**	**6**	**610**	**800**	**4,800**
	12/16/2008	**34,000**	**6**	**750**	**930**	**6,000**
	3/31/2009	**20,000**	**3**	**100**	**460**	**3,200**
	6/10/2009	**27,000**	<3	**66**	**610**	**4,100**
	Q3 2009[3)]	NS	NS	NS	NS	NS
	12/10/2009	**20,000**	**3**	**85**	**460**	**2,800**
	3/10/2010	**18,000**	<3	**17**	**250**	**1,700**
	6/24/2010	**16,000**	**0.9**	**7**	**210**	**1,300**
	9/29/2010	**24,000**	<10	<10	**440**	**2,100**
MW-10/MW-X [7)]	Q3 2007[4)]	NS	NS	NS	NS	NS
	12/14/2007	<50	<0.5	<0.5	<0.5	<0.5
	3/20/2008	<50	**0.9**	<0.5	<0.5	<0.5
	6/6/2008	<50	<0.5	<0.5	<0.5	<0.5
	9/18/2008	<50	<0.5	<0.5	<0.5	<0.5
	12/15/2008	<50	<0.5	<0.5	<0.5	<0.5
	3/27/2009	**52**	<0.5	**0.7**	<0.5	<0.5
	6/10/2009	<50	<0.5	**1**	<0.5	<0.5
	9/28/2009	<50/<50	<0.5/<0.5	<0.5/<0.5	<0.5/<0.5	<0.5/<0.5
	12/10/2009	**540**	**1**	**2**	**5**	**23**
	3/9/2010	<50	<0.5	<0.5	<0.5	<0.5
	6/23/2010	<50	<0.5	<0.5	<0.5	<0.5
	9/29/2010	<50	<0.5	<0.5	<0.5	<0.5
MW-11	Q3 2007[4)]	NS	NS	NS	NS	NS
	12/14/2007	<50	<0.5	<0.5	<0.5	<0.5
	3/20/2008[2)]	<50 / <50	<0.5 / <0.5	<0.5 / <0.5	<0.5 / <0.5	<0.5 / <0.5
	6/6/2008	<50	<0.5	<0.5	<0.5	<0.5
	9/18/2008	<50	<0.5	<0.5	<0.5	<0.5
	12/15/2008	<50	<0.5	<0.5	<0.5	<0.5
	3/27/2009	<50	<0.5	<0.5	<0.5	<0.5
	6/10/2009	**59**	<0.5	**2**	<0.5	**3**
	9/29/2009	<50	<0.5	<0.5	<0.5	<0.5
	12/10/2009	**66**	<0.5	<0.5	<0.5	**3**
	3/9/2010	<50	<0.5	<0.5	<0.5	<0.5
	6/23/2010	<50	<0.5	<0.5	<0.5	<0.5
	9/29/2010	<50	<0.5	<0.5	<0.5	<0.5
SW-Creek	6/7/2006	<50	<0.5	<0.5	<0.5	<0.5
	8/22/2006	<50	<0.5	<0.5	<0.5	<0.5
	11/15/2006	<50	<0.5	<0.5	<0.5	<0.5
	11/15/2006	<50	<0.5	<0.5	<0.5	<0.5

TABLE 3
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Well ID	Date	Gasoline Compounds				
		TPH-GRO	Benzene	Toluene	Ethylbenzene	Xylenes
		(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
ESL[1)]		100	1	40	30	20
Stream	2/21/2007	<50	<0.5	<0.5	<0.5	<0.5
	6/5/2007	<50	<0.5	<0.5	<0.5	<0.5
	9/12/2007	<50	<0.5	<0.5	<0.5	<0.5
	1/25/2008	<50	<0.5	<0.5	<0.5	<0.5
	3/20/2008	<50	<0.5	<0.5	<0.5	<0.5
	6/5/2008	<50	<0.5	<0.5	<0.5	<0.5
	9/18/2008	<50	<0.5	<0.5	<0.5	<0.5
	12/15/2008	<50	<0.5	<0.5	<0.5	<0.5
	3/31/2009	<50	<0.5	<0.5	<0.5	<0.5
	6/9/2009	<50	<0.5	<0.5	<0.5	<0.5
	Q3 2009[6)]	NS	NS	NS	NS	NS
	Q4 2009[6)]	NS	NS	NS	NS	NS
	3/9/2010	<50	<0.5	<0.5	<0.5	<0.5
	6/24/2010	<50	<0.5	<0.5	<0.5	<0.5
	9/28/2010	<50	<0.5	<0.5	<0.5	<0.5

Notes:

Bold values exceed laboratory reporting limits.

J qualifier - The reported value is the approximate concentration of the analyte in the sample due to sample heterogeneity.
µg/L - micrograms per liter
NS - Not Sampled
TPH-GRO - Total Petroleum Hydrocarbons as Gasoline Range

1) Environmental Screening Levels (ESLs) for groundwater as a current or potential source of drinking water were obtained from the San Francisco Regional Water Quality Control Board (RWQCB) Interim Final: Table A, May 2008.
2) Both sample and duplicate concentrations from well location are displayed.
3) Sample not collected during quarterly monitoring due to the presence of measurable free product.
4) Sample not collected during quarterly monitoring because well is not hydraulically connected to unconfined water-bearing zone.
5) Sample not collected due to extreme overhead hazards posed by dead trees on the 80-90% grade directly uphill from the sampling location.
6) Sample not collected during quarterly monitoring due to the stream sample location being dry.
7) Duplicate sampled collected from MW-10 during the third quarter 2009 sampling event because MW-8 was not hydraulically connected to the water bearing zone.

TABLE 4
Summary of Groundwater Analytical Results
Geochemical Indicators and Other Parameters
Third Quarter 2010 Groundwater Monitoring Report
Chevron Sunol Pipeline

		Geochemical Indicators and Other Parameters											
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 $CaCO_3$	Alkalinity to pH 8.3 (mg/L) as $CaCO_3$
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
	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]
	11/15/2006	4.87[6]	25	0.37 J	1	0.22	0.079	108	<0.002	6.67	882	597	<0.46
	3/31/2009	2.45	-147	10.3J	0.534	0.12	<0.052	62.4	0.051	6.61	650	343	<0.46
	6/10/2009	0.00	-115	0.42	0.576	0.2	<0.052	72.6	<0.005	7.07	614	422	<0.46
	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]
	3/10/2010	0.00	-118	4 J	0.431	<0.01	<0.0522	56.9	0.067	6.79	551	347	<0.46
	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]
	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	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
	8/23/2006	0.32	25.69	7	0.024	0.015	<0.052	121	0.005	6.63	811	470	<0.46
	11/14/2006	0.2	220.84	4	0.021	0.021	<0.052 UJ	126 J	0.004	6.72	867	530	<0.46
	3/27/2009	5.47	-86	18.2	0.017	0.036J	<0.052	65	<0.01	6.62	642	347	<0.46
	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]
	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]
	3/10/2010	2.81	38	13 J	0.0182	0.35	<0.0522	54.9	<0.005	6.89	532	322	<0.46
	6/23/2010	2.18	173	13.2	0.103	4	<0.0522	50.9	<0.005	11.51	524	319	<0.46
	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	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
	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
	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]
	3/31/2009	0.00	48	22.2J	0.0017	0.08	<0.052	57.7	<0.01	6.75	688	320	<0.46
	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]
	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]
	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
	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]
	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	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
	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
	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
	3/31/2009	3.96	5	19.5J	0.0406	0.14	<0.052	83.7	<0.01	6.64	631	323	<0.46
	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]
	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]
	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
	6/23/2010	0.03	164	9.4	0.0295	0.034	<0.0522	62.5	<0.005	11.03	491	297	<0.46
	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-8	8/24/2006	NM[2]	NM[2]	<0.25	0.171	0.14	<0.052	90.2	<0.002 UJ	NM[2]	563	362	<0.46
	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
	3/27/2009	6.88[6]	-113	0.27	0.553	2.5J	<0.052	15.5	0.13	6.74	639	467	<0.46
	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]
	12/10/2009	0.04	-165	<0.25 UJ	0.549 J	<2.5	0.06	2 J	<0.2	6.94	576	445	<0.46
	3/10/2010	0.00	-85	<0.25	0.334	3	<0.0522	1.7	0.33	6.89	587	453	<0.46
	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
	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-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]
	11/15/2006	3.01[6]	4	<0.25 UJ	4.41	1.2	0.496	29.5	0.009	6.92	836	657	<0.46
	3/31/2009	3.35	-179	0.39J	3.2	0.099	<0.052	60.5	0.012	6.59	632	419	<0.46
	6/10/2009	0.00	-141	<0.25	3.01	1.7	<0.052	46.4	<0.005	6.98	622	468	<0.46
	12/10/2009	1.43	-188	<0.25 UJ	4.39 J	3.3	2.54	4.5 J	<0.2	6.6	734	620	<0.46
	3/10/2010	0.00	-197	<0.25	2.94	1.7	<0.0522	40.9	0.046	6.84	596	448	<0.46
	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
	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-10	3/27/2009	3.65	48	8.2	0.367	0.21J	<0.052	155	0.28	6.69	1,200	645	<0.46
	6/10/2009	0.37	109	<0.25	0.767	0.8	<0.052	133	2.30	7.20	1,100	623	<0.46
	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
	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
	6/23/2010	0.00	79	0.68	0.2650	0.200	<0.0522	136.0	0.94	6.76	1000	604	<0.46
	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-11	3/27/2009	5.86	53	15.3	0.114	0.058J	<0.052	134	0.06	6.61	742	365	<0.46
	6/10/2009	0.37	44	NM	0.415	NM	NM	NM	0.12	7.16	NM	NM	NM
	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
	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
	6/23/2010	0.45	-2	0.4	0.2420	0.150	<0.0522	437	0.29	6.70	1,300	479	<0.46
	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

Notes:

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

Note: MW-5, MW-6, and MW-7 were destroyed on 6/23/08

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) Sample not collected because well dewatered before 1 well volume was collected

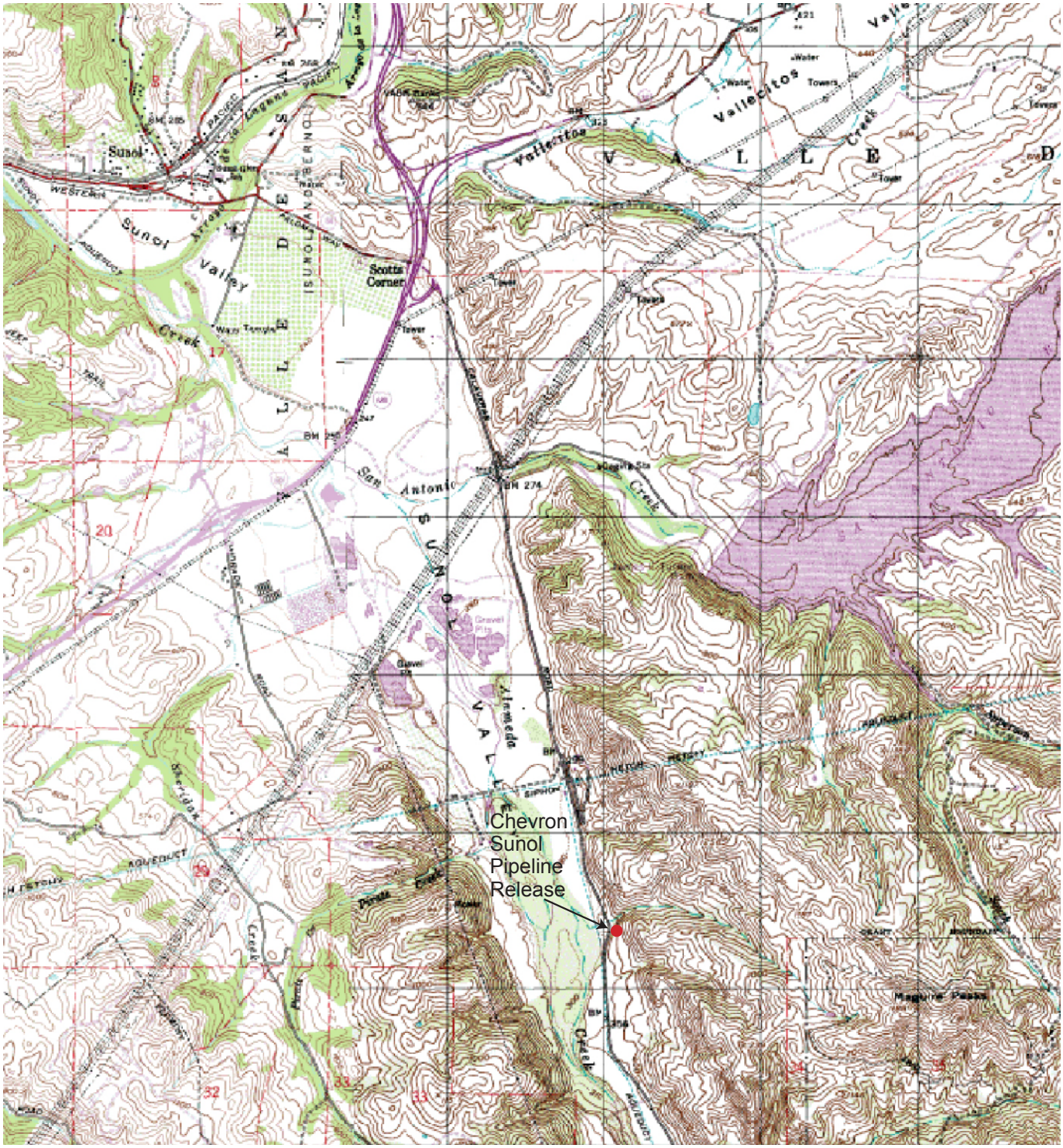


Image obtained from topozone.com

N

MAP REFERENCE:

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

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

NORTH

0 50 100

SCALE IN FEET

SW–CREEK
(Former Surface Water Sampling Location)

UPPER DIRT ROAD

LOWER DIRT ROAD

PIPELINE

CURRENT STREAM
SAMPLE LOCATION

VERY SMALL STREAM

MW–10

PROPERTY
LINE/FENCE

CALAVERAS ROAD

MW–11

MW–9

MW–4

MW–3

MW–1

MW–2

MW–7

MW–8

MW–5

MW–6

SVE–1D

SVE–2S

SVE–8

SVE–3S

SVE–7

SVE–4D

SVE–5

SVE–6

SVE–9

RELEASE LOCATION

HILL SLOPE

HILL SLOPE

HILL SLOPE

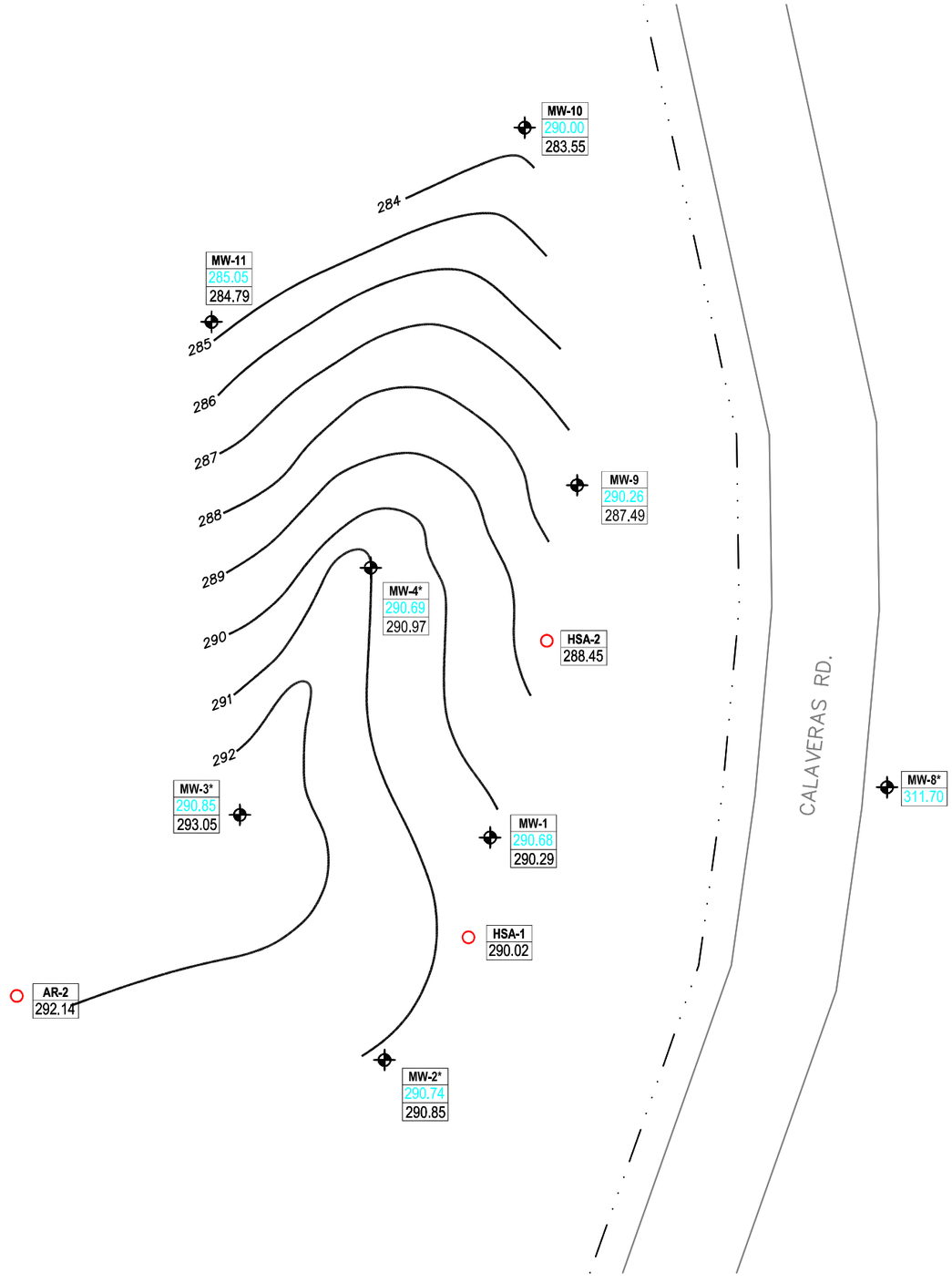
HILL SLOPE
AND DENSE
VEGETATION

LEGEND:

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

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

Aug 05, 2010 – 9:25am
X:\x_env_waste\Chevron Pipeline Company\Sunol Spill\Site Figures\Current CADD\FIGURE 2.dwg



LEGEND:

- MONITORING WELL
- MW-1 / 290.55 / 290.29 — MONITORING WELL LABEL; GROUNDWATER ELEVATION; BEDROCK CONTACT ELEVATION
- SOIL BORING
- HSA-2 / 288.45 — SOIL BORING LABEL; BEDROCK CONTACT ELEVATION
- 285 — BEDROCK SURFACE ELVATION
- GWFD — GROUNDWATER FLOW DIRECTION

NOTES:

1. ELEVATIONS IN FEET ABOVE AVERAGE MEAN SEA LEVEL (msl).
2. GROUNDWATER ELEVATIONS FOR MW–1 THROUGH MW–4 AND MW–8 THROUGH MW–11, AS MEASURED ON SEPTEMBER 29, 2010.
3. BEDROCK ELEVATION DATA OBTAINED FROM THE BORING LOGS OF MW–1 THROUGH MW–4, MW–9 THROUGH MW–11, HSA–1, HSA–2, AND AR–2.
4. THE BEDROCK ELEVATIONS SHOWN REPRESENT THE OVERBURDEN CONTACT WITH THE WEATHERED SILTSTONE/CLAYSTONE BEDROCK UNIT (POSSIBLY CRETACEOUS–AGE CLAY SHALE OF THE PANOCHE FORMATION).
5. GROUNDWATER MONITORING WELLS MW–1 THROUGH MW–4 WERE NOT ACCESSIBLE ON SEPTEMBER 28, 2010 DUE TO SPRAYING OF PESTICIDES IN THE AREA. THE MONITORING WELLS WERE GAUGED ON SEPTEMBER 29, 2010 AFTER MW–10 AND MW–11 HAD BEEN SAMPLED. MW–10 AND MW–11 HAD NOT FULLY RECHARGED AND MW–2 THROUGH MW–4 WERE HYDRAULICALLY DISCONNECTED. THEREFORE GROUNDWATER CONTOURS COULD NOT BE COMPLETED FOR THE THIRD QUARTER 2010.
6. GROUNDWATER GRADIENT AND FLOW NOT CALCULATED DUE TO INSUFFICIENT NUMBER OF GROUNDWATER MONITORING WELL GROUNDWATER ELEVATIONS ABOVE BEDROCK ELEVATION.

* GROUNDWATER LEVELS ARE BELOW TOP OF BEDROCK SURFACE, WHICH LIKELY REPRESENTS STAGNANT WATER AND NOT TRUE AQUIFER CONDITIONS.

NORTH

0 30' 60'

SCALE 1"= 30'

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

Nov 03, 2010 – 1:37pm
X:\X_env_waste\Chevron Pipeline Company\Sunol Spill\Quarterly Groundwater Report\3020010\Report\Figures\FIGURE 3__102810.dwg

Appendix A
Groundwater Sampling Forms

URS

09/28/10

Horiba U-22XD
ISI Low-Flow Log

Project Information:		**Pump Information:**	
Operator Name	Rachel Naccarati/ Kim Morris	Pump Model/Type	Disposable Bailer
Company Name	URS	Tubing Type	NA
Project Name	Chevron Sunol Pipeline	Tubing Diameter	NA
Site Name	Sunol	Tubing Length	[ft]
		Pump placement from TOC	[ft]

Well Information:		**Pumping information:**	
Well Id	MW-8	Final pumping rate	NA
Well diameter	2 [in]	Flowcell volume	NA
Well total depth	24.5 [ft]	Calculated Sample Rate	NA
Depth to top of screen	14.5 [ft]	Sample rate	NA
Screen length	10 [ft]	Stabilized drawdown	NA
Depth to Water	21.98 [ft]		

Low-Flow Sampling Stabilization Summary

	Time	Temp [C]	pH [pH]	Cond. [µS/cm]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-3%	+/-10	+/-0.2	+/-20
Multi-parameter Readings	1 well volume						
	2 well volumes						
	3 well volumes						
	Sample collected from MW-8 at 11:45 on 9/29/10						

Notes:

Starting Pumping at 11:45
Initial Depth to Water = 21.98 ft
Total Volume Purged = 1 gallons
Sample collected at 11:00 on 9/29/10
Final Depth to Water: Dry

Could not collect parameters because the well was dry before 1 well volume was purged. Well was left to recharge overnight before the sample was collected. 0.01 feet of product was measured in the monitoring well before sampling on 9/29/10.

URS

09/29/10

Horiba U-22XD
ISI Low-Flow Log

Project Information:		**Pump Information:**	
Operator Name	Rachel Naccarati/ Kim Morris	Pump Model/Type	Mega Monsoon
Company Name	URS	Tubing Type	Polyethylene
Project Name	Chevron Sunol Pipeline	Tubing Diameter	1/4 [in]
Site Name	Sunol	Tubing Length	50.0 [ft]
		Pump placement from TOC	45.0 [ft]

Well Information:		**Pumping information:**	
Well Id	MW-9	Final pumping rate	175 mL/min
Well diameter	2 [in]	Flowcell volume	1000 mL
Well total depth	46.0 [ft]	Calculated Sample Rate	NM
Depth to top of screen	36.0 [ft]	Sample rate	NM
Screen length	10 [ft]	Stabilized drawdown	NM
Depth to Water	42.81 [ft]		

Low-Flow Sampling Stabilization Summary

	Time	Temp [C]	pH [pH]	Cond. [µS/cm]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-3%	+/-10	+/-0.2	+/-20
Multi-parameter Readings	14:20	19.7	6.75	123	276	1.59	-203
	14:23	19.5	6.73	121	178	1.59	-209
	14:26	19.3	6.72	121	136	1.04	-218
	14:29	19.3	6.70	120	117	0.86	-227
	14:32	19.4	6.70	119	111	0.84	-230
	14:35	19.4	6.69	119	106	0.79	-231
	14:38	19.5	6.69	119	107	0.73	-231
	14:41	19.4	6.68	118	106	0.70	-231
	Sample collected from MW-9 at 14:45 on 9/29/10						
Variance in last 4 readings		0.0	-0.01	0	-5	-0.05	-1
		0.1	0.00	0	1	-0.06	0
		-0.1	-0.01	-1	-1	-0.03	0

Notes:
Starting Pumping at 14:15
Initial Depth to Water = 42.81 ft
Total Volume Purged = 2.5 gallons
Sample collected at 14:45
Final Depth to Water = 43.80 ft

URS

09/29/10

Horiba U-22XD
ISI Low-Flow Log

Project Information:		**Pump Information:**	
Operator Name	Rachel Naccarati/ Kim Morris	Pump Model/Type	Mega Monsoon
Company Name	URS	Tubing Type	Polyethylene
Project Name	Chevron Sunol Pipeline	Tubing Diameter	1/4 [in]
Site Name	Sunol	Tubing Length	56 [ft]
		Pump placement from TOC	54 [ft]

Well Information:		**Pumping information:**	
Well Id	MW-10	Final pumping rate	200 mL/min
Well diameter	2 [in]	Flowcell volume	1000 mL
Well total depth	55.3 [ft]	Calculated Sample Rate	NM
Depth to top of screen	40.3 [ft]	Sample rate	NM
Screen length	15 [ft]	Stabilized drawdown	NM
Depth to Water	45.89 [ft]		

Low-Flow Sampling Stabilization Summary

	Time	Temp [C]	pH [pH]	Cond. [µS/cm]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-3%	+/-10	+/-0.2	+/-20
Multi-parameter Readings	12:00	21.6	7.01	195	-5.0	5.81	-34
	12:03	22.8	6.96	211	-5.0	1.44	2
	12:06	22.7	6.91	212	703	0.80	-19
	12:09	21.7	6.89	193	733	0.78	-25
	12:12	21.3	6.90	189	588	0.81	5
	12:15	21.3	6.88	186	446	0.83	18
	12:18	21.3	6.88	185	380	0.85	20
	12:21	21.4	6.89	183	379	0.86	22
	12:24	21.4	6.89	183	373	0.87	22
	Sample collected from MW-10 at 12:30 on 9/29/10						
Variance in last 4 readings		0.0	0.00	-1	-66	0.02	2
		0.1	0.01	-2	-1	0.01	2
		0.0	0.00	0	-6	0.01	0

Notes: Starting Pumping at 12:00
Initial Depth to Water = 45.89 ft
Total Volume Purged = 2.5 gallons
Sample collected at 12:30 on 9/29/10

URS

09/28/10

Horiba U-22XD
ISI Low-Flow Log

Project Information:		**Pump Information:**	
Operator Name	Rachel Naccarati/ Kim Morris	Pump Model/Type	Mega Monsoon
Company Name	URS	Tubing Type	Polyethylene
Project Name	Chevron Sunol Pipeline	Tubing Diameter	3/8 [in]
Site Name	Sunol	Tubing Length	50 [ft]
		Pump placement from TOC	45 [ft]

Well Information:		**Pumping information:**	
Well Id	MW-11	Final pumping rate	175 mL/min
Well diameter	2 [in]	Flowcell volume	1000 mL
Well total depth	47.0 [ft]	Calculated Sample Rate	NM
Depth to top of screen	37.0 [ft]	Sample rate	NM
Screen length	10 [ft]	Stabilized drawdown	NM
Depth to Water	39.09 [ft]		

Low-Flow Sampling Stabilization Summary

	Time	Temp [C]	pH [pH]	Cond. [µS/cm]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-3%	+/-10	+/-0.2	+/-20
Multi-parameter Readings	14:14	18.6	6.98	179	503.0	0.93	-25
	14:17	19.1	6.97	178	397.0	0.84	-3
	14:20	19.2	6.96	179	309.0	0.94	9
	14:23	19.3	6.97	181	260.0	1.26	17
	14:26	19.5	6.98	183	332.0	1.52	13
	14:29	20.4	6.99	184	189.0	1.57	10
	14:32	20.6	6.97	186	165.0	1.50	10
	14:35	21.0	6.97	187	158.0	1.33	11
	14:38	21.2	6.99	188	152.0	1.16	7
	Sample collected from MW-11 at 14:40 on 9/28/10						
Variance in last 4 readings		0.2	-0.02	2	-24.0	-0.07	0
		0.4	0.00	1	-7.0	-0.17	1
		0.2	0.02	1	-6.0	-0.17	-4

Notes:
Starting Pumping at 14:10
Initial Depth to Water = 39.09 ft
Total Volume Purged = 2.5 gallons
Sample collected at 14:40
Well purged dry

URS

09/29/10

Horiba U-22XD
ISI Low-Flow Log

Project Information:		**Pump Information:**	
Operator Name	Rachel Naccarati/ Kim Morris	Pump Model/Type	Mega Monsoon
Company Name	URS	Tubing Type	Polyethylene
Project Name	Chevron Sunol Pipeline	Tubing Diameter	1/4 [in]
Site Name	Sunol	Tubing Length	56 [ft]
		Pump placement from TOC	54 [ft]

Well Information:		**Pumping information:**	
Well Id	MW-10	Final pumping rate	200 mL/min
Well diameter	2 [in]	Flowcell volume	1000 mL
Well total depth	55.3 [ft]	Calculated Sample Rate	NM
Depth to top of screen	40.3 [ft]	Sample rate	NM
Screen length	15 [ft]	Stabilized drawdown	NM
Depth to Water	45.89 [ft]		

Low-Flow Sampling Stabilization Summary

	Time	Temp [C]	pH [pH]	Cond. [µS/cm]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-3%	+/-10	+/-0.2	+/-20
Multi-parameter Readings	12:00	21.6	7.01	195	-5.0	5.81	-34
	12:03	22.8	6.96	211	-5.0	1.44	2
	12:06	22.7	6.91	212	703	0.80	-19
	12:09	21.7	6.89	193	733	0.78	-25
	12:12	21.3	6.90	189	588	0.81	5
	12:15	21.3	6.88	186	446	0.83	18
	12:18	21.3	6.88	185	380	0.85	20
	12:21	21.4	6.89	183	379	0.86	22
	12:24	21.4	6.89	183	373	0.87	22
	Sample collected from MW-10 at 12:30 on 9/29/10						
Variance in last 4 readings		0.0	0.00	-1	-66	0.02	2
		0.1	0.01	-2	-1	0.01	2
		0.0	0.00	0	-6	0.01	0

Notes: Starting Pumping at 12:00
Initial Depth to Water = 45.89 ft
Total Volume Purged = 2.5 gallons
Sample collected at 12:30 on 9/29/10

Appendix B
Laboratory Analytical Results

Lancaster Laboratories

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

Chevron Pipeline Co.
100 Northpark Blvd
Covington LA 70433

October 06, 2010

Project: MP 2.7

Submittal Date: 09/29/2010
Group Number: 1213963
PO Number: 0015043340
Release Number: JOHNSON
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
MW-11 Grab Water	6098023
MW-11_Filtered Grab Water	6098024
Stream Grab Water	6098025
TB-1 NA Water	6098026

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

ELECTRONIC COPY TO	URS	Attn: Joe Morgan
ELECTRONIC COPY TO	URS	Attn: Rachel Naccarati
ELECTRONIC COPY TO	URS	Attn: Jacob Henry
ELECTRONIC COPY TO	URS Corporation	Attn: Kimberly Morgan

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Analysis Report

Questions? Contact your Client Services Representative
Elizabeth A Leonhardt at (510) 232-8894

Respectfully Submitted,

Robin C. Runkle
Senior Specialist

Lancaster Laboratories

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Analysis Report

Sample Description: MW-11 Grab Water
NA URSO
MP 2.7 SL0600100443 MW-11

LLI Sample # WW 6098023
LLI Group # 1213963
Account # 11875

Project Name: MP 2.7

Collected: 09/28/2010 14:40 by KM

Submitted: 09/29/2010 09:20
Reported: 10/06/2010 16:40
Discard: 11/06/2010

Chevron Pipeline Co.
100 Northpark Blvd
Covington LA 70433

MW11-

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	350	5.0	1
Metals		**SW-846 6010B**		**ug/l**	**ug/l**	
07058	Manganese		7439-96-5	320	0.84	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	457,000	15,000	50
		EPA 160.1		**ug/l**	**ug/l**	
00212	Total Dissolved Solids		n.a.	1,310,000	38,800	1
		EPA 310.1		**ug/l as CaCO3**	**ug/l as CaCO3**	
00202	Alkalinity to pH 4.5		n.a.	458,000	460	1
00201	Alkalinity to pH 8.3		n.a.	N.D.	460	1
		SM20 3500 Fe B modified		**ug/l**	**ug/l**	
08344	Ferrous Iron		n.a.	300	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	D102732AA	10/01/2010 03:17	Kelly E Keller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D102732AA	10/01/2010 03:17	Kelly E Keller	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	10273B20A	10/01/2010 19:36	Marie D John	1

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Analysis Report

Sample Description: **MW-11 Grab Water**
NA URSO
MP 2.7 SL0600100443 MW-11

LLI Sample # WW 6098023
LLI Group # 1213963
Account # 11875

Project Name: MP 2.7

Collected: 09/28/2010 14:40 by KM

Submitted: 09/29/2010 09:20
Reported: 10/06/2010 16:40
Discard: 11/06/2010

Chevron Pipeline Co.
100 Northpark Blvd
Covington LA 70433

MW11-

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	10273B20A	10/01/2010 19:36	Marie D John	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	102720029A	09/30/2010 17:55	Dustin A Underkoffler	1
07058	Manganese	SW-846 6010B	1	102731848001	10/04/2010 01:27	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	102731848001	10/01/2010 09:45	Denise K Conners	1
00368	Nitrate Nitrogen	EPA 300.0	1	10272196601A	09/30/2010 00:24	Ashley M Adams	5
00228	Sulfate	EPA 300.0	1	10272196601A	10/02/2010 09:43	Ashley M Adams	50
00212	Total Dissolved Solids	EPA 160.1	1	10273021201A	09/30/2010 10:09	Susan E Hibner	1
00202	Alkalinity to pH 4.5	EPA 310.1	1	10274020201B	10/01/2010 06:48	Susan A Engle	1
00201	Alkalinity to pH 8.3	EPA 310.1	1	10274020201B	10/01/2010 06:48	Susan A Engle	1
08344	Ferrous Iron	SM20 3500 Fe B modified	1	10273834401A	09/30/2010 04:10	Daniel S Smith	1

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Analysis Report

Sample Description: MW-11_Filtered Grab Water
NA URSO
MP 2.7 SL0600100443 MW-11

LLI Sample # WW 6098024
LLI Group # 1213963
Account # 11875

Project Name: MP 2.7

Collected: 09/28/2010 14:40 by KM

Submitted: 09/29/2010 09:20
Reported: 10/06/2010 16:40
Discard: 11/06/2010

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.	52.2	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	102731848001	10/04/2010 01:30	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	102731848001	10/01/2010 09:45	Denise K Conners	1

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Analysis Report

Sample Description: Stream Grab Water
NA URSO
MP 2.7 SL0600100443 Stream

LLI Sample # WW 6098025
LLI Group # 1213963
Account # 11875

Project Name: MP 2.7

Collected: 09/28/2010 11:00 by KM

Submitted: 09/29/2010 09:20
Reported: 10/06/2010 16:40
Discard: 11/06/2010

Chevron Pipeline Co.
100 Northpark Blvd
Covington LA 70433

STREA

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	D102732AA	10/01/2010 03:40	Kelly E Keller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D102732AA	10/01/2010 03:40	Kelly E Keller	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	10273B20A	10/01/2010 20:02	Marie D John	1
01146	GC VOA Water Prep	SW-846 5030B	1	10273B20A	10/01/2010 20:02	Marie D John	1

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Analysis Report

Sample Description: TB-1 NA Water
NA URSO
MP 2.7 SL0600100443

LLI Sample # WW 6098026
LLI Group # 1213963
Account # 11875

Project Name: MP 2.7

Collected: 09/28/2010

Submitted: 09/29/2010 09:20
Reported: 10/06/2010 16:40
Discard: 11/06/2010

Chevron Pipeline Co.
100 Northpark Blvd
Covington LA 70433

MW11T

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	D102732AA	09/30/2010 18:16	Kelly E Keller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D102732AA	09/30/2010 18:16	Kelly E Keller	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	10273B20A	10/01/2010 16:20	Marie D John	1
01146	GC VOA Water Prep	SW-846 5030B	1	10273B20A	10/01/2010 16:20	Marie D John	1

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Analysis Report

Quality Control Summary

Client Name: Chevron Pipeline Co. Group Number: 1213963
Reported: 10/06/10 at 04:40 PM

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

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: D102732AA	Sample number(s): 6098023,6098025-6098026							
Benzene	N.D.	0.5	ug/l	94		79-120		
Ethylbenzene	N.D.	0.5	ug/l	99		79-120		
Toluene	N.D.	0.5	ug/l	96		79-120		
Xylene (Total)	N.D.	0.5	ug/l	100		80-120		
Batch number: 10273B20A	Sample number(s): 6098023,6098025-6098026							
TPH-GRO N. CA water C6-C12	N.D.	50.	ug/l	118	118	75-135	0	30
Batch number: 102720029A	Sample number(s): 6098023							
Methane	N.D.	5.0	ug/l	93		80-120		
Batch number: 102731848001	Sample number(s): 6098023-6098024							
Iron	N.D.	52.2	ug/l	102		90-112		
Manganese	N.D.	0.84	ug/l	103		90-110		
Batch number: 10272196601A	Sample number(s): 6098023							
Nitrate Nitrogen	N.D.	50.	ug/l	105		90-110		
Sulfate	N.D.	300.	ug/l	103		89-110		
Batch number: 10273021201A	Sample number(s): 6098023							
Total Dissolved Solids	N.D.	9,700.	ug/l	95		80-120		
Batch number: 10273834401A	Sample number(s): 6098023							
Ferrous Iron	N.D.	10.	ug/l	97	100	92-105	4	4
Batch number: 10274020201B	Sample number(s): 6098023							
Alkalinity to pH 4.5	N.D.	460.	ug/l as CaCO3	99		98-103		

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: D102732AA	Sample number(s): 6098023,6098025-6098026 UNSPK: P096445								
Benzene	100	94	80-126	7	30				
Ethylbenzene	105	98	71-134	7	30				
Toluene	102	95	80-125	7	30				
Xylene (Total)	105	98	79-125	7	30				

*- 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: 1213963
Reported: 10/06/10 at 04:40 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
Batch number: 10273B20A	Sample number(s): 6098023,6098025-6098026 UNSPK: P096811								
TPH-GRO N. CA water C6-C12	59*		63-154						
Batch number: 102720029A	Sample number(s): 6098023 UNSPK: P098063								
Methane	83	67	35-157	22*	20				
Batch number: 102731848001	Sample number(s): 6098023-6098024 UNSPK: P095235 BKG: P095235								
Iron	97 (2)	178 (2)	75-125	7	20	10,300	9,840	5	20
Manganese	97	96	75-125	0	20	1,870	1,910	2	20
Batch number: 10272196601A	Sample number(s): 6098023 UNSPK: P097992 BKG: P097992								
Nitrate Nitrogen	106		90-110			N.D.	N.D.	0 (1)	20
Sulfate	108		90-110			1,610,000	1,600,000	0	20
Batch number: 10273021201A	Sample number(s): 6098023 UNSPK: P096530 BKG: P096530								
Total Dissolved Solids	96	88	62-135	4	12	938,000	948,000	1	9
Batch number: 10273834401A	Sample number(s): 6098023 BKG: 6098023								
Ferrous Iron						300	280	7* (1)	5
Batch number: 10274020201B	Sample number(s): 6098023 UNSPK: P098063 BKG: P098063								
Alkalinity to pH 4.5	96	96	73-121	0	5	9,000	8,900	1 (1)	5
Alkalinity to pH 8.3						N.D.	N.D.	0 (1)	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: D102732AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
6098023	99	96	98	98
6098025	100	95	99	99
6098026	100	98	97	98
Blank	102	94	99	98
LCS	98	99	99	100
MS	102	97	100	102
MSD	100	100	98	101
Limits:	80-116	77-113	80-113	78-113

Analysis Name: TPH-GRO N. CA water C6-C12
Batch number: 10273B20A

	Trifluorotoluene-F
6098023	89
6098025	89
6098026	87

*- 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: 1213963
Reported: 10/06/10 at 04:40 PM

Surrogate Quality Control

Blank	88
LCS	121
LCSD	119
MS	153*
Limits:	63-135

Analysis Name: Volatile Headspace Hydrocarbon
Batch number: 102720029A

	Propene
6098023	62
Blank	98
LCS	96
MS	77
MSD	61
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 California Region Analysis Request/Chain of Custody

Lancaster Laboratories
Where quality is a science.

For Lancaster Laboratories use only

Acct. #: 11875 Sample #: 6098023-26 SCR#: ______ 243021

1213963

Facility #: ______

Site Address: M.P. 2.7

Chevron PM: Jeff Johnson Lead Consultant: URS

Consultant/Office: URS Oakland

Consultant Prj. Mgr.: Joe Morgan

Consultant Phone #: (510) 874-3021 Fax #: (510) 874-3268

Sampler: Kim Morris / Rachel Naccarati

Service Order #: ______ ☐ Non SAR: ______

Analyses Requested / **Preservation Codes**

Field Point Name	Matrix	Repeat Sample	Top Depth	Year Month Day	Time Collected	New Field Pt.	Grab	Composite	Total Number of Containers	BTEX + ~~MTBE~~ 8260 ☒ ~~8021~~ ☐ (H)	~~TPH 8015 MOD GRO~~ TPH-G by NWTPH LUFT (H)	TPH 8015 MOD DRO ☐ Silica Gel Cleanup	8260 full scan	___ Oxygenates	Lead 7420 ☐ 7421 ☐	Nitrate/Sulfate 300.0	Total Manganese Dissolved Iron 6010B (N)	Ferrous Iron 3500-Fe M (H)	Alkalinity by Breakdown 310.1	TDS 160.1	Methane by 8015 M (H)
MW-11	W			2010/09/28	1440	N	X			X	X					X	X	X	X	X	X
STREAM	↓			2010/09/28	1100	N	X			X	X										
TB-1	↓																				

Preservative Codes

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

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

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

Comments / Remarks

Lab Filter Metals

Turnaround Time Requested (TAT) (please circle)

(STD. TAT) 72 hour 48 hour
24 hour 4 day 5 day

Data Package Options (please circle if required)

QC Summary Type I – Full
Type VI (Raw Data) ☐ Coelt Deliverable not needed
WIP (RWQCB)
Disk

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	9/28/10	1700			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by Commercial Carrier: UPS (FedEx) Other ______			Received by: [signature]	9-29-10	0920
Temperature Upon Receipt 2.8° 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)
ug	microgram(s)	**mg**	milligram(s)
ml	milliliter(s)	**l**	liter(s)
m3	cubic meter(s)	**ul**	microliter(s)

< 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

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

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

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

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.

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

Chevron Pipeline Co.
100 Northpark Blvd
Covington LA 70433

October 11, 2010

Project: Sunol, CA

Submittal Date: 09/30/2010
Group Number: 1214240
PO Number: 0015043340
Release Number: JOHNSON
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
MW-8 Grab Water	6099560
MW-9 Grab Water	6099561
MW-9_Filtered Grab Water	6099562
MW-10 Grab Water	6099563
MW-10_Filtered Grab Water	6099564
TB-2 NA Water	6099565
MW-X Grab Water	6099566

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

ELECTRONIC COPY TO	URS	Attn: Joe Morgan
ELECTRONIC COPY TO	URS	Attn: Rachel Naccarati
ELECTRONIC COPY TO	URS	Attn: Jacob Henry
ELECTRONIC COPY TO	URS Corporation	Attn: Kimberly Morgan

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Analysis Report

Questions? Contact your Client Services Representative
Elizabeth A Leonhardt at (510) 232-8894

Respectfully Submitted,

Lawrence M. Taylor
Senior Specialist

Lancaster Laboratories

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Analysis Report

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

LLI Sample # WW 6099560
LLI Group # 1214240
Account # 11875

Project Name: Sunol, CA

Collected: 09/29/2010 11:00 by RN

Submitted: 09/30/2010 09:00
Reported: 10/11/2010 10:15
Discard: 11/11/2010

Chevron Pipeline Co.
100 Northpark Blvd
Covington LA 70433

SSMW8

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	1,400	5	10
10943	Ethylbenzene	100-41-4	3,200	50	100
10943	Toluene	108-88-3	16,000	50	100
10943	Xylene (Total)	1330-20-7	16,000	50	100
GC Volatiles	**SW-846 8015B**		**ug/l**	**ug/l**	
01728	TPH-GRO N. CA water C6-C12	n.a.	74,000	1,300	25

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	D102761AA	10/04/2010 03:04	Florida A Cimino	10
10943	BTEX 8260B Water	SW-846 8260B	1	D102761AA	10/04/2010 03:26	Florida A Cimino	100
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D102761AA	10/04/2010 03:04	Florida A Cimino	10
01163	GC/MS VOA Water Prep	SW-846 5030B	2	D102761AA	10/04/2010 03:26	Florida A Cimino	100
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	10276A07A	10/04/2010 05:45	Tyler O Griffin	25
01146	GC VOA Water Prep	SW-846 5030B	1	10276A07A	10/04/2010 05:45	Tyler O Griffin	25

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Analysis Report

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

LLI Sample # WW 6099561
LLI Group # 1214240
Account # 11875

Project Name: Sunol, CA

Collected: 09/29/2010 14:45 by RN

Submitted: 09/30/2010 09:00
Reported: 10/11/2010 10:15
Discard: 11/11/2010

Chevron Pipeline Co.
100 Northpark Blvd
Covington LA 70433

SSMW9

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.	10	20
10943	Ethylbenzene	100-41-4	440	10	20
10943	Toluene	108-88-3	N.D.	10	20
10943	Xylene (Total)	1330-20-7	2,100	10	20
	Reporting limits were raised due to interference from the sample matrix.				
GC Volatiles	**SW-846 8015B**		**ug/l**	**ug/l**	
01728	TPH-GRO N. CA water C6-C12	n.a.	24,000	1,300	25
GC Miscellaneous	**SW-846 8015B modified**		**ug/l**	**ug/l**	
07105	Methane	74-82-8	18	5.0	1
Metals	**SW-846 6010B**		**ug/l**	**ug/l**	
07058	Manganese	7439-96-5	3,830	0.84	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	4,500	1,500	5
	EPA 160.1		**ug/l**	**ug/l**	
00212	Total Dissolved Solids	n.a.	627,000	19,400	1
	EPA 310.1		**ug/l as CaCO3**	**ug/l as CaCO3**	
00202	Alkalinity to pH 4.5	n.a.	549,000	460	1
00201	Alkalinity to pH 8.3	n.a.	N.D.	460	1
	SM20 3500 Fe B modified		**ug/l**	**ug/l**	
08344	Ferrous Iron	n.a.	2,200	40	4

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	Z102772AA	10/04/2010 13:27	Daniel H Heller	20
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z102772AA	10/04/2010 13:27	Daniel H Heller	20

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Analysis Report

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

LLI Sample # WW 6099561
LLI Group # 1214240
Account # 11875

Project Name: Sunol, CA

Collected: 09/29/2010 14:45 by RN

Submitted: 09/30/2010 09:00
Reported: 10/11/2010 10:15
Discard: 11/11/2010

Chevron Pipeline Co.
100 Northpark Blvd
Covington LA 70433

SSMW9

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	10276A07A	10/04/2010 15:57	Tyler O Griffin	25
01146	GC VOA Water Prep	SW-846 5030B	1	10276A07A	10/04/2010 15:57	Tyler O Griffin	25
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	102740002A	10/08/2010 14:59	Elizabeth J Marin	1
07058	Manganese	SW-846 6010B	2	102801848001	10/08/2010 05:47	Tara L Snyder	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	102771848004	10/05/2010 09:42	Denise K Conners	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	2	102801848001	10/07/2010 20:30	Mirit S Shenouda	1
00368	Nitrate Nitrogen	EPA 300.0	1	10274196601A	10/01/2010 10:52	Ashley M Adams	5
00228	Sulfate	EPA 300.0	1	10274196601A	10/01/2010 10:52	Ashley M Adams	5
00212	Total Dissolved Solids	EPA 160.1	1	10278021202A	10/05/2010 10:00	Hannah M Royer	1
00202	Alkalinity to pH 4.5	EPA 310.1	1	10279020201A	10/06/2010 06:15	Susan A Engle	1
00201	Alkalinity to pH 8.3	EPA 310.1	1	10279020201A	10/06/2010 06:15	Susan A Engle	1
08344	Ferrous Iron	SM20 3500 Fe B modified	1	10273834402A	09/30/2010 19:10	Daniel S Smith	4

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Analysis Report

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

LLI Sample # WW 6099562
LLI Group # 1214240
Account # 11875

Project Name: Sunol, CA

Collected: 09/29/2010 14:45 by RN

Submitted: 09/30/2010 09:00
Reported: 10/11/2010 10:15
Discard: 11/11/2010

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	82.3	52.2	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	102801848001	10/08/2010 09:06	Eric L Eby	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	102771848004	10/05/2010 09:42	Denise K Conners	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	2	102801848001	10/07/2010 20:30	Mirit S Shenouda	1

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Analysis Report

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

LLI Sample # WW 6099563
LLI Group # 1214240
Account # 11875

Project Name: Sunol, CA

Collected: 09/29/2010 12:30 by RN

Submitted: 09/30/2010 09:00
Reported: 10/11/2010 10:15
Discard: 11/11/2010

Chevron Pipeline Co.
100 Northpark Blvd
Covington LA 70433

SSM10

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	550	10	2
Metals		**SW-846 6010B**		**ug/l**	**ug/l**	
07058	Manganese		7439-96-5	384	0.84	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	148,000	3,000	10
		EPA 160.1		**ug/l**	**ug/l**	
00212	Total Dissolved Solids		n.a.	998,000	38,800	1
		EPA 310.1		**ug/l as CaCO3**	**ug/l as CaCO3**	
00202	Alkalinity to pH 4.5		n.a.	610,000	460	1
00201	Alkalinity to pH 8.3		n.a.	N.D.	460	1
		SM20 3500 Fe B modified		**ug/l**	**ug/l**	
08344	Ferrous Iron		n.a.	5,000	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	D102784AA	10/05/2010 20:55	Florida A Cimino	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D102784AA	10/05/2010 20:55	Florida A Cimino	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	10280A20A	10/07/2010 20:36	Marie D John	1

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Analysis Report

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

LLI Sample # WW 6099563
LLI Group # 1214240
Account # 11875

Project Name: Sunol, CA

Collected: 09/29/2010 12:30 by RN

Submitted: 09/30/2010 09:00
Reported: 10/11/2010 10:15
Discard: 11/11/2010

Chevron Pipeline Co.
100 Northpark Blvd
Covington LA 70433

SSM10

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	10280A20A	10/07/2010 20:36	Marie D John	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	102740002A	10/08/2010 15:29	Elizabeth J Marin	2
07058	Manganese	SW-846 6010B	1	102771848004	10/07/2010 08:54	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	102771848004	10/05/2010 09:42	Denise K Conners	1
00368	Nitrate Nitrogen	EPA 300.0	1	10274196601A	10/01/2010 11:08	Ashley M Adams	5
00228	Sulfate	EPA 300.0	1	10274196601A	10/04/2010 16:44	Ashley M Adams	10
00212	Total Dissolved Solids	EPA 160.1	1	10278021202A	10/05/2010 10:00	Hannah M Royer	1
00202	Alkalinity to pH 4.5	EPA 310.1	1	10279020201A	10/06/2010 06:15	Susan A Engle	1
00201	Alkalinity to pH 8.3	EPA 310.1	1	10279020201A	10/06/2010 06:15	Susan A Engle	1
08344	Ferrous Iron	SM20 3500 Fe B modified	1	10273834402A	09/30/2010 19:10	Daniel S Smith	20

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Analysis Report

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

LLI Sample # WW 6099564
LLI Group # 1214240
Account # 11875

Project Name: Sunol, CA

Collected: 09/29/2010 12:30 by RN

Submitted: 09/30/2010 09:00
Reported: 10/11/2010 10:15
Discard: 11/11/2010

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.	52.2	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	102771848004	10/07/2010 08:57	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot rec)	SW-846 3005A	1	102771848004	10/05/2010 09:42	Denise K Conners	1

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Analysis Report

Sample Description: TB-2 NA Water
NA URSO
Sunol Pipeline SL0600100443 TB-2

LLI Sample # WW 6099565
LLI Group # 1214240
Account # 11875

Project Name: Sunol, CA

Collected: 09/29/2010

Submitted: 09/30/2010 09:00
Reported: 10/11/2010 10:15
Discard: 11/11/2010

Chevron Pipeline Co.
100 Northpark Blvd
Covington LA 70433

SSTB2

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	D102761AA	10/03/2010 21:05	Florida A Cimino	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D102761AA	10/03/2010 21:05	Florida A Cimino	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	10277A20A	10/04/2010 15:40	Elizabeth J Marin	1
01146	GC VOA Water Prep	SW-846 5030B	1	10277A20A	10/04/2010 15:40	Elizabeth J Marin	1

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Analysis Report

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

LLI Sample # WW 6099566
LLI Group # 1214240
Account # 11875

Project Name: Sunol, CA

Collected: 09/29/2010 13:20 by RN

Submitted: 09/30/2010 09:00
Reported: 10/11/2010 10:15
Discard: 11/11/2010

Chevron Pipeline Co.
100 Northpark Blvd
Covington LA 70433

SSMWX

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	1,500	25	50
10943	Ethylbenzene	100-41-4	4,300	25	50
10943	Toluene	108-88-3	23,000	250	500
10943	Xylene (Total)	1330-20-7	25,000	25	50
GC Volatiles	**SW-846 8015B**		**ug/l**	**ug/l**	
01728	TPH-GRO N. CA water C6-C12	n.a.	170,000	5,000	100

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	Z102772AA	10/04/2010 15:31	Daniel H Heller	50
10943	BTEX 8260B Water	SW-846 8260B	1	Z102772AA	10/04/2010 20:02	Daniel H Heller	500
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z102772AA	10/04/2010 15:31	Daniel H Heller	50
01163	GC/MS VOA Water Prep	SW-846 5030B	2	Z102772AA	10/04/2010 20:02	Daniel H Heller	500
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	10277A20A	10/05/2010 00:04	Elizabeth J Marin	100
01146	GC VOA Water Prep	SW-846 5030B	1	10277A20A	10/05/2010 00:04	Elizabeth J Marin	100

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Analysis Report

Quality Control Summary

Client Name: Chevron Pipeline Co. Group Number: 1214240
Reported: 10/11/10 at 10:15 AM

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

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: D102761AA	Sample number(s): 6099560,6099565							
Benzene	N.D.	0.5	ug/l	93		79-120		
Ethylbenzene	N.D.	0.5	ug/l	96		79-120		
Toluene	N.D.	0.5	ug/l	96		79-120		
Xylene (Total)	N.D.	0.5	ug/l	98		80-120		
Batch number: D102784AA	Sample number(s): 6099563							
Benzene	N.D.	0.5	ug/l	93	85	79-120	10	30
Ethylbenzene	N.D.	0.5	ug/l	96	86	79-120	11	30
Toluene	N.D.	0.5	ug/l	95	84	79-120	11	30
Xylene (Total)	N.D.	0.5	ug/l	100	88	80-120	12	30
Batch number: Z102772AA	Sample number(s): 6099561,6099566							
Benzene	N.D.	0.5	ug/l	95		79-120		
Ethylbenzene	N.D.	0.5	ug/l	97		79-120		
Toluene	N.D.	0.5	ug/l	96		79-120		
Xylene (Total)	N.D.	0.5	ug/l	98		80-120		
Batch number: 10276A07A	Sample number(s): 6099560-6099561							
TPH-GRO N. CA water C6-C12	N.D.	50.	ug/l	100	109	75-135	9	30
Batch number: 10277A20A	Sample number(s): 6099565-6099566							
TPH-GRO N. CA water C6-C12	N.D.	50.	ug/l	100	109	75-135	9	30
Batch number: 10280A20A	Sample number(s): 6099563							
TPH-GRO N. CA water C6-C12	N.D.	50.	ug/l	118	118	75-135	0	30
Batch number: 102740002A	Sample number(s): 6099561,6099563							
Methane	N.D.	5.0	ug/l	93		80-120		
Batch number: 102771848004	Sample number(s): 6099563-6099564							
Iron	N.D.	52.2	ug/l	102		90-112		
Manganese	N.D.	0.84	ug/l	101		90-110		
Batch number: 102801848001	Sample number(s): 6099561-6099562							
Iron	N.D.	52.2	ug/l	100		90-112		
Manganese	N.D.	0.84	ug/l	107		90-110		
Batch number: 10274196601A	Sample number(s): 6099561,6099563							
Nitrate Nitrogen	N.D.	50.	ug/l	110		90-110		
Sulfate	N.D.	300.	ug/l	109		89-110		
Batch number: 10273834402A	Sample number(s): 6099561,6099563							
Ferrous Iron	N.D.	10.	ug/l	100		92-105		
Batch number: 10278021202A	Sample number(s): 6099561,6099563							
Total Dissolved Solids	N.D.	9,700.	ug/l	104		80-120		

*- 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: 1214240
Reported: 10/11/10 at 10:15 AM

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 10279020201A	Sample number(s): 6099561,6099563							
Alkalinity to pH 4.5	N.D.	460.	ug/l as CaCO3	100		98-103		

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: D102761AA	Sample number(s): 6099560,6099565 UNSPK: P099149								
Benzene	99	88	80-126	12	30				
Ethylbenzene	101	91	71-134	10	30				
Toluene	100	90	80-125	11	30				
Xylene (Total)	102	91	79-125	12	30				
Batch number: D102784AA	Sample number(s): 6099563 UNSPK: P101423								
Benzene	100		80-126						
Ethylbenzene	104		71-134						
Toluene	104		80-125						
Xylene (Total)	106		79-125						
Batch number: Z102772AA	Sample number(s): 6099561,6099566 UNSPK: P100758								
Benzene	103	98	80-126	4	30				
Ethylbenzene	107	103	71-134	4	30				
Toluene	105	100	80-125	5	30				
Xylene (Total)	105	101	79-125	4	30				
Batch number: 10276A07A	Sample number(s): 6099560-6099561 UNSPK: P099140								
TPH-GRO N. CA water C6-C12	116		63-154						
Batch number: 10277A20A	Sample number(s): 6099565-6099566 UNSPK: P101720								
TPH-GRO N. CA water C6-C12	118		63-154						
Batch number: 10280A20A	Sample number(s): 6099563 UNSPK: P103853								
TPH-GRO N. CA water C6-C12	118		63-154						
Batch number: 102740002A	Sample number(s): 6099561,6099563 UNSPK: P099157								
Methane	63	77	35-157	19	20				
Batch number: 102771848004	Sample number(s): 6099563-6099564 UNSPK: P097109 BKG: P097109								
Iron	-28 (2)	95 (2)	75-125	3	20	42,600	41,900	2	20
Manganese	63 (2)	97 (2)	75-125	3	20	6,020	5,920	2	20
Batch number: 102801848001	Sample number(s): 6099561-6099562 UNSPK: P105006 BKG: P105006								
Iron	101	100	75-125	0	20	N.D.	N.D.	0 (1)	20
Manganese	103	101	75-125	1	20	49.1	46.7	5	20
Batch number: 10274196601A	Sample number(s): 6099561,6099563 UNSPK: P100601 BKG: P100601								
Nitrate Nitrogen	83*		90-110			N.D.	N.D.	0 (1)	20
Sulfate	107		90-110			416,000	419,000	1 (1)	20

*- 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: 1214240
Reported: 10/11/10 at 10:15 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
Batch number: 10273834402A	Sample number(s): 6099561,6099563 UNSPK: P098890 BKG: P098890								
Ferrous Iron	103	96	73-120	4	6	7,200	7,200	0 (1)	5
Batch number: 10278021202A	Sample number(s): 6099561,6099563 UNSPK: P099157 BKG: P099157								
Total Dissolved Solids	99	106	62-135	3	12	327,000	337,000	3	9
Batch number: 10279020201A	Sample number(s): 6099561,6099563 UNSPK: P099102 BKG: P100019								
Alkalinity to pH 4.5	96		73-121			457,000	462,000	1	5
Alkalinity to pH 8.3						N.D.	N.D.	0 (1)	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: D102761AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
6099560	99	94	101	100
6099565	99	100	98	99
Blank	101	98	100	100
LCS	100	97	100	103
MS	99	96	98	101
MSD	99	100	99	102
Limits:	80-116	77-113	80-113	78-113

Analysis Name: UST VOCs by 8260B - Water
Batch number: D102784AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
6099563	102	96	99	100
Blank	105	98	98	99
LCS	101	99	97	101
LCSD	102	99	97	102
MS	100	95	99	102
Limits:	80-116	77-113	80-113	78-113

Analysis Name: UST VOCs by 8260B - Water
Batch number: Z102772AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
6099561	96	92	103	99
6099566	97	95	101	97
Blank	98	95	101	96
LCS	98	96	101	100
MS	97	95	102	101
MSD	98	96	101	100

*- 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: 1214240
Reported: 10/11/10 at 10:15 AM

Surrogate Quality Control

Limits:	80-116	77-113	80-113	78-113

Analysis Name: TPH-GRO N. CA water C6-C12
Batch number: 10276A07A

	Trifluorotoluene-F
6099560	96
6099561	103
Blank	93
LCS	100
LCSD	98
MS	105

Limits:	63-135

Analysis Name: TPH-GRO N. CA water C6-C12
Batch number: 10277A20A

	Trifluorotoluene-F
6099565	87
6099566	93
Blank	88
LCS	110
LCSD	107
MS	121

Limits:	63-135

Analysis Name: TPH-GRO N. CA water C6-C12
Batch number: 10280A20A

	Trifluorotoluene-F
6099563	88
Blank	89
LCS	119
LCSD	117
MS	118

Limits:	63-135

Analysis Name: Volatile Headspace Hydrocarbon
Batch number: 102740002A

	Propene
6099561	57
6099563	71
Blank	97
LCS	95
MS	53
MSD	67

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 California Region Analysis Request/Chain of Custody

Lancaster Laboratories
Where quality is a science.

243022

For Lancaster Laboratories use only
Acct. #: 11875 Sample #: 609956 0-66 SCR#:

Grp # 1214240

Facility #: Sunol Spill
Site Address: Mile Post 2.7 Calaveras Rd, Sunol, CA
Chevron PM: Jeff Johnson Lead Consultant: URS
Consultant/Office: URS - Oakland
Consultant Prj. Mgr.: Joe Morgan
Consultant Phone #: (510) 874-3201 Fax #: (510) 874-3268
Sampler: R McCarati / K Morris
Service Order #: ☐ Non SAR:

Analyses Requested

Preservation Codes

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

☐ J value reporting needed
☐ Must meet lowest detection limits possible for 8260 compounds
8021 MTBE Confirmation
☐ Confirm highest hit by 8260
☐ Confirm all hits by 8260
☐ Run ____ oxy's on highest hit
☐ Run ____ oxy's on all hits

Field Point Name	Matrix	Repeat Sample	Top Depth	Year Month Day	Time Collected	New Field Pt.	Grab	Composite	Total Number of Containers	BTEX ~~MTBE~~ 8260 ☒ 8021 ☐ BTEX ONLY	TPH ~~8015 MOD~~ GRO JBA LABEL	TPH 8015 MOD DRO ☐ Silica Gel Cleanup	8260 full scan	Oxygenates ___	Lead 7420 ☐ 7421 ☐	Nitrate/Sulfate 300.0	Total Manganese Dissolved Iron 6010B	Ferrous Iron 3500-Fe M	Alkalinity by 310.1	TDS by 160.1	Methane by 8015B M	Comments / Remarks
MW-8	W	N		2010/09/29	1100	N	X		6	X	X											Lab Filter the metals
MW-9	↓	↓		↓	1140	↓	X		15	X	X					X	X	X	X	X	X	
MW-10	↓	↓		↓	1230	↓	X		15	X	X					X	X	X	X	X	X	
TB-2	↓	↓		↓	-	↓	X		2	X	X											
MW-X	↓	↓		↓	1320	↓	X		6	X	X											

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

Data Package Options (please circle if required)
QC Summary Type I – Full
Type VI (Raw Data) ☐ Coelt Deliverable not needed
WIP (RWQCB)
Disk

	Relinquished by:	Date	Time	Received by:	Date	Time
1	[signature]	9/29/10	1630			
2						
3						
4	Relinquished by Commercial Carrier: UPS FedEx Other ____					
	Temperature Upon Receipt 1.1 C°			Custody Seals Intact? Yes No		

Lancaster Laboratories, Inc., 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 (717) 656-2300
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

3460 Rev. 10/04/01

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)
ug	microgram(s)	**mg**	milligram(s)
ml	milliliter(s)	**l**	liter(s)
m3	cubic meter(s)	**ul**	microliter(s)

< 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

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

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

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

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.