Chevron

Global Gas

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August 15, 2007

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

Dear Mr. Wickham:

I declare, under penalty of perjury, that the information and/or recommendations contained in URS' report titled "**SLIC Case No. RO0002892, Chevron Sunol Pipeline, 2793 Calaveras Road, Sunol, CA - Second Quarter 2007 Groundwater and Soil Vapor Extraction System Monitoring Report**" are true and correct to the best of my knowledge at the present time.

Submitted by:

Jeffrey Cosgray
Chevron Pipe Line Company

Disclosure

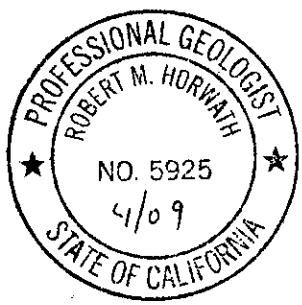
This report ("**Second Quarter 2007 Groundwater and Soil Vapor Extraction System Monitoring Report**") was prepared under my direct supervision. The information presented in this report is based on our review of available data obtained during our additional monitoring well installation and quarterly sampling activities and our previous subsurface investigation efforts. To the best of our knowledge, we have incorporated into our recommendations all relevant data pertaining to the Chevron Pipeline Release site in Sunol, California.

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

URS Corporation
Approved by:

Joe Morgan III

Robert Horwath, P.G.



August 15, 2007

Mr. Jerry Wickham
Department of Environmental Health
Alameda County Health Agency
1131 Harbor Bay Parkway
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Subject: SLIC Case No. RO0002892, Chevron Sunol Pipeline, 2793 Calaveras Rd, Sunol, CA
Second Quarter 2007 Groundwater and Soil Vapor Extraction System Monitoring Report

Dear Mr. Wickham:

A December 30, 2005 letter provided by the Alameda County Environmental Health staff (ACEH) requested the initiation of a Quarterly Groundwater Monitoring Program. A January 17, 2007 ACEH letter requested the initiation of a Quarterly Soil Vapor Extraction (SVE) System Monitoring Program. In response to these requests, URS, on behalf of Chevron Pipe Line Company (Chevron), has prepared this joint groundwater and SVE system monitoring report for the Chevron Sunol Pipeline site (Site) for the second quarter of 2007. A Site vicinity map is included as Figure 1.

Section 1 of this report discusses the groundwater monitoring program and details measured groundwater levels, sampling methodologies, and groundwater analytical results. Section 2 discusses the SVE system monitoring program and presents the operation and monitoring of the SVE system, the soil-vapor analytical results, and evaluates the performance of the SVE system. Section 3 provides the findings and Section 4 presents the recommendations for both the groundwater and SVE system monitoring programs. Section 5 describes the limitations applicable to this report.

1.0 GROUNDWATER MONITORING PROGRAM

On June 5 and 6, 2007, URS conducted field activities to assess the groundwater conditions at the Site. As part of this field effort, URS measured the water levels and attempted to collect analytical samples from Site groundwater monitoring wells (MW-1 through MW-9). URS also collected a surface water sample for analysis from the very small stream, located northwest of the release location, at the Site. The monitoring wells and surface water sampling location are provided on Figure 2.

1.1 SITE HYDROGEOLOGY

Prior to collecting groundwater samples, the water levels were measured at each well from the top of casing using an electronic oil/water interface meter. Free product was measured in MW-9

with a thickness of 0.02 feet. Free product or sheen was not detected in the other eight wells (MW-1 through MW-8) during quarterly monitoring activities. The measured water levels are displayed in Table 1 and the calculated groundwater and product elevations are displayed in Table 2.

Due to unusually dry winter and spring conditions, the groundwater level within the unconfined water-bearing zone was the lowest it has been since the initiation of the groundwater monitoring program in February of 2006. Because of the low water table, MW-3 and MW-4 were once again hydraulically disconnected from the unconfined water-bearing zone. The standing water levels in MW-3 and MW-4 were 291.02 and 290.02 feet above average mean sea level (msl), respectively.

The groundwater elevations for the remaining unconfined water-bearing zone wells (MW-1, MW-2 and MW-9), ranged from a high of 290.92 feet above msl at MW-2 to a low of 290.36 feet above msl at MW-9. The groundwater elevation for MW-8, which screens an apparent recharge source for the nursery unconfined water-bearing zone, was 313.45 feet above msl.

Based on data from MW-1, MW-2, and MW-9, the local groundwater flow direction within the nursery unconfined water-bearing zone appears to be in a northerly direction with an inferred hydraulic gradient of 0.004 feet/feet. The groundwater recharge from the hillside appears to flow into the unconfined nursery water-bearing zone in a northwesterly direction with a steep hydraulic gradient. The hydraulic gradient for the hillside has not been calculated because MW-8 is the only well screened in the apparent hillside recharge source area. Figure 3 provides groundwater contours for the local recharge source and the unconfined water-bearing zone as well as bedrock surface contours for the gravel-siltstone contact for comparison.

The potentiometric surface elevations for the confined sandstone water-bearing zone wells (MW-5 through MW-7), located along the eastern shoulder of Calaveras Road, range from 312.94 to 321.22 ft above msl, with the highest groundwater elevation measured from MW-5, the middle well. The groundwater flow direction and hydraulic gradient have not been calculated for the confined sandstone water-bearing zone because these wells are installed in essentially a straight line along Calaveras Road for monitoring purposes. The relative groundwater elevations for these wells are similar with previous quarterly groundwater levels. The groundwater elevations for these wells are displayed on Figure 4.

1.2 QUARTERLY MONITORING ACTIVITIES

After measuring the fluid levels at each well, URS conducted groundwater sampling. Second quarter sampling efforts were influenced by the seasonally low groundwater levels and the presence of a hydrocarbon sheen. The rationale for the method used at each well is described below:

- MW-1 and MW-5 were purged using low-flow methods.
- MW-2 was purged using a bailer rather than by low-flow methods due to an insufficient water column within the screened zone of the well.
- MW-3 and MW-4 were not sampled because the wells groundwater elevations were below the elevation of the bedrock hydraulically disconnecting the wells from the unconfined water-bearing zone.
- MW-6 through MW-8 were purged dry due to the slow recharge and then sampled.
- MW-9 was not sampled due to the presence of measurable hydrocarbon sheen (0.02 feet).

Pumping was conducted using disposable low-density polyethylene tubing and a stainless steel electronic submersible continuous discharge pump. Bailing was conducted using disposable clear polyvinyl chloride (PVC) bailers.

A surface water sample was also collected from the very small stream northwest west of the release location (Figure 2).

1.2.1 MW-1 and MW-5

After re-measuring the groundwater levels at MW-1 and MW-5, the pump intake was slowly lowered into position in either the center of each well screen if the water level was higher than the top of the screen or the center of the water column if the water level was lower than the top of the screen.

Low-flow purging rates were between 200 and 350 milliliters per minute (mL/min) depending on the rate of recharge at each well. During low-flow purging, the water level in each well was measured periodically to monitor draw down. At MW-1 a stabilized draw down of less than 0.33 feet was achieved. Although the draw down at MW-5 was greater than 0.33 feet, the water level stabilized at 2.55 feet below the static water level after an initial drop when purging began. The static and final groundwater levels before and after sampling are provided on the low-flow groundwater sampling forms for monitoring wells MW-1 and MW-5, included in Attachment A.

In addition to monitoring the water level at each well during low-flow sampling, parameters such as temperature, pH, conductivity, oxygen reduction potential (ORP), dissolved oxygen (DO) and turbidity of the groundwater were monitored using an in-line flow-through cell and multi-parameter device. The multi-parameter device was calibrated prior to sampling. During purging, the parameter readings described above were recorded every 3 minutes until the parameters stabilized.

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

After monitoring the field parameters, the flow through cell was detached from the pump and tubing assembly. Groundwater samples were collected directly from the pump tubing.

1.2.2 MW-2

Because of an insufficient water column within the screened zone at MW-2, low flow methods could not be used. Instead the volume of water within the well was calculated and three well volumes were removed prior to sampling. A total of 10.5 gallons were removed. The calculations are provided on the sampling form (Attachment A). Parameters such as temperature, pH, conductivity, ORP, DO and turbidity of the groundwater were monitored by pouring bailed water into a multi-parameter device. The multi-parameter device was calibrated prior to sampling. During purging, the parameter readings described above were recorded approximately every gallon.

After monitoring the field parameters and removing 10.5 gallons of purge water, the groundwater sample was collected from the bailer.

1.2.3 MW-6 through MW-8

Because of slow recharge rates at MW-6 through MW-8, low-flow purging methods could not be used. Instead, the monitoring wells were purged dry. At MW-6, MW-7, and MW-8, approximately 32, 29, and 2.5 gallons were removed from each well, respectively. After the wells were purged dry, the recharging water levels were monitored until sufficient water was present to collect the groundwater samples. Once a sufficient water column was present, the pump was restarted and operated to flush out any stagnant water remaining in the pump and tubing assembly. The flow-rate during sample collection at MW-6 through MW-8 was approximately 300 to 500 mL/min.

1.2.4 MW-9 Sorbant Boom

URS installed a sorbent boom in MW-9 on March 1, 2007 as an interim remedial measure. The purpose of installing the boom was to passively collect and facilitate degradation of hydrocarbon sheen within the well and allow for future quarterly groundwater samples to be collected when measurable sheen is not present. MW-9 was gauged several times after the boom was installed and a hydrocarbon sheen was not measured. However, after about 3 months, the boom was depleted and required replacement. According to Universal Remediation Inc., the developer of

the boom, approximately 5 to 6 gallons of product are typically biodegraded before the boom is depleted. The boom was removed on May 25, 2007. Because the boom appeared to be effective (only 0.02" of product measured prior to boom reinstallation) in degrading product, a new boom was installed on June 8, 2007.

1.2.5 Surface Water Sample

The sampling location along the very small stream is located at the base of the alluvial terrace within the Alameda Creek floodplain and is shown on Figure 2. The former sampling point (SW-Creek, sampled prior to the first quarter of 2007) is also provided on Figure 2 for reference. To the west, beyond the sampling location, the very small stream fans out into the floodplain and surface flow terminates within floodplain grasses. The stream does not reach the eastern channel of Alameda Creek, which has been noted as dry during spring Site visits.

1.3 ANALYTICAL PROGRAM

The groundwater samples from each well were collected in clean laboratory provided containers and placed on ice in a cooler immediately after collection. Each sample cooler included a trip blank and was submitted to Lancaster Analytical Laboratory in Lancaster, Pennsylvania, a California Certified Laboratory, under URS chain-of-custody procedures. The samples were analyzed on a standard turn around time.

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

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

1.4 GROUNDWATER ANALYTICAL RESULTS

A summary of the analytical results for the gasoline compounds and associated environmental screening levels (ESLs) is presented in Table 3 and the complete laboratory analytical results and chain of custodies are included as Attachment B.

1.4.1 Unconfined Water-Bearing Zone Wells

The unconfined water bearing zone wells include nursery unconfined water-bearing zone wells (MW-1 through MW-4 and MW-9) and the Calaveras Road shallow unconfined water-bearing zone well (MW-8). The second quarter groundwater sample results are as follows:

- The MW-1 sample contained TPH-GRO at 17,000 micrograms per liter (µg/L), benzene at 3 µg/L, toluene at 7 µg/L, ethylbenzene at 4 µg/L, and xylenes at 1,100 µg/L.
- The MW-2 sample concentrations were below laboratory reporting limits for all of the constituents.
- MW-3 and MW-4 were hydraulically disconnected from the unconfined water-bearing zone and were not sampled.
- The MW-8 sample contained TPH-GRO at 3,600 µg/L, benzene at 340 µg/L, toluene at 92 µg/L, ethylbenzene at 370 µg/L, and xylenes at 210 µg/L.
- MW-9 contained measurable hydrocarbon sheen during second quarter 2007 groundwater monitoring activities and was not sampled.

1.4.2 Confined Water-Bearing Zone Wells

The confined water-bearing zone wells include MW-5 through MW-7 located along Calaveras Road. The second quarter groundwater sample results are as follows:

- The MW-5 sample concentrations were below laboratory reporting limits for all of the constituents.
- The MW-6 sample concentrations were below laboratory reporting limits for all of the constituents.
- The MW-7 sample contained benzene at 0.7 µg/L, toluene at 0.8 µg/L, ethylbenzene at 0.8 µg/L, and xylenes at 2 µg/L.

Since the initiation of the quarterly groundwater monitoring program in February of 2006, the groundwater concentrations in the confined water-bearing zone wells have remained consistent. TPH-GRO concentrations have been below the laboratory reporting limits for all of the confined water-bearing zone wells during every sampling event. MW-5 sample concentrations of all BTEX constituents have been below laboratory reporting limits with the exception of trace amounts of toluene and xylenes during first quarter 2006 and third quarter 2006 sampling events. MW-6 sample concentrations of all BTEX constituents have been below laboratory reporting limits during all quarterly sampling events. MW-7 sample concentrations of BTEX constituents have appeared in trace amounts during all sampling events.

Although trace amounts of BTEX constituents have been detected in MW-5 and MW-7 samples during quarterly sampling events, none of the concentrations have exceeded the most stringent ESLs with the exception of the benzene concentration at MW-7 during the third quarter of 2006 (Table 3). Because MW-5 through MW-7 samples have remained below the most stringent ESLs

for the past three quarters, URS proposes to close out the monitoring program for the confined water-bearing zone after third quarter 2007 sampling activities providing that the data remains consistent.

1.4.3 Surface Water Sample

The surface water sampling location is shown on Figure 2. Surface water concentrations are below laboratory reporting limits for all gasoline compounds.

1.5 SUMMARY OF QA/QC REVIEW PARAMETERS

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

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

All reported results for the laboratory method blanks were nondetect (less than the laboratory reporting limit), indicating no evidence of contamination from laboratory instrumentation. Trip blanks and duplicate samples were not collected for this sampling event.

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

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

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

2.0 SOIL VAPOR EXTRACTION SYSTEM MONITORING PROGRAM

This section summarizes the design of the SVE system and the monitoring and analysis program implemented at the Site.

2.1 SVE SYSTEM DESIGN

URS installed four SVE wells (SVE-1D, SVE-2S, SVE-3S, and SVE-4D) on the dirt road in November 2005, as shown in Figure 2. The system operated for 3 months and removed a total of 7,294 pounds (approximately 1,042 gallons) during the period from November 8, 2005 through February 13, 2006. Upon ACEH's request, URS installed five additional SVE wells (SVE-5 through SVE 9) below the dirt road on the steep hillside in November 2006. The updated system was restarted on November 28, 2006. The well construction details for the nine SVE wells are presented in Table 4.

The SVE treatment system was installed by URS subcontractor Stratus, Inc. (Stratus). The system consists of the following components:

- A trailer-mounted 200-cubic-feet-per-minute (cfm) thermal oxidizer (manufactured by CBA Equipment, LLC) that includes a 15-horsepower (hp) liquid ring blower and a 100-gallon knockout pot
- A 49-hp-rated propane electrical generator
- Conveyance pipes and manifolds
- A 1000-gallon propane tank

The SVE treatment system is located north of the release location on San Francisco Public Utilities Commission (SFPUC) property (Figure 2). The SFPUC property is fenced and has a locked gate for security. An additional separate 8-foot-high, slatted chain-link fence with a locked gate encloses the SVE equipment compound. Vapors are extracted from the SVE wells with the liquid ring blower and conveyed to the treatment compound through two separate sets of piping. The first set of piping connects SVE-1D through SVE-5 to the treatment system and the second set of piping connects SVE-6 through SVE-9 to the treatment system. Both sets of piping consist of 2-inch-diameter Schedule 40 PVC conveyance pipes that run from each wellhead to the appropriate manifold. The manifold for each set of piping consists of valves to regulate the flow to each well. A single 1.5-inch diameter Schedule 40 PVC conveyance pipe connects each

manifold to the treatment system. The extracted vapor stream is conveyed from the manifold to the knockout pot, which separates and collects moisture from the vapor stream. Hydrocarbon-impacted vapors are abated by the thermal oxidizer before discharge to the atmosphere.

The required notification letter to the Bay Area Air Quality Management District (BAAQMD) is included in Attachment C. A copy of the permit for the SVE system from the BAAQMD is provided in Attachment D.

2.2 MONITORING AND ANALYSIS PROGRAM

Photoionization detector (PID) readings at each SVE wellhead and at the system influent and effluent points were recorded every week during this reporting period.

Grab vapor samples for laboratory analysis were collected at each wellhead and at the system influent and effluent points approximately every two to three weeks for confirmation purposes. All vapor samples for chemical analysis were transported under URS chain-of-custody to Lancaster Laboratories via FedEx. The vapor samples were analyzed for the following:

- Hydrocarbon concentrations as hexane by USEPA Method 25 Modified
- BTEX by USEPA Method TO-14A

Attachment B provides the complete laboratory analytical results.

2.3 SVE SYSTEM OPERATION AND MONITORING RESULTS

This section describes the operation and monitoring results of the SVE system from November 28th, 2006 through June 29th, 2007. The operational parameters, sampling results, and mass removal calculations for wells SVE-1D through SVE-9 are presented in Table 5A through 5I, respectively. Figure 5 shows the PID readings at each well. Figure 6 shows the cumulative mass of hydrocarbons removed from each well. Figure 7 shows the mass removal rate as pounds per day (lbs/day) at each well. Figure 8 shows the mass removal rate as lbs/day for the SVE system. Gasoline mass removal was calculated based on the PID readings collected at the wellheads.

After system start-up and stabilization, URS collected vapor samples on the day of start-up (November 28, 2006), and then once a week for the first two weeks of the SVE system operation. Site visits were conducted twice a week for the first two weeks of operation to confirm that the system was operating properly and to record system readings.

During the site visit on November 30, 2006, ice and water was observed in both extraction piping runs, which restricted airflow to the SVE System. Airflow from the lower piping run network, which connects wells SVE-6 through SVE-9, was completely stopped due to perched

groundwater pulled from SVE-8. Ice and water were drained from the piping, and SVE-8 was closed. Airflow from the upper piping run network, which connects wells SVE-1D through SVE-5, was not at its full capacity. The restriction of airflow might have resulted from extreme ambient temperature fluctuations. After both piping runs were cleared, the system was restarted and monitored to ensure that the system re-stabilized. SVE-8 has remained closed since November 30, 2006 due to perched water at this location. URS continues to monitor the groundwater in well SVE-8. If the groundwater level drops, URS will start soil vapor extraction through this well again.

On December 19, 2006, ice was observed again in both piping runs which caused blockage. Piping catches were installed in both piping runs to divert moisture condensate from the piping runs. The piping catches are drained weekly during site visits. The system has been running smoothly since the installation of the piping catches.

The PID readings measured at SVE-1D (Figure 5) have decreased significantly since December 15, 2006. As shown in Table 5A and on Figure 6, the mass removal rate at SVE-1D has been below 2 lbs/day since December 19, 2006. In addition, Figure 7 shows that the cumulative mass removal at SVE-1D has reached an asymptotic value. After three consecutive weekly readings of mass removal rate below 1 lb/day, SVE-1D was closed on January 19, 2007. A total of 155 pounds of gasoline was removed from SVE-1D from November 28, 2006 through January 19, 2007. URS re-opened SVE-1D on March 22, 2007 to evaluate whether or not the period of inactivity would cause a surge in mass removal rates. The mass removal rate remained low and SVE-1D was closed again on April 20, 2007. SVE-1D has removed 173 pounds of gasoline to date, and has remained closed since April 20, 2007.

The PID readings measured at SVE-2S has been relatively low since the start-up of the system. As shown in Table 5B and on Figure 6, the mass removal rate has been below 2 lbs/day since December 19, 2006. In addition, Figure 7 shows that the cumulative mass removal at SVE-2S has reached an asymptotic value. After three consecutive weekly readings of mass removal rate below 1 lb/day, SVE-2S was closed on January 19, 2007. A total of 83 pounds of gasoline was removed from SVE-2S from November 28, 2006 through January 19, 2007. URS re-opened SVE-2D on March 22, 2007 to evaluate whether or not the period of inactivity would cause a surge in mass removal rates. The mass removal rate remained low and SVE-2D was closed again on April 20, 2007. SVE-2D has removed 88 pounds of gasoline to date, and has remained closed since April 20, 2007.

On June 1, 2007, the SVE system was found shut down due to a propane shortage. The propane tanks were refilled and the system was restarted on June 8, 2007.

As shown in Figure 6, concentrations at the wellheads and mass removal rates started high but are steadily decreasing over time. SVE-3S, SVE-6, and SVE-7 have been recovering gasoline at

an average mass removal rate of more than 5 lbs/day since system start-up. SVE-4D, SVE-5, and SVE-9 have consistently exhibited average mass removal rates of less than 5 lbs/day. URS will continue operating and monitoring these six SVE wells until August 17, 2007, when the SVE system will be shut down to facilitate the safe removal of the dead trees on the steep hillside. After the system is shut down, URS will submit a letter to the ACEH which will describe the system shut down procedures, present the mass removal data from the remaining operational period, and evaluate the practicality of future system operation.

As of June 29, 2007, a total of 8,858 pounds (approximately 1,265 gallons) of hydrocarbons were removed from the nine SVE well locations since the updated SVE system startup on November 28, 2006, a period of approximately 7 months. It should be noted that in the 7 months the SVE system has been operational, approximately the same amount of hydrocarbons as was removed during the first 3 month (November 2005 through February 2006) have been removed. This represents a marked decrease in the recovery rate of hydrocarbons by the SVE operation.

2.4 MASS REMOVAL CALCULATIONS

The assumptions used in the mass removal calculations were as follows:

- The relative vapor density of gasoline is approximately 3.3 (unitless).
- The vapor density of pure, dry air is 1,200 grams per cubic meter (g/m^3) at 68° Fahrenheit (°F).

The vapor density of gasoline is therefore calculated as 3.3 x 1,200 g/m^3 = 3,960 g/m^3 at 68°F.

Air flow in standard cubic foot per minute (SCFM) at 14.7 pounds per square inch atmosphere (psia) and 68°F is converted from air flow in cubic feet per minute as follows:

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

Where

- *Pg* is the gauge pressure at the wellhead
- *Patm* is the atmospheric pressure
- *Tact* is the actual temperature
- *460* is the temperature conversion factor from Fahrenheit to Rankin.

The mass removed in pounds is calculated as follows:

Pounds of Petroleum Hydrocarbons Removed = (flowrate in SCFM)(average concentration in ppmv)*(60 min/hr)*(106.88 lbs/molecule)*(Operation Time in hr)/1000000/379*

3.0 FINDINGS

- The sorbent boom installed at MW-9 appeared to effectively degrade approximately 5 to 6 gallons of hydrocarbon sheen until it was depleted. MW-9 was gauged several times after the boom was installed and hydrocarbon sheen was not observed. After the boom had depleted and was removed, measurable hydrocarbon sheen was once again observed in MW-9. Because of the success of the boom, a new sorbent boom was installed on June 8, 2007.
- Hydrocarbon sheen was not detected at any of the other monitoring wells (MW-1 through MW-8) during second quarter 2007 monitoring activities.
- Due to unusually dry winter and spring conditions, the water table elevation decreased, hydraulically disconnecting MW-3 and MW-4 from the unconfined water-bearing zone.
- No gasoline compounds were detected in wells MW-2, MW-5, and MW-6 and the surface water sample.
- The concentrations of gasoline compounds within MW-1 have shown a decreasing trend since the initiation of the groundwater monitoring program in February 2006: 70 percent decrease for TPH-GRO, 92 percent decrease for benzene, greater than 99 percent decrease for toluene and ethylbenzene, and 87 percent for xylenes.
- The updated SVE system has been operational since November 2006. The system has removed approximately 8,858 pounds (approximately 1,265 gallons) of hydrocarbons since start-up. Concentrations at the wellheads and mass removal rates continue to decrease over time.

4.0 RECOMMENDATIONS

- Because MW-5 through MW-7 groundwater sample concentrations have remained below the most stringent ESLs for TPH-GRO and BTEX constituents for the past three quarters, URS proposes to close out the monitoring program for the confined water-bearing zone after third quarter 2007 sampling activities providing that the data remains consistent. Closing out the groundwater monitoring program for the confined water-bearing zone would include the proper destruction of monitoring wells MW-5 through MW-7.
- On August 17, 2007 URS will shut down the SVE system and disassemble the system piping to facilitate the safe removal of the dead trees on the steep hillside. After the system is shut down URS will prepare a letter to the ACEH which will describe the

system shut down procedures, present the mass removal data for the remaining operational period (June 30 through August 17, 2007), and evaluate the practicality of future system operation.

5.0 LIMITATIONS

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

Sincerely,

URS CORPORATION

Jacob Henry
Senior Geologist

Joe Morgan III
Senior Project Manager

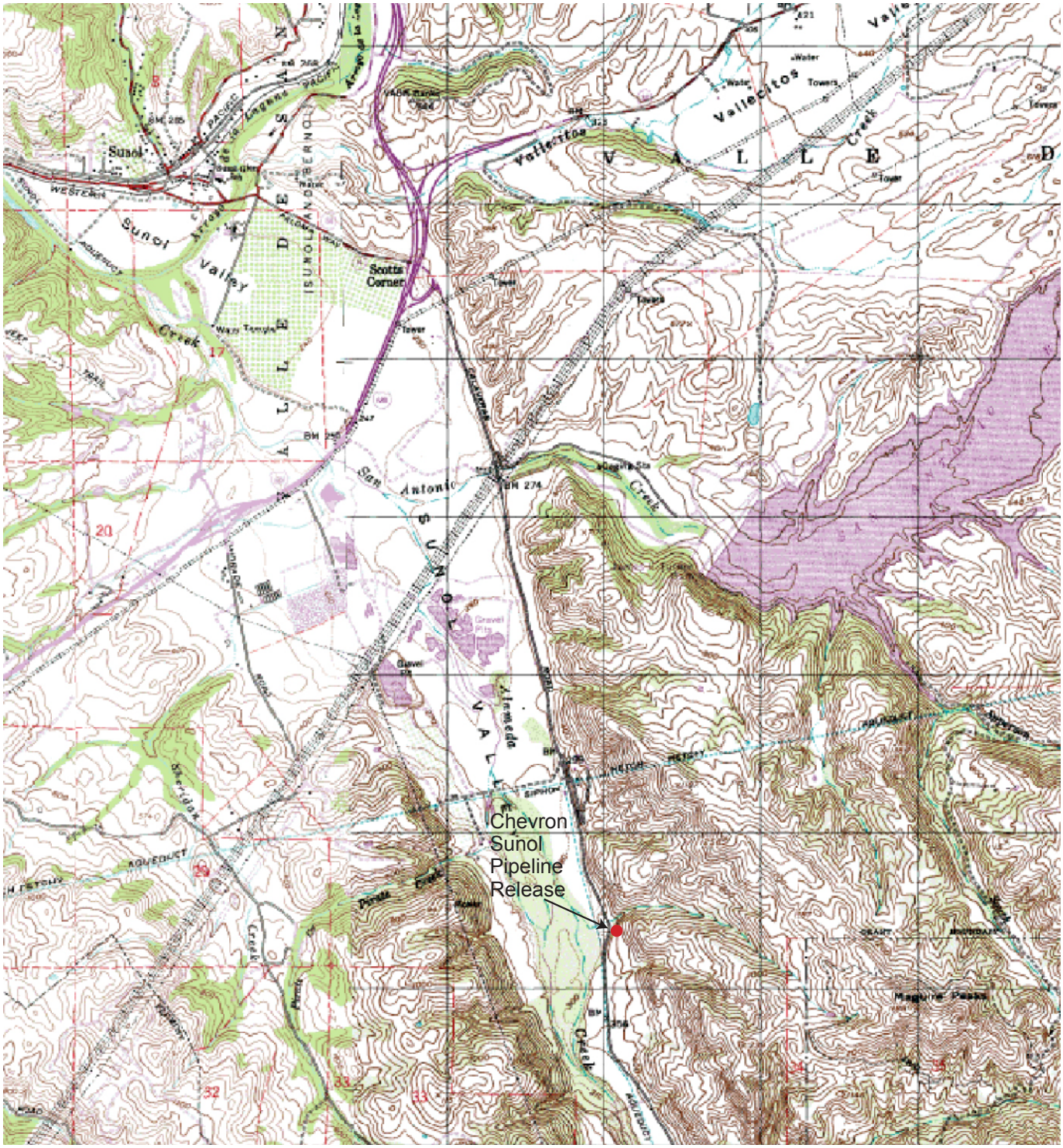

Image obtained from topozone.com

N

0 0.6 1.2 1.8 2.4 3 km

0 0.4 0.8 1.2 1.6 2 mi

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

SVE SYSTEM

SB-27

SW-CREEK
(Former Surface Water Sampling Location)

SB-26

STREAM
(New Surface Water Sampling Location)

VERY SMALL STREAM

UPPER DIRT ROAD

LOWER DIRT ROAD

PIPELINE

PROPERTY
LINE/FENCE

CALAVERAS ROAD

SB-14

SB-13R

SB-13

SB-15

SB-16

HILL SLOPE

HILL SLOPE

MW-9

SB-1

SB-10

SB-12

SVE-1D

MW-4

SB-17

SB-11

SVE-2S

SB-2

SB-9

SB-18

SB-24

HSA-2

MW-7

SVE-8

RELEASE LOCATION

SB-19

SB-22

MW-8

SVE-3S

MW-3

MW-1

SB-3

MW-5

SB-23

SVE-7

SB-8

SVE-4D

SB-20

SVE-5

HSA-1

SVE-9

SVE-6

HILL SLOPE

AR-2

SB-4

SB-7

HILL SLOPE
AND DENSE
VEGETATION

MW-2

MW-6

SB-21

SB-5

SB-6

SB-25

LEGEND:

- SURFACE WATER SAMPLE
- SOIL BORING
- MONITORING WELL
- SVE WELL
- SHELF
- FENCE
- PIPELINE
- HILL SLOPE 80-90% GRADE

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

Apr 19, 2007 - 1:17pm
X:\x_env_waste\Chevron Pipeline Company\Sunol Spill\Additional Well Installation 1-06\Add. Investigation Report\Figures\Figure 2_SVE-GW Locations.dwg

NORTH

MW–3
*291.02
293.05

MW–4
*290.90
290.97

MW–9
290.36
287.49

HSA–2
288.45

MW–1
290.83
290.29

HSA–1
290.02

MW–2
290.92
290.85

AR–2
292.14

MW–7

MW–8
313.45

MW–5

MW–6

CALAVERAS RD.

293
292
291
290
289
288
290.5
295
300
305
310

LEGEND:

MW–3	MONITORING WELL
*291.02	GROUNDWATER ELEVATION
293.05	BEDROCK CONTACT ELEVATION
HSA–2	SOIL BORING
288.45	BEDROCK CONTACT ELEVATION
293	INFERRED SILTSTONE BEDROCK ELEVATION CONTOUR
292	CALCULATED SILTSTONE BEDROCK ELEVATION CONTOUR
305	INFERRED GROUNDWATER ELEVATION CONTOUR (5 FOOT INTERVALS)
290.5	INFERRED GROUNDWATER ELEVATION CONTOUR
	INFERRED GROUNDWATER FLOW DIRECTION UNCONFINED ZONE

NOTES:

* GROUNDWATER ELEVATIONS AT MW–3 AND MW–4 ARE NOT INCLUDED IN CONTOURING BECAUSE THE GROUNDWATER ENCOUNTERED IN THESE WELLS ARE NOT IN CONNECTION WITH THE UNCONFINED WATER–BEARING ZONE. THE GROUNDWATER IS STANDING WATER WITHIN THE SUMP OF EACH WELL BELOW THE GRAVEL/BEDROCK CONTACT.

1. ELEVATIONS IN FEET ABOVE AVERAGE MEAN SEA LEVEL (msl).
2. GROUNDWATER ELEVATIONS FOR MW–1 THROUGH MW–4 AND MW–8 AND MW–9, AS MEASURED ON JUNE 5, 2007.
3. BEDROCK ELEVATION DATA OBTAINED FROM THE BORING LOGS OF MW–1 THROUGH MW–4, MW–9, HSA–1, HSA–2, AND AR–2.
4. THE BEDROCK CONTOURS SHOWN REPRESENT THE GRAVEL CONTACT WITH THE WEATHERED SILTSTONE/CLAYSTONE BEDROCK UNIT (POSSIBLY CRETACEOUS–AGE CLAY SHALE OF THE PANOCHE FORMATION).
5. INFERRED HYDRAULIC GRADIENT NORTHERLY FLOW DIRECTION (NURSERY UNCONFINED WATER–BEARING ZONE): DH/DL = 0.004 FT/FT.

20' 0 20'
SCALE 1"= 20'

Jul 09, 2007 – 12:38pm
H:\Chevron Sunol Spill\3_Bedrock Contours_Unconfined Water–Bearing Zone.dwg

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

NORTH

MW–9

MW–4

MW–3

MW–1

MW–2

MW–7
316.34

MW–8

MW–5
321.22

MW–6
312.94

CALAVERAS RD.

LEGEND:

MW–7
316.34

MONITORING WELL WITH GROUNDWATER ELEVATION

NOTES:

1.) ELEVATIONS IN FEET ABOVE AVERAGE MEAN SEA LEVEL (msl).

2.) GROUNDWATER ELEVATIONS FOR MW–5 THROUGH MW–7 AS MEASURED ON JUNE 5, 2007.

20' 0 20'

SCALE 1"= 20'

URS

CHEVRON PIPELINE COMPANY

Project No. 26815217

POTENTIOMETRIC SURFACE ELEVATIONS
CONFINED SANDSTONE
WATER–BEARING ZONE

Figure
4

Jul 09, 2007 – 12:37pm
H:\Chevron Sunol Spill\4_Potentiometric Surface_Confined Sandstone WBZ.dwg

Figure 5 - Field Concentrations

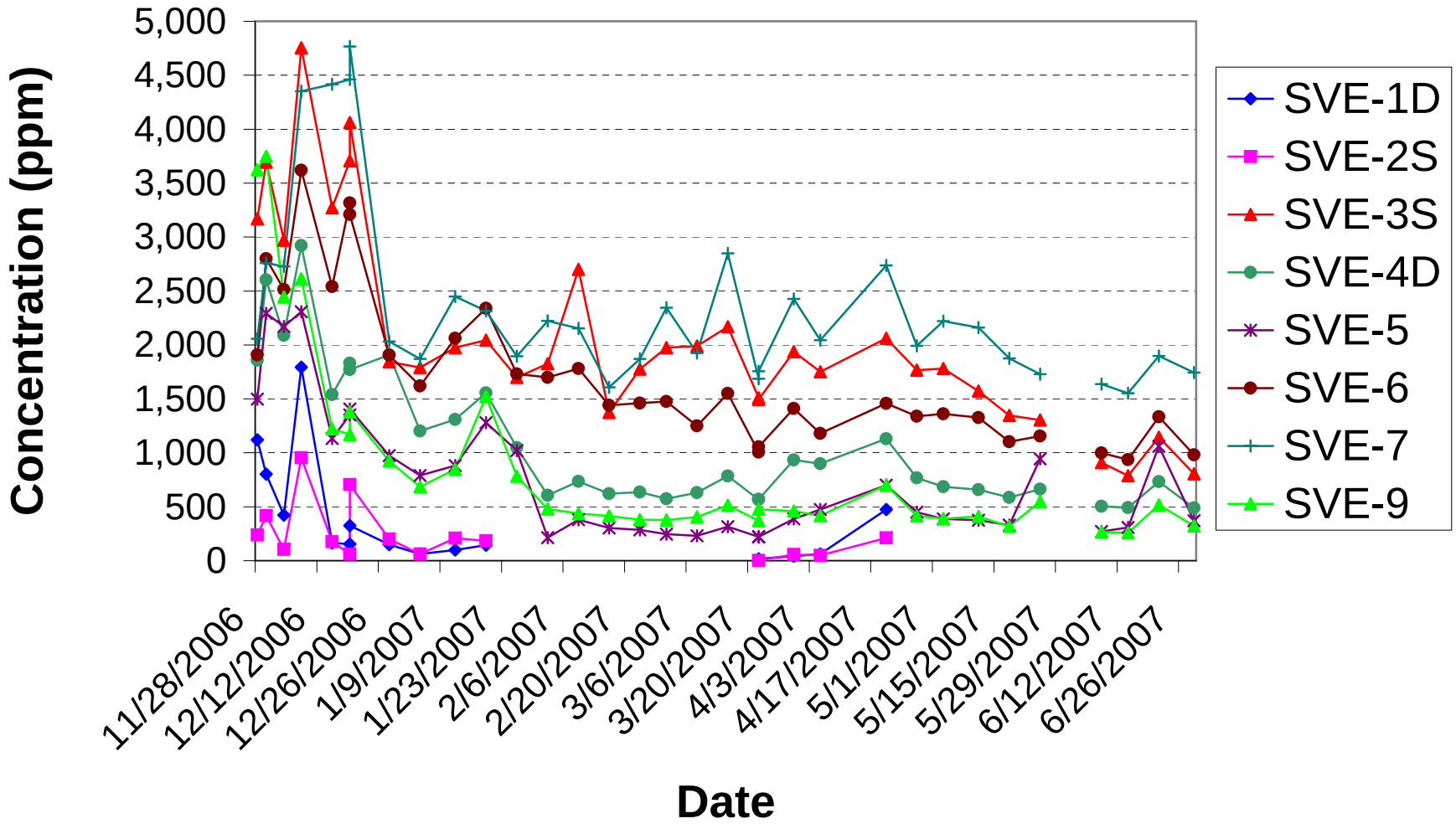

Figure 6 - Cumulative Mass Removal

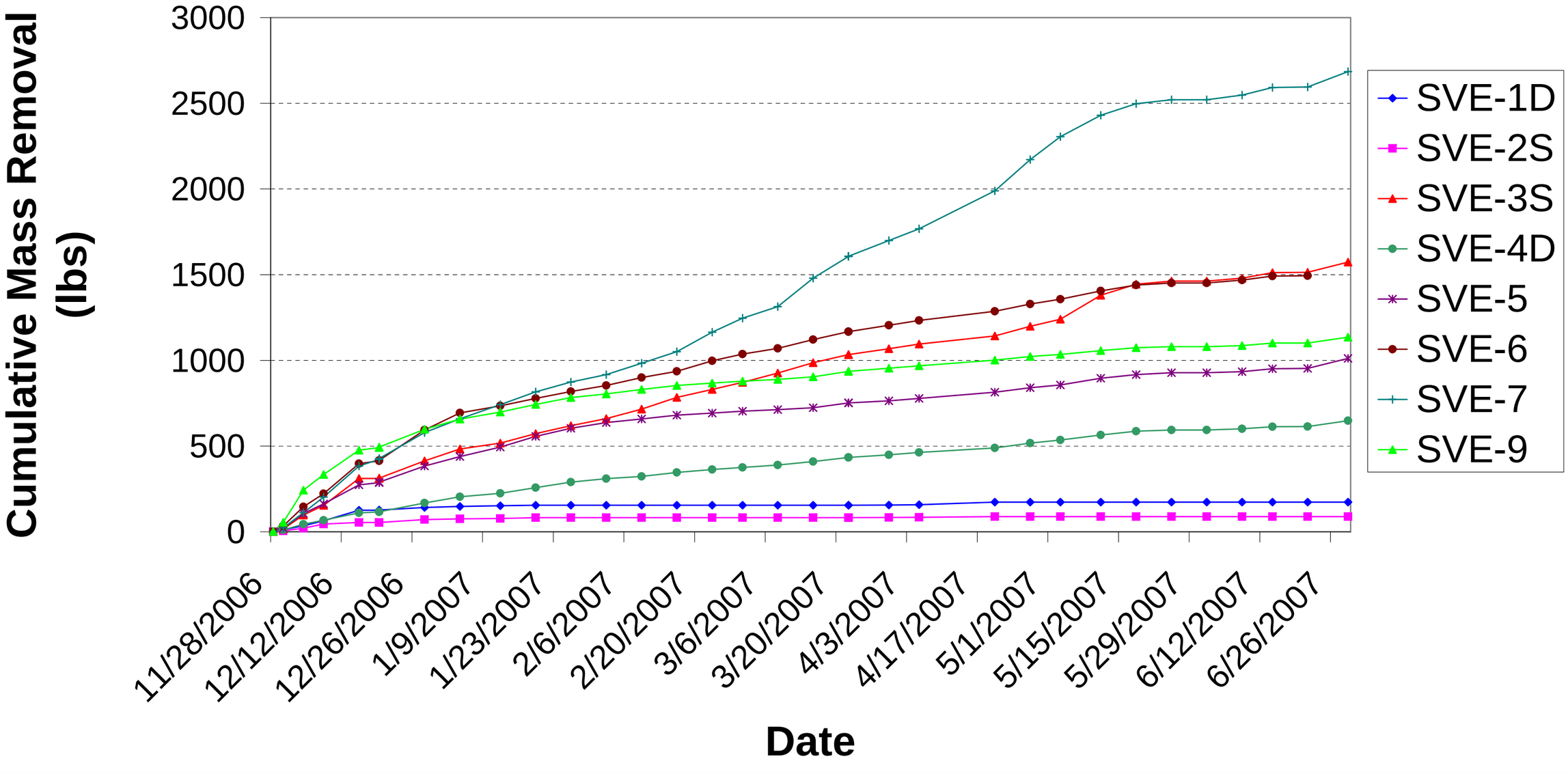

Figure 7 - Mass Removal Rate

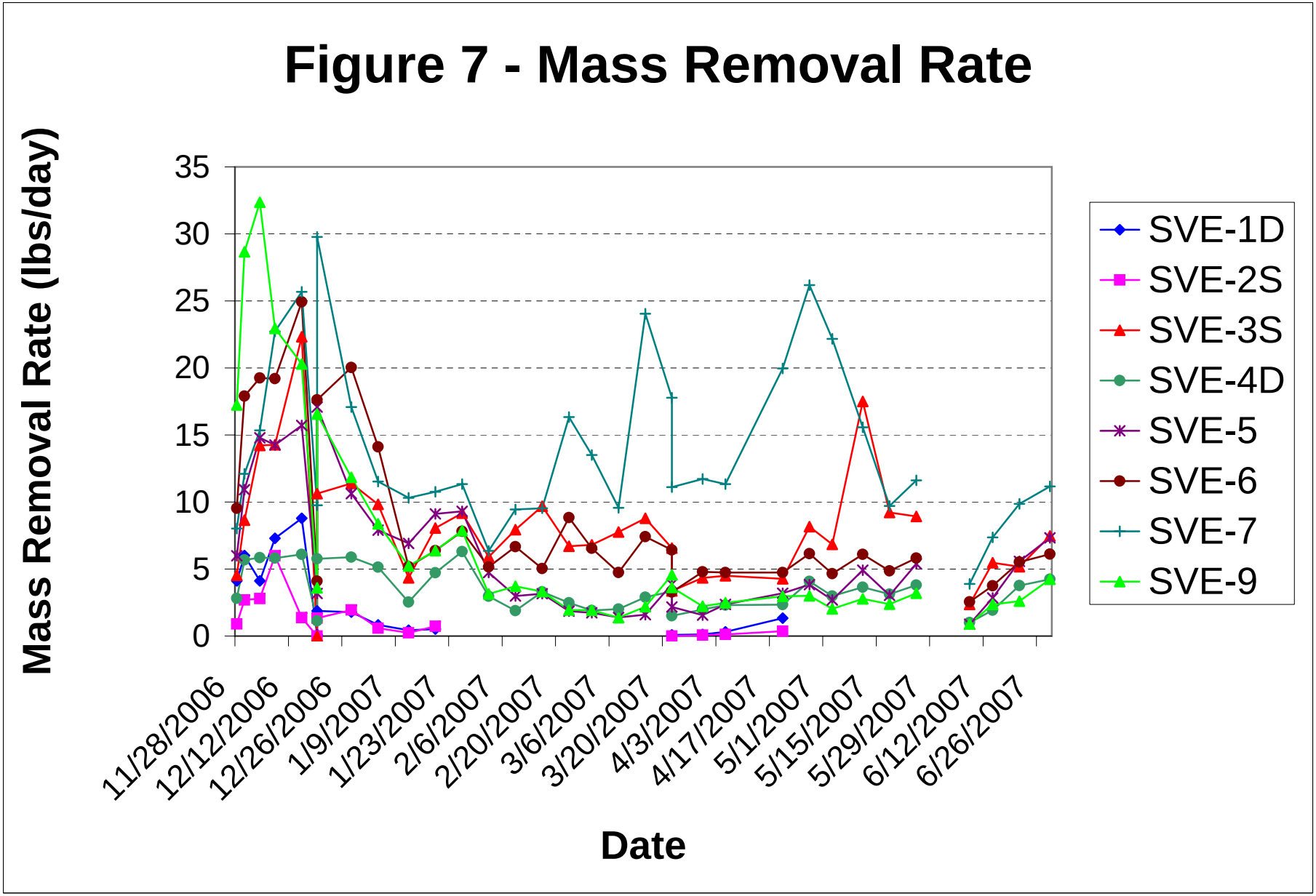

Figure 8-System Mass Removal

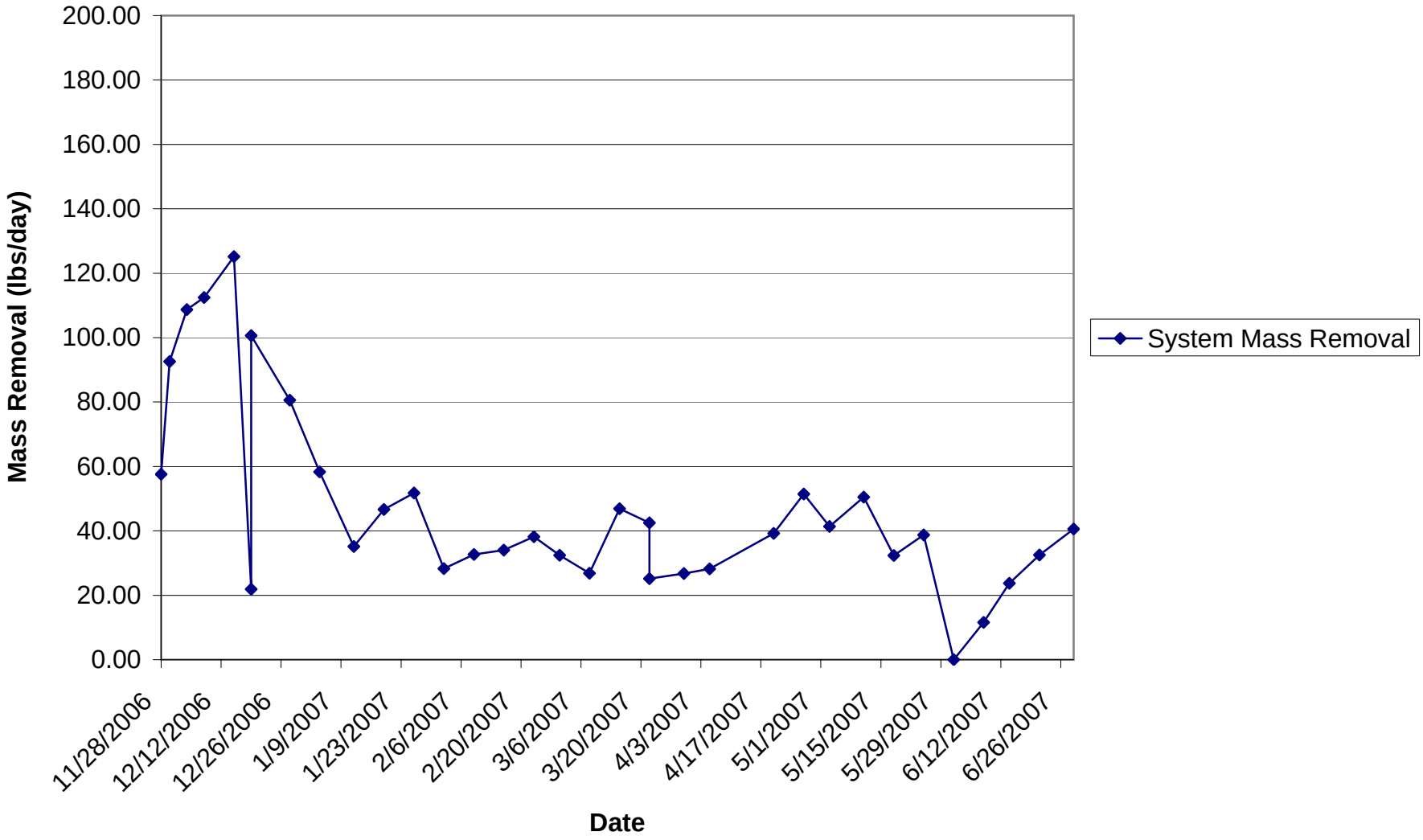

TABLE 1
Monitoring Well Groundwater Levels
Second Quarter 2007 Groundwater and Soil Vapor Extraction System Monitoring Report
Chevron Sunol Pipeline

Well ID	Screen Interval (feet bgs)	Date	Depth to Groundwater (feet TOC-N)	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	--	--
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	--	--
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	--	--
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	--	--
MW-5	39.5-49.5	2/21/2006	11.48	--	--
		6/7/2006	10.61	--	--
		8/22/2006	11.93	--	--
		11/14/2006	11.37	--	--
		2/20/2007	11.41	--	--
		6/5/2007	13.59	--	--
MW-6	34.7-49.7	2/21/2006	18.02	--	--
		6/7/2006	16.83	--	--
		8/22/2006	18.66	--	--
		11/14/2006	17.37	--	--
		2/20/2007	17.51	--	--
		6/5/2007	19.44	--	--
MW-7	34.7-49.7	2/21/2006	15.43	--	--
		6/7/2006	16.68	--	--
		8/22/2006	16.77	--	--
		11/14/2006	16.99	--	--
		2/20/2007	18.34	--	--
		6/5/2007	19.88	--	--
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	--	--
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

TABLE 2
Monitoring Well Groundwater Elevations
Second Quarter 2007 Groundwater and Soil Vapor Extraction System Monitoring Report
Chevron Sunol Pipeline

Well ID	Date Completed	Ground Surface Elevation (feet msl)	Top of Casing Elevation (feet msl)	Date Measured	Groundwater Elevation (feet msl)	Product Elevation (feet msl)	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	--	--
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	--	--
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	--	--
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	--	--
MW-5	1/27/2006	335.14	334.81	2/21/2006	323.33	--	--
				6/7/2006	324.20	--	--
				8/22/2006	322.88	--	--
				11/14/2006	323.44	--	--
				2/20/2007	323.40	--	--
				6/5/2007	321.22	--	--
MW-6	1/27/2006	332.61	332.38	2/21/2006	314.36	--	--
				6/7/2006	315.55	--	--
				8/22/2006	313.72	--	--
				11/14/2006	315.01	--	--
				2/20/2007	314.87	--	--
				6/5/2007	312.94	--	--
MW-7	1/27/2006	336.46	336.22	2/21/2006	320.79	--	--
				6/7/2006	319.54	--	--
				8/22/2006	319.45	--	--
				11/14/2006	319.23	--	--
				2/20/2007	317.88	--	--
				6/5/2007	316.34	--	--
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	--	--
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

Notes:
All elevations displayed in feet above average mean sea level (msl).
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.

TABLE 3
Summary of Groundwater Analytical Results
Gasoline Compounds
Second Quarter 2007 Groundwater and Soil Vapor Extraction System Monitoring Report
Chevron Sunol Pipeline

Well ID	Date	Gasoline Compounds				
		TPH-GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
ESL[1)]		100	1	40	30	20
MW-1	2/22/2006	**57,000**	**38**	**2,700**	**3,000**	**8,700**
	6/8/2006	**37,000**	**10**	**330**	**120**	**8,200**
	Q3 2006[3)]	**NS**	**NS**	**NS**	**NS**	**NS**
	11/15/2006	**38,000**	**14**	**110**	**38**	**5,900**
	2/21/2007	**18,000**	**4**	**7**	**8**	**1,600**
	6/5/2007	**17,000**	**3**	**7**	**4**	**1,100**
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
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
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
MW-5	2/22/2006	<50	<0.5	**0.6**	<0.5	**1**
	6/8/2006	<50	<0.5	<0.5	<0.5	<0.5
	8/24/2006	<50	<0.5	<0.5	<0.5	<0.5
	11/16/2006	<50	<0.5	**2**	<0.5	<0.5
	2/20/2007	<50	<0.5	<0.5	<0.5	<0.5
	6/6/2007	<50	<0.5	<0.5	<0.5	<0.5
MW-6	2/22/2006	<50	<0.5	<0.5	<0.5	<0.5
	6/7/2006	<50	<0.5	<0.5	<0.5	<0.5
	8/22/2006	<50	<0.5	<0.5	<0.5	<0.5
	11/16/2006	<50	<0.5	<0.5	<0.5	<0.5
	2/20/2007	<50	<0.5	<0.5	<0.5	<0.5
	6/6/2007	<50	<0.5	<0.5	<0.5	<0.5
MW-7	2/22/2006	<50	**0.7**	**2**	**0.9**	**5**
	6/8/2006	<50	**0.7**	<0.5	**1**	**4**
	8/22/2006[2)]	<50 / <50	**2 / 2**	<0.5 / <0.5	**1 / 0.6 J**	**3 / 2 J**
	11/16/2006	<50	**0.7**	**2**	**0.6**	**2**
	2/20/2007[2)]	<50 / <50	**0.7 / 0.6**	**1 / 0.9**	**0.9 / 0.6 J**	**3 / 2 J**
	6/6/2007	<50	**0.7**	**0.8**	**0.8**	**2**
MW-8	8/24/2006	**18,000**	**190**	**2,600**	**590**	**2,800**
	11/16/2006	**990**	**76**	**80**	**69**	**190**
	2/20/2007	**2,000**	**180**	**57**	**170**	**74**
	6/6/2007	**3,600**	**340**	**92**	**370**	**210**
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**
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
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

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

1) Environmental Screening Levels (ESLs) for groundwater as a current or potential source of drinking water were obtained from the San Francisco Regional Water Quality Control Board (RWQCB) Interim
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.

TABLE 1
Monitoring Well Groundwater Levels
Second Quarter 2007 Groundwater and Soil Vapor Extraction System Monitoring Report
Chevron Sunol Pipeline

Notes:
Groundwater and product levels measured from top of casing - north (TOC-N).
Screen intervals measured from feet below ground surface (feet bgs)

TABLE 4
SVE Well Construction Details
Second Quarter 2007 Groundwater and Soil Vapor Extraction System Monitoring Report
Chevron Sunol Pipeline

Well ID	Date Completed	Easting	Northing	Ground Surface Elevation (feet msl)	Top of Casing Elevation (feet msl)	TOC-GS (ft)	Screen Top (feet bgs)	Screen Bottom (feet bgs)	Well Diameter	Comments
SVE-1D	11/5/2005	6168313.98	2025831.92	377.37	377.02	-0.35	12.6	19.6	4" PVC	
SVE-2S	11/5/2005	6168314.18	2025817.01	380.54	379.84	-0.70	5.4	10.4	4" PVC	
SVE-3S	11/5/2005	6168317.87	2025774.02	391.61	391.16	-0.45	5.6	10.6	4" PVC	
SVE-4D	11/8/2005	6168318.74	2025761.01	394.46	393.99	-0.47	17.6	27.6	4" PVC	
SVE-5	11/10/2006	6168320.76	2025747.84	396.52	396.62	0.10	29.6	39.6	2" PVC	
SVE-6	11/7/2006	6168297.14	2025747.97	384.51	385.49	0.98	9	14	1" PVC	Prepacked Well Screen
SVE-7	11/7/2006	6168285.07	2025768.50	375.41	376.35	0.94	4.7	9.7	1" PVC	Prepacked Well Screen
SVE-8	11/8/2006	6168277.22	2025792.96	361.33	362.30	0.97	2	7	1" PVC	Prepacked Well Screen
SVE-9	11/9/2006	6168258.23	2025741.67	355.53	356.80	1.27	2.2	7.2	1" PVC	Prepacked Well Screen

Notes:
bgs - below ground surface
msl - average mean sea level

1. Northing and Easting coordinates based on the California Coordinate System Zone 3 NAD83 Datum.
2. Elevation coordinates based on the NAVD88 Datum.
3. SVE-1Dthrough SVE-4D surveyed on February 14, 2006.
4. SVE-5 through SVE-9 surveyed on November 10, 2006.

TABLE 5A
SVE-1D
Operation Parameters, Sampling Results, and Mass Removal Calculations, Chevron Sunol Pipeline

Sample Date	Flowrate (fpm)	Temp (F)	Vacuum (inch water)	Flowrate (cfm)	Flowrate (scfm)	Total Operation Time (hr)	Total Operation Time (days)	Field TPH-g Concentration (ppm)	Mass Removal Rate (lbs/hr)	Mass Removal Rate (lbs/day)	Mass Removed Since Last Sampling Event (lbs)	Cumulative Mass Removal (lbs)
11/28/06	465	54	3.4	10.14	10.33	2.4	0.1	1,120	0.17	4.12	0.41	0.41
11/30/06	808	61	6.85	17.63	17.56	44.6	1.9	803	0.25	6.01	11.17	11.59
12/04/06	864	58	8.08	18.85	18.83	138.8	5.8	422	0.17	4.11	23.34	34.93
12/08/06	854	62	7.4	18.63	18.50	234.6	9.8	1,793	0.30	7.30	29.12	64.05
12/15/06	1180	64	11.05	25.74	25.24	403.3	16.8	163	0.37	8.79	61.77	125.81
12/19/06	82	42	0.47	1.79	1.88	499.4	20.8	155	0.00	0.11	0.43	126.24
12/19/06	1022	62	11.02	22.30	21.94	503.9	21.0	325	0.08	1.87	0.35	126.59
12/28/06	974	59	10.46	21.25	21.06	715.4	29.8	150	0.07	1.78	15.69	142.29
01/04/07	1035	60	10.56	22.58	22.33	884.5	36.9	61	0.03	0.84	5.91	148.20
01/12/07	693	57	10	15.12	15.06	1075.8	44.8	100	0.02	0.43	3.44	151.64
01/19/07	536	48	12	11.69	11.80	1241.5	51.7	145	0.02	0.51	3.55	155.19
01/26/07	0					1363.7						155.19
02/02/07	0					1528.5						155.19
02/09/07	0					1697.0						155.19
02/16/07	0					1865.7						155.19
02/23/07	0					2033.3						155.19
03/01/07	0					2177.9						155.19
03/08/07	0					2346.2						155.19
03/15/07	0					2512.4						155.19
03/22/07	0					2684.2						155.19
03/22/07	1398	80	6.8	30.50	29.32	2684.9	111.9	17	0.004	0.09	0.00	155.193
03/30/07	512	52	8.3	11.17	11.28	2872.9	119.7	42	0.00	0.12	0.93	156.12
04/05/07	775	64	7.8	16.91	16.71	3017.4	125.7	62	0.01	0.31	1.86	157.98
04/20/07	637	59	6.9	13.90	13.90	3283.6	136.8	475	0.06	1.33	14.74	172.72
04/27/07	0					3451.4						172.72
05/03/07	0					3595.8						172.72
05/11/07	0					3787.9						172.72
05/18/07	0					3955.7						172.72
05/25/07	0					4004.2						172.72
06/01/07	0					4149.7						172.72
06/08/07	0					4316.0						172.72
06/14/07	0					4460.7						172.72
06/21/07	0					4468.2						172.72
06/29/07	0					4660.2						172.72

Note:
1. Inlet pipe diameter is 2".
2. Shaded areas indicate that measurements were not taken because flow to the well was shut off.

Assumptions:
1. Relative vapor density of gasoline is approximately 3.3.
2. Vapor density of pure, dry air is 1,200 g/m3 at 20C.
3. Vapor density of gasoline is calculated to be 3,960 g/m3 at 20C.
4. SCFM(at 14.7psia and 68°F) = CFM x([(Pg + Patm)/(Patm)] x [(68 +460)/(Tact +460)])
5. **Mass Removed Since Last Sampling Event (lbs)** = (flowrate scfm)*(avg. conc. ppmv)*(60 min/hr)*(106.88 lbs/molecule)*(Operation Time hr)/1000000/379

TABLE 5B
SVE-2S
Operation Parameters, Sampling Results, and Mass Removal Calculations, Chevron Sunol Pipeline

Sample Date	Flowrate (fpm)	Temp (F)	Vacuum (inch water)	Flowrate (cfm)	Flowrate (scfm)	Total Operation Time (hr)	Total Operation Time (days)	Field TPH-g Concentration (ppm)	Mass Removal Rate (lbs/hr)	Mass Removal Rate (lbs/day)	Mass Removed Since Last Sampling Event (lbs)	Cumulative Mass Removal (lbs)
11/28/06	475	53	3.2	10.36	10.58	2.4	0.1	239	0.038	0.90	0.09	0.09
11/30/06	1056	60	6.74	23.04	23.01	44.6	1.9	417	0.112	2.69	4.99	5.08
12/04/06	1377	56	7.82	30.04	30.15	138.8	5.8	104	0.117	2.80	15.89	20.97
12/08/06	1453	57	7.1	31.70	31.81	234.6	9.8	953	0.249	5.99	23.89	44.87
12/15/06	317	62	11.50	6.92	6.80	403.3	16.8	177	0.057	1.37	9.61	54.48
12/19/06	0	62	0.6	0.00	0.00	499.4	20.8	63	0.000	0.00	0.00	54.48
12/19/06	455	62	11.49	9.93	9.76	503.9	21.0	705	0.06	1.33	0.25	54.73
12/28/06	555	55	10.83	12.11	12.08	715.4	29.8	200	0.08	1.95	17.16	71.88
01/04/07	579	58	11.03	12.63	12.53	884.5	36.9	61	0.024	0.58	4.10	75.98
01/12/07	226	56	10	4.93	4.92	1075.8	44.8	208	0.010	0.24	1.88	77.86
01/19/07	473	45	13	10.32	10.44	1241.5	51.7	183	0.030	0.73	5.02	82.88
01/26/07	0					1363.7						82.88
02/02/07	0					1528.5						82.88
02/09/07	0					1697.0						82.88
02/16/07	0					1865.7						82.88
02/23/07	0					2033.3						82.88
03/01/07	0					2177.9						82.88
03/08/07	0					2346.2						82.88
03/15/07	0					2512.4						82.88
03/22/07	0					2684.2						82.88
03/22/07	299	81	6.9	6.52	6.26	2684.9	111.9	2.3	0.000	0.00	0.00	82.88
03/30/07	314	50	8.5	6.85	6.94	2872.9	119.7	57	0.003	0.07	0.57	83.46
04/05/07	312	62	8	6.81	6.75	3017.4	125.7	50	0.005	0.13	0.77	84.23
04/20/07	364	57	7	7.94	7.97	3283.6	136.8	210	0.015	0.37	4.09	88.32
04/27/07	0					3451.4						88.32
05/03/07	0					3595.8						88.32
05/11/07	0					3787.9						88.32
05/18/07	0					3955.7						88.32
05/25/07	0					4004.2						88.32
06/01/07	0					4149.7						88.32
06/08/07	0					4316.0						88.32
06/14/07	0					4460.7						88.32
06/21/07	0					4468.2						88.32
06/29/07	0					4660.2						88.32

Note:
1. Inlet pipe diameter is 2".
2. Shaded areas indicate that measurements were not taken because flow to the well was shut off.

Assumptions:
1. Relative vapor density of gasoline is approximately 3.3.
2. Vapor density of pure, dry air is 1,200 g/m3 at 20C.
3. Vapor density of gasoline is calculated to be 3,960 g/m3 at 20C.
4. SCFM(at 14.7psia and 68°F) = CFM x([(Pg + Patm)/(Patm)] x [(68 +460)/(Tact +460)])
5. **Mass Removed Since Last Sampling Event (lbs)** = (flowrate scfm)*(avg. conc. ppmv)*(60 min/hr)*(106.88 lbs/molecule)*(Operation Time hr)/1000000/379

TABLE 5C
SVE-3S
Operation Parameters, Sampling Results, and Mass Removal Calculations, Chevron Sunol Pipeline

Sample Date	Flowrate (fpm)	Temp (F)	Vacuum (inch water)	Flowrate (cfm)	Flowrate (scfm)	Total Operation Time (hr)	Total Operation Time (days)	Field TPH-g Concentration (ppm)	Mass Removal Rate (lbs/hr)	Mass Removal Rate (lbs/day)	Mass Removed Since Last Sampling Event (lbs)	Cumulative Mass Removal (lbs)
11/28/06	180	52	3.3	3.93	4.02	2.4	0.1	3,170	0.19	4.53	0.45	0.45
11/30/06	325	60	7.1	7.09	7.07	44.6	1.9	3,694	0.36	8.64	16.06	16.52
12/04/06	547	55	8.47	11.93	11.98	138.8	5.8	2,971	0.59	14.21	80.79	97.30
12/08/06	474	56	7.8	10.34	10.38	234.6	9.8	4,754	0.59	14.27	56.97	154.27
12/15/06	726	60	11.50	15.84	15.63	403.3	16.8	3,270	0.93	22.32	156.91	311.19
12/19/06	0	63	0.62	0.00	0.00	499.4	20.8	3,705	0.00	0.00	0.00	311.19
12/19/06	359	63	11.47	7.83	7.68	503.9	21.0	4,060	0.44	10.62	1.99	313.18
12/28/06	495	52	10.81	10.80	10.84	715.4	29.8	1,844	0.47	11.39	100.41	413.59
01/04/07	700	57	11.01	15.27	15.17	884.5	36.9	1,791	0.41	9.82	69.19	482.77
01/12/07	297	56	10	6.48	6.47	1075.8	44.8	1,974	0.18	4.33	34.55	517.33
01/19/07	510	45	13	11.13	11.26	1241.5	51.7	2,045	0.34	8.06	55.63	572.95
01/26/07	648	63	15	14.14	13.75	1363.7	56.8	1,700	0.38	9.16	46.66	619.62
02/02/07	435	49	18	9.49	9.41	1528.5	63.7	1,825	0.25	5.90	40.54	660.16
02/09/07	463	60	16.5	10.10	9.84	1697.0	70.7	2,700	0.33	7.93	55.65	715.81
02/16/07	625	56	17.6	13.64	13.35	1865.7	77.7	1,373	0.40	9.68	68.04	783.85
02/23/07	550	45	18.8	12.00	11.97	2033.3	84.7	1,775	0.28	6.71	46.83	830.68
03/01/07	473	50	18.2	10.32	10.21	2177.9	90.7	1,975	0.28	6.81	41.05	871.73
03/08/07	510	53	16.5	11.13	10.99	2346.2	97.8	1,990	0.32	7.76	54.39	926.11
03/15/07	545	49	15.8	11.89	11.86	2512.4	104.7	2,169	0.37	8.78	60.78	986.89
03/22/07	486	80	14.2	10.60	10.01	2684.2	111.8	1,511	0.27	6.55	46.92	1033.82
03/22/07	300	81	6.8	6.54	6.28	2684.9	111.9	1,496	0.14	3.36	0.10	1033.91
03/30/07	320	49	8.4	6.98	7.09	2872.9	119.7	1,937	0.18	4.33	33.95	1067.87
04/05/07	316	61	7.9	6.89	6.85	3017.4	125.7	1,751	0.19	4.50	27.08	1094.95
04/20/07	288	57	7.1	6.28	6.30	3283.6	136.8	2,061	0.18	4.28	47.46	1142.40
04/27/07	559	57	15.9	12.20	11.97	3451.4	143.8	1,765	0.34	8.15	56.99	1199.40
05/03/07	502	54	15.4	10.95	10.82	3595.8	149.8	1,782	0.28	6.83	41.12	1240.52
05/11/07	1364	59	13	29.76	29.31	3787.9	157.8	1,572	0.73	17.50	140.06	1380.58
05/18/07	825	59	12.8	18.00	17.74	3955.7	164.8	1,347	0.38	9.22	64.43	1445.01
05/25/07	894	63	15.8	19.50	18.93	4004.2	166.8	1,303	0.37	8.93	18.04	1463.06
06/01/07	0					4149.7						1463.06
06/08/07	673	56	12.5	14.68	14.56	4316.0	179.8	909	0.10	2.36	16.33	1479.38
06/14/07	874	81	11	19.07	18.11	4460.7	185.9	787	0.23	5.47	32.96	1512.34
06/21/07	701	59	14.2	15.29	15.02	4468.2	186.2	1,146	0.22	5.17	1.61	1513.96
06/29/07	1022	72	12	22.30	21.48	4660.2	194.2	806	0.31	7.46	59.69	1573.65

Note:
1. Inlet pipe diameter is 2".
2. Shaded areas indicate that measurements were not taken. System was found shut down because there was no propane.

Assumptions:
1. Relative vapor density of gasoline is approximately 3.3.
2. Vapor density of pure, dry air is 1,200 g/m3 at 20C.
3. Vapor density of gasoline is calculated to be 3,960 g/m3 at 20C.
4. SCFM(at 14.7psia and 68°F) = CFM x([(Pg + Patm)/(Patm)] x [(68 +460)/(Tact +460)])

5. **Mass Removed Since Last Sampling Event (lbs)** = (flowrate scfm)*(avg. conc. ppmv)*(60 min/hr)*(106.88 lbs/molecule)*(Operation Time hr)/1000000/379

TABLE 5D
SVE-4D
Operation Parameters, Sampling Results, and Mass Removal Calculations, Chevron Sunol Pipeline

Sample Date	Flowrate (fpm)	Temp (F)	Vacuum (inch water)	Flowrate (cfm)	Flowrate (scfm)	Total Operation Time (hr)	Total Operation Time (days)	Field TPH-g Concentration (ppm)	Mass Removal Rate (lbs/hr)	Mass Removal Rate (lbs/day)	Mass Removed Since Last Sampling Event (lbs)	Cumulative Mass Removal (lbs)
11/28/06	190	51	3.30	4.15	4.25	2.4	0.1	1,857	0.12	2.81	0.28	0.28
11/30/06	327	57	7.16	7.13	7.16	44.6	1.9	2,602	0.24	5.68	10.56	10.84
12/04/06	316	48	8.54	6.89	7.02	138.8	5.8	2,088	0.24	5.86	33.87	44.71
12/08/06	296	53	7.9	6.46	6.52	234.6	9.8	2,921	0.24	5.81	23.20	67.91
12/15/06	354	56	11.50	7.72	7.68	403.3	16.8	1,540	0.25	6.10	42.87	110.78
12/19/06	82	38	0.66	1.79	1.89	499.4	20.8	1,830	0.05	1.14	4.55	115.33
12/19/06	421	64	11.54	9.18	8.99	503.9	21.0	1,770	0.24	5.76	1.08	116.41
12/28/06	410	51	10.89	8.94	9.00	715.4	29.8	1,908	0.25	5.89	51.90	168.31
01/04/07	427	55	11.06	9.32	9.29	884.5	36.9	1,202	0.21	5.14	36.24	204.55
01/12/07	260	55	10.00	5.67	5.67	1075.8	44.8	1,308	0.11	2.53	20.20	224.75
01/19/07	418	44	12.00	9.12	9.27	1241.5	51.7	1,555	0.20	4.73	32.63	257.38
01/26/07	640	62	15.00	13.96	13.60	1363.7	56.8	1,049	0.26	6.31	32.11	289.49
02/02/07	467	49	18.00	10.19	10.10	1528.5	63.7	606	0.12	2.98	20.44	309.92
02/09/07	373	59	16.50	8.14	7.94	1697.0	70.7	736	0.08	1.90	13.32	323.25
02/16/07	640	55	17.70	13.96	13.69	1865.7	77.7	620	0.14	3.31	23.23	346.48
02/23/07	512	45	18.70	11.17	11.14	2033.3	84.7	635	0.10	2.49	17.38	363.86
03/01/07	410	49	18.10	8.94	8.87	2177.9	90.7	575	0.08	1.91	11.51	375.37
03/08/07	435	52	16.60	9.49	9.39	2346.2	97.8	630	0.08	2.01	14.12	389.49
03/15/07	527	48	15.80	11.50	11.49	2512.4	104.7	786	0.12	2.90	20.05	409.54
03/22/07	672	80	14.20	14.66	13.84	2684.2	111.8	567	0.14	3.33	23.85	433.39
03/22/07	358	81	6.80	7.81	7.50	2684.9	111.9	570	0.06	1.52	0.04	433.44
03/30/07	333	48	8.50	7.26	7.39	2872.9	119.7	934	0.08	1.98	15.51	448.94
04/05/07	326	60	8.00	7.11	7.08	3017.4	125.7	900	0.10	2.31	13.92	462.86
04/20/07	297	57	7.10	6.48	6.50	3283.6	136.8	1,129	0.10	2.35	26.05	488.91
04/27/07	564	56	15.90	12.30	12.10	3451.4	143.8	768	0.17	4.09	28.57	517.48
05/03/07	536	54	15.40	11.69	11.56	3595.8	149.8	686	0.12	2.99	18.00	535.47
05/11/07	708	58	13.00	15.45	15.24	3787.9	157.8	658	0.15	3.65	29.19	564.66
05/18/07	658	59	13.00	14.36	14.14	3955.7	164.8	587	0.13	3.13	21.91	586.57
05/25/07	807	62	15.9	17.61	17.11	4004.2	166.8	663	0.16	3.81	7.70	594.27
06/01/07	0					4149.7	172.9					594.27
06/08/07	514	55	12.70	11.21	11.14	4316.0	179.8	505	0.04	1.00	6.94	601.20
06/14/07	526	81	11.00	11.48	10.90	4460.7	185.9	492	0.08	1.93	11.66	612.86
06/21/07	804	58	14.20	17.54	17.26	4468.2	186.2	733	0.16	3.76	1.18	614.04
06/29/07	926	71	12.00	20.20	19.50	4660.2	194.2	490	0.18	4.24	33.95	647.99

Note:
1. Inlet pipe diameter is 2".
2. Shaded areas indicate that measurements were not taken. System was found shut down because there was no propane.

Assumptions:
1. Relative vapor density of gasoline is approximately 3.3.
2. Vapor density of pure, dry air is 1,200 g/m3 at 20C.
3. Vapor density of gasoline is calculated to be 3,960 g/m3 at 20C.
4. SCFM(at 14.7psia and 68°F) = CFM x([(Pg + Patm)/(Patm)] x [(68 +460)/(Tact +460)])
5. **Mass Removed Since Last Sampling Event (lbs)** = (flowrate scfm)*(avg. conc. ppmv)*(60 min/hr)*(106.88 lbs/molecule)*(Operation Time hr)/1000000/379

TABLE 5E
SVE-5
Operation Parameters, Sampling Results, and Mass Removal Calculations, Chevron Sunol Pipeline

Sample Date	Flowrate (fpm)	Temp (F)	Vacuum (inch water)	Flowrate (cfm)	Flowrate (scfm)	Total Operation Time (hr)	Total Operation Time (days)	Field TPH-g Concentration (ppm)	Mass Removal Rate (lbs/hr)	Mass Removal Rate (lbs/day)	Mass Removed Since Last Sampling Event (lbs)	Cumulative Mass Removal (lbs)
11/28/06	500	50	3.10	10.91	11.21	2.4	0.1	1,499	0.25	5.98	0.60	0.60
11/30/06	734	54	6.63	16.01	16.18	44.6	1.9	2,292	0.46	10.92	20.29	20.89
12/04/06	835	47	7.83	18.22	18.61	138.8	5.8	2,172	0.62	14.79	85.51	106.40
12/08/06	807	51	7.2	17.61	17.87	234.6	9.8	2,307	0.59	14.25	56.87	163.28
12/15/06	1177	55	10.40	25.68	25.65	403.3	16.8	1,132	0.65	15.71	110.39	273.67
12/19/06	310	35	0.66	6.76	7.20	499.4	20.8	1,350	0.13	3.18	12.74	286.41
12/19/06	1622	63	10.44	35.39	34.81	503.9	21.0	1,407	0.71	17.08	3.20	289.62
12/28/06	1133	48	9.82	24.72	25.07	715.4	29.8	973	0.44	10.62	93.61	383.23
01/04/07	1149	53	9.92	25.07	25.17	884.5	36.9	789	0.33	7.90	55.63	438.86
01/12/07	1060	55	8.00	23.13	23.24	1075.8	44.8	882	0.29	6.91	55.11	493.97
01/19/07	1067	43	12.00	23.28	23.72	1241.5	51.7	1,278	0.38	9.12	62.96	556.93
01/26/07	1064	60	14.00	23.21	22.76	1363.7	56.8	1,020	0.39	9.31	47.41	604.33
02/02/07	996	48	18.00	21.73	21.59	1528.5	63.7	214	0.20	4.74	32.56	636.89
02/09/07	1327	59	16.20	28.95	28.28	1697.0	70.7	380	0.12	2.99	21.00	657.89
02/16/07	1215	56	17.40	26.51	25.96	1865.7	77.7	304	0.13	3.16	22.22	680.11
02/23/07	814	44	18.70	17.76	17.75	2033.3	84.7	285	0.08	1.86	13.00	693.11
03/01/07	846	48	17.90	18.46	18.34	2177.9	90.7	245	0.07	1.73	10.43	703.53
03/08/07	756	51	16.30	16.49	16.36	2346.2	97.8	230	0.06	1.38	9.70	713.23
03/15/07	755	47	15.60	16.47	16.50	2512.4	104.7	315	0.07	1.60	11.08	724.32
03/22/07	1966	80	14.10	42.89	40.49	2684.2	111.8	221	0.16	3.86	27.65	751.97
03/22/07	1314	81	6.80	28.67	27.51	2684.9	111.9	222	0.09	2.17	0.06	752.03
03/30/07	648	47	8.50	14.14	14.42	2872.9	119.7	387	0.07	1.56	12.24	764.28
04/05/07	709	59	7.90	15.47	15.43	3017.4	125.7	475	0.10	2.37	14.26	778.53
04/20/07	695	56	7.00	15.16	15.25	3283.6	136.8	701	0.13	3.19	35.41	813.94
04/27/07	871	55	15.90	19.00	18.72	3451.4	143.8	450	0.16	3.84	26.82	840.76
05/03/07	836	54	15.10	18.24	18.04	3595.8	149.8	388	0.11	2.69	16.19	856.95
05/11/07	1678	57	13.00	36.61	36.19	3787.9	157.8	375	0.20	4.92	39.35	896.30
05/18/07	1127	59	12.80	24.59	24.23	3955.7	164.8	330	0.13	3.04	21.26	917.56
05/25/07	1117	61	15.7	24.37	23.74	4004.2	166.8	943	0.22	5.38	10.87	928.43
06/01/07	0					4149.7						928.43
06/08/07	856	56	12.50	18.68	18.52	4316.0	179.8	270	0.04	0.89	6.17	934.60
06/14/07	1333	81	11.00	29.08	27.62	4460.7	185.9	309	0.12	2.85	17.16	951.76
06/21/07	1064	58	14.10	23.21	22.84	4468.2	186.2	1,061	0.23	5.57	1.74	953.50
06/29/07	1351	65	12.00	29.47	28.77	4660.2	194.2	369	0.31	7.32	58.57	1012.07

Note:
1. Inlet pipe diameter is 2".
2. Shaded areas indicate that measurements were not taken. System was found shut down because there was no propane.

Assumptions:
1. Relative vapor density of gasoline is approximately 3.3.
2. Vapor density of pure, dry air is 1,200 g/m3 at 20C.
3. Vapor density of gasoline is calculated to be 3,960 g/m3 at 20C.
4. SCFM(at 14.7psia and 68°F) = CFM x[[(Pg + Patm)/(Patm)] x [(68 +460)/(Tact +460)]]
5. **Mass Removed Since Last Sampling Event (lbs)** = (flowrate scfm)*(avg. conc. ppmv)*(60 min/hr)*(106.88 lbs/molecule)*(Operation Time hr)/1000000/379

TABLE 5F
SVE-6
Operation Parameters, Sampling Results, and Mass Removal Calculations, Chevron Sunol Pipeline

Sample Date	Flowrate (fpm)	Temp (F)	Vacuum (inch water)	Flowrate (cfm)	Flowrate (scfm)	Total Operation Time (hr)	Total Operation Time (days)	Field TPH-g Concentration (ppm)	Mass Removal Rate (lbs/hr)	Mass Removal Rate (lbs/day)	Mass Removed Since Last Sampling Event (lbs)	Cumulative Mass Removal (lbs)
11/28/06	640	53	9.60	13.96	14.03	2.4	0.1	1,908	0.40	9.53	0.95	0.95
11/30/06	987	54	14.20	21.53	21.35	44.6	1.9	2,800	0.75	17.89	33.25	34.20
12/04/06	935	46	17.84	20.40	20.35	138.8	5.8	2,514	0.80	19.25	111.35	145.55
12/08/06	808	47	17.1	17.63	17.59	234.6	9.8	3,619	0.80	19.20	76.64	222.19
12/15/06	1060	55	16.80	23.13	22.73	403.3	16.8	2,542	1.04	24.93	175.24	397.43
12/19/06	169	33	2.43	3.69	3.93	499.4	20.8	3,316	0.17	4.09	16.39	413.82
12/19/06	714	62	15.08	15.58	15.17	503.9	21.0	3,210	0.73	17.63	3.30	417.13
12/28/06	1006	47	15.23	21.95	22.00	715.4	29.8	1,906	0.83	20.04	176.58	593.71
01/04/07	1042	54	14.97	22.73	22.49	884.5	36.9	1,619	0.59	14.11	99.45	693.16
01/12/07	359	49	11.00	7.83	7.91	1075.8	44.8	2,062	0.22	5.18	41.29	734.45
01/19/07	360	43	5.00	7.85	8.14	1241.5	51.7	2,339	0.27	6.38	44.05	778.49
01/26/07	505	64	12.00	11.02	10.77	1363.7	56.8	1,732	0.33	7.81	39.76	818.25
02/02/07	383	45	14.00	8.36	8.44	1528.5	63.7	1,700	0.21	5.15	35.39	853.64
02/09/07	500	58	13.70	10.91	10.74	1697.0	70.7	1,782	0.28	6.66	46.76	900.40
02/16/07	410	57	15.50	8.94	8.79	1865.7	77.7	1,440	0.21	5.04	35.43	935.83
02/23/07	785	46	17.00	17.13	17.12	2033.3	84.7	1,460	0.37	8.84	61.74	997.57
03/01/07	580	51	17.50	12.65	12.51	2177.9	90.7	1,475	0.27	6.54	39.39	1036.95
03/08/07	455	54	17.00	9.93	9.77	2346.2	97.8	1,250	0.20	4.74	33.24	1070.19
03/15/07	686	50	16.70	14.97	14.86	2512.4	104.7	1,550	0.31	7.41	51.29	1121.48
03/22/07	686	80	15.00	14.97	14.09	2684.2	111.8	1,007	0.27	6.42	45.93	1167.41
03/22/07	431	79	13.00	9.40	8.92	2684.9	111.9	1,056	0.14	3.27	0.10	1167.50
03/30/07	502	50	15.40	10.95	10.91	2872.9	119.7	1,411	0.20	4.79	37.53	1205.03
04/05/07	483	62	14.70	10.54	10.27	3017.4	125.7	1,181	0.20	4.74	28.54	1233.57
04/20/07	471	58	14.50	10.28	10.10	3283.6	136.8	1,457	0.20	4.74	52.61	1286.19
04/27/07	576	57	16.10	12.57	12.33	3451.4	143.8	1,340	0.26	6.14	42.91	1329.10
05/03/07	448	54	15.10	9.77	9.67	3595.8	149.8	1,362	0.19	4.65	27.98	1357.08
05/11/07	592	59	13.20	12.92	12.71	3787.9	157.8	1,327	0.25	6.09	48.71	1405.79
05/18/07	524	58	13.90	11.43	11.25	3955.7	164.8	1,102	0.20	4.87	34.03	1439.81
05/25/07	684	62	16.3	14.92	14.49	4004.2	166.8	1,155	0.24	5.82	11.76	1451.58
06/01/07	0					4149.7						1451.58
06/08/07	666	56	15.00	14.53	14.32	4316.0	179.8	999	0.11	2.55	17.65	1469.22
06/14/07	525	80	12.20	11.45	10.86	4460.7	185.9	936	0.16	3.74	22.56	1491.79
06/21/07	639	58	15.50	13.94	13.67	4468.2	186.2	1,333	0.23	5.52	1.73	1493.51
06/29/07	706	70	13.40	15.40	14.84	4660.2	194.2	981	0.25	6.11	48.89	1542.40

Note:
1. Inlet pipe diameter is 2".
2. Shaded areas indicate that measurements were not taken. System was found shut down because there was no propane.

Assumptions:
1. Relative vapor density of gasoline is approximately 3.3.
2. Vapor density of pure, dry air is 1,200 g/m3 at 20C.
3. Vapor density of gasoline is calculated to be 3,960 g/m3 at 20C.
4. SCFM(at 14.7psia and 68°F) = CFM x([(Pg + Patm)/(Patm)] x [(68 +460)/(Tact +460)])
5. **Mass Removed Since Last Sampling Event (lbs)** = (flowrate scfm)*(avg. conc. ppmv)*(60 min/hr)*(106.88 lbs/molecule)*(Operation Time hr)/1000000/379

TABLE 5G
SVE-7
Operation Parameters, Sampling Results, and Mass Removal Calculations, Chevron Sunol Pipeline

Sample Date	Flowrate (fpm)	Temp (F)	Vacuum (inch water)	Flowrate (cfm)	Flowrate (scfm)	Total Operation Time (hr)	Total Operation Time (days)	Field TPH-g Concentration (ppm)	Mass Removal Rate (lbs/hr)	Mass Removal Rate (lbs/day)	Mass Removed Since Last Sampling Event (lbs)	Cumulative Mass Removal (lbs)
11/28/06	500	54	9.50	10.91	10.94	2.4	0.1	2,057	0.33	8.01	0.80	0.80
11/30/06	647	50	14.08	14.12	14.11	44.6	1.9	2,760	0.50	12.10	22.48	23.28
12/04/06	720	45	17.60	15.71	15.71	138.8	5.8	2,727	0.64	15.35	88.77	112.05
12/08/06	833	50	16.8	18.17	18.04	234.6	9.8	4,351	0.95	22.73	90.72	202.77
12/15/06	762	52	16.50	16.62	16.45	403.3	16.8	4,417	1.07	25.67	180.47	383.24
12/19/06	266	33	2.45	5.80	6.18	499.4	20.8	4,460	0.41	9.76	39.09	422.33
12/19/06	849	60	14.75	18.52	18.13	503.9	21.0	4,767	1.24	29.77	5.58	427.91
12/28/06	641	44	15.01	13.98	14.11	715.4	29.8	2,033	0.71	17.08	150.52	578.44
01/04/07	765	52	14.69	16.69	16.59	884.5	36.9	1,871	0.48	11.53	81.24	659.67
01/12/07	610	50	11.00	13.31	13.41	1075.8	44.8	2,448	0.43	10.31	82.15	741.83
01/19/07	560	42	5.00	12.22	12.69	1241.5	51.7	2,315	0.45	10.76	74.30	816.13
01/26/07	707	62	12.00	15.42	15.14	1363.7	56.8	1,894	0.47	11.35	57.77	873.89
02/02/07	394	46	14.00	8.60	8.66	1528.5	63.7	2,224	0.26	6.35	43.60	917.49
02/09/07	564	58	13.60	12.30	12.12	1697.0	70.7	2,154	0.39	9.45	66.33	983.83
02/16/07	665	58	15.50	14.51	14.23	1865.7	77.7	1,607	0.40	9.52	66.95	1050.77
02/23/07	1208	45	17.10	26.35	26.40	2033.3	84.7	1,870	0.68	16.34	114.10	1164.87
03/01/07	833	50	17.40	18.17	18.01	2177.9	90.7	2,345	0.56	13.51	81.42	1246.29
03/08/07	585	53	16.80	12.76	12.59	2346.2	97.8	1,925	0.40	9.57	67.13	1313.43
03/15/07	1306	50	16.60	28.49	28.30	2512.4	104.7	2,848	1.00	24.04	166.49	1479.91
03/22/07	1075	82	14.80	23.45	22.02	2684.2	111.8	1,687	0.74	17.77	127.23	1607.15
03/22/07	878	80	13.00	19.15	18.13	2684.9	111.9	1,756	0.46	11.11	0.32	1607.47
03/30/07	724	50	15.60	15.80	15.73	2872.9	119.7	2,427	0.49	11.71	91.73	1699.20
04/05/07	668	62	14.00	14.57	14.23	3017.4	125.7	2,044	0.47	11.33	68.21	1767.41
04/20/07	1093	58	14.20	23.85	23.46	3283.6	136.8	2,736	0.83	19.96	221.40	1988.81
04/27/07	1453	57	16.00	31.70	31.10	3451.4	143.8	1,993	1.09	26.18	183.06	2171.87
05/03/07	1373	55	15.10	29.95	29.57	3595.8	149.8	2,220	0.92	22.18	133.44	2305.31
05/11/07	928	58	13.20	20.25	19.97	3787.9	157.8	2,160	0.65	15.57	124.62	2429.93
05/18/07	629	58	13.80	13.72	13.51	3955.7	164.8	1,875	0.40	9.71	67.87	2497.79
05/25/07	854	62	16.3	18.63	18.09	4004.2	166.8	1,729	0.48	11.61	23.46	2521.25
06/01/07	0					4149.7						2521.25
06/08/07	621	56	15.00	13.55	13.35	4316.0	179.8	1,636	0.16	3.89	26.95	2548.19
06/14/07	626	80	12.20	13.66	12.95	4460.7	185.9	1,553	0.31	7.35	44.34	2592.53
06/21/07	750	58	15.50	16.36	16.04	4468.2	186.2	1,898	0.41	9.86	3.08	2595.61
06/29/07	819	70	13.30	17.87	17.22	4660.2	194.2	1,744	0.47	11.16	89.29	2684.89

Note:
1. Inlet pipe diameter is 2".
2. Shaded areas indicate that measurements were not taken. System was found shut down because there was no propane.

Assumptions:
1. Relative vapor density of gasoline is approximately 3.3.
2. Vapor density of pure, dry air is 1,200 g/m3 at 20C.
3. Vapor density of gasoline is calculated to be 3,960 g/m3 at 20C.
4. SCFM(at 14.7psia and 68°F) = CFM x([(Pg + Patm)/(Patm)] x [(68 +460)/(Tact +460)])
5. **Mass Removed Since Last Sampling Event (lbs)** = (flowrate scfm)*(avg. conc. ppmv)*(60 min/hr)*(106.88 lbs/molecule)*(Operation Time hr)/1000000/379

TABLE 5H
SVE-8
Operation Parameters, Sampling Results, and Mass Removal Calculations, Chevron Sunol Pipeline

Sample Date	Flowrate (fpm)	Temp (F)	Vacuum (inch water)	Flowrate (cfm)	Flowrate (scfm)	Total Operation Time (hr)	Total Operation Time (days)	Field TPH-g Concentration (ppm)	Mass Removal Rate (lbs/hr)	Mass Removal Rate (lbs/day)	Mass Removed Since Last Sampling Event (lbs)	Cumulative Mass Removal (lbs)
11/28/06	300	53	10.00	6.54	6.57	2.4	0.1	1,923	0.19	4.50	0.45	0.45
11/30/06	0											0.45
12/04/06	0											0.45
12/08/06	0											0.45
12/15/06	0											0.45
12/19/06	0											0.45
12/19/06	0											0.45
12/28/06	0											0.45
01/04/07	0											0.45
01/12/07	0											0.45
01/19/07	0											0.45
01/26/07	0											0.45
02/02/07	0											0.45
02/09/07	0											0.45
02/16/07	0											0.45
02/23/07	0											0.45
03/01/07	0											0.45
03/08/07	0											0.45
03/15/07	0											0.45
03/22/07	0											0.45
03/22/07	0											0.45
03/30/07	0											0.45
04/05/07	0											0.45
04/20/07	0											0.45
04/27/07	0											0.45
05/03/07	0											0.45
05/11/07	0											0.45
05/18/07	0											0.45
05/25/07	0											0.45
06/01/07	0											0.45
06/08/07	0											0.45
06/14/07	0											0.45
06/21/07	0											0.45
06/29/07	0											0.45

Note:
1. Inlet pipe diameter is 2".
2. Shaded areas indicate that measurements were not taken because the well was shut off due to the presence of perched groundwater within the well.

Assumptions:
1. Relative vapor density of gasoline is approximately 3.3.
2. Vapor density of pure, dry air is 1,200 g/m3 at 20C.
3. Vapor density of gasoline is calculated to be 3,960 g/m3 at 20C.
4. SCFM(at 14.7psia and 68°F) = CFM x([(Pg + Patm)/(Patm)] x [(68 +460)/(Tact +460)])
5. **Mass Removed Since Last Sampling Event (lbs)** = (flowrate scfm)*(avg. conc. ppmv)*(60 min/hr)*(106.88 lbs/molecule)*(Operation Time hr)/1000000/379

TABLE 5I
SVE-9
Operation Parameters, Sampling Results, and Mass Removal Calculations, Chevron Sunol Pipeline

Sample Date	Flowrate (fpm)	Temp (F)	Vacuum (inch water)	Flowrate (cfm)	Flowrate (scfm)	Total Operation Time (hr)	Total Operation Time (days)	Field TPH-g Concentration (ppm)	Mass Removal Rate (lbs/hr)	Mass Removal Rate (lbs/day)	Mass Removed Since Last Sampling Event (lbs)	Cumulative Mass Removal (lbs)
11/28/06	610	53	10.00	13.31	13.36	2.4	0.1	3,623	0.72	17.23	1.72	1.72
11/30/06	1010	55	13.30	22.03	21.85	44.6	1.9	3,747	1.19	28.67	53.28	55.00
12/04/06	1357	52	15.50	29.61	29.37	138.8	5.8	2,443	1.35	32.36	187.16	242.16
12/08/06	1179	53	15	25.72	25.50	234.6	9.8	2,612	0.96	22.95	91.59	333.75
12/15/06	1386	57	15.20	30.24	29.73	403.3	16.8	1,223	0.85	20.30	142.66	476.41
12/19/06	362	31	2.15	7.90	8.45	499.4	20.8	1,170	0.15	3.60	14.41	490.82
12/19/06	1717	63	13.90	37.46	36.53	503.9	21.0	1,378	0.69	16.57	3.11	493.92
12/28/06	1325	50	13.86	28.91	28.91	715.4	29.8	924	0.49	11.85	104.40	598.32
01/04/07	1353	55	13.70	29.52	29.24	884.5	36.9	685	0.35	8.38	59.02	657.34
01/12/07	865	48	10.00	18.87	19.13	1075.8	44.8	848	0.22	5.22	41.62	698.96
01/19/07	677	44	10.00	14.77	15.09	1241.5	51.7	1,521	0.27	6.37	43.95	742.90
01/26/07	900	65	12.00	19.63	19.17	1363.7	56.8	783	0.33	7.86	40.02	782.93
02/02/07	632	45	13.00	13.79	13.96	1528.5	63.7	480	0.13	3.14	21.55	804.47
02/09/07	1060	58	13.50	23.13	22.79	1697.0	70.7	436	0.15	3.72	26.09	830.56
02/16/07	1020	58	15.00	22.25	21.85	1865.7	77.7	416	0.14	3.31	23.29	853.85
02/23/07	628	45	17.10	13.70	13.72	2033.3	84.7	380	0.08	1.94	13.58	867.43
03/01/07	664	52	17.50	14.49	14.30	2177.9	90.7	378	0.08	1.93	11.62	879.06
03/08/07	448	45	17.10	9.77	9.79	2346.2	97.8	405	0.06	1.36	9.57	888.63
03/15/07	621	52	16.90	13.55	13.39	2512.4	104.7	515	0.09	2.19	15.19	903.81
03/22/07	1410	80	14.90	30.76	28.98	2684.2	111.8	371	0.19	4.57	32.72	936.53
03/22/07	1160	77	13.10	25.31	24.08	2684.9	111.9	476	0.15	3.63	0.11	936.64
03/30/07	614	50	15.60	13.40	13.34	2872.9	119.7	460	0.09	2.22	17.41	954.04
04/05/07	744	62	14.20	16.23	15.85	3017.4	125.7	418	0.10	2.48	14.91	968.96
04/20/07	693	58	14.20	15.12	14.87	3283.6	136.8	701	0.12	2.96	32.86	1001.82
04/27/07	709	58	16.00	15.47	15.15	3451.4	143.8	416	0.13	3.01	21.06	1022.88
05/03/07	659	55	15.00	14.38	14.20	3595.8	149.8	390	0.08	2.04	12.26	1035.13
05/11/07	905	59	13.20	19.74	19.44	3787.9	157.8	411	0.12	2.77	22.18	1057.31
05/18/07	856	59	13.70	18.68	18.36	3955.7	164.8	317	0.10	2.38	16.64	1073.95
05/25/07	979	62	16.2	21.36	20.74	4004.2	166.8	548	0.13	3.19	6.46	1080.40
06/01/07	0					4149.7						1080.40
06/08/07	900	57	15.00	19.63	19.31	4316.0	179.8	265	0.04	0.91	6.31	1086.72
06/14/07	1226	80	12.30	26.75	25.36	4460.7	185.9	259	0.10	2.37	14.26	1100.98
06/21/07	886	59	15.50	19.33	18.92	4468.2	186.2	516	0.11	2.61	0.82	1101.80
06/29/07	1353	71	13.30	29.52	28.39	4660.2	194.2	322	0.18	4.24	33.88	1135.67

Note:
1. Inlet pipe diameter is 2".
2. Shaded areas indicate that measurements were not taken. System was found shut down because there was no propane.

Assumptions:
1. Relative vapor density of gasoline is approximately 3.3.
2. Vapor density of pure, dry air is 1,200 g/m3 at 20C.
3. Vapor density of gasoline is calculated to be 3,960 g/m3 at 20C.
4. SCFM(at 14.7psia and 68°F) = CFM x([(Pg + Patm)/(Patm)] x [(68 +460)/(Tact +460)])

5. **Mass Removed Since Last Sampling Event (lbs)** = (flowrate scfm)*(avg. conc. ppmv)*(60 min/hr)*(106.88 lbs/molecule)*(Operation Time hr)/1000000/379

Attachment A
Groundwater Sampling Forms

URS

Troll 9000 | Low-Flow System
06/05/07 | ISI Low-Flow Log

Project Information:

Operator Name	Renee McFarlan
Company Name	URS
Project Name	Chevron Sunol Pipeline
Site Name	Sunol

Pump Information:

Pump Model/Type	Mega Typhoon
Tubing Type	LDPE
Tubing Diameter	0.38 [in]
Tubing Length	45 [ft]
Pump placement from TOC	38 [ft]

Well Information:

Well Id	MW-1
Well diameter	4 [in]
Well total depth	39.58 [ft]
Depth to top of screen	24 [ft]
Screen length	15 [ft]
Depth to Water	37.21 [ft]

Pumping information:

Final pumping rate	200 [mL/min]
Flowcell volume	117 [mL]
Calculated Sample Rate	3510 [sec]
Sample rate	180 [sec]
Stabilized drawdown	0 [in]

Low-Flow Sampling Stabilization Summary

	Time	Turb [NTU]	pH [pH]	RDO []	Cond [µS/cm]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0	+/-0	+/-0	+/-0	+/-0
Last 5 Readings	3:36:00	58.87	6.61		1028.91	0.11	-159.26
	13:12:00	58.96	6.61		1041.89	0.09	-161.09
	4:19:12	58.31	6.61		1034.89	0.08	-163.23
	19:55:12	56.27	6.61		1043.61	0.08	-165.41
	19:40:48	56.68	6.61		1058.73	0.08	-168.15
Variance in last 3 readings	4:19:12	-0.64	0.00		-7.00	-0.01	-2.14
	19:55:12	-2.04	0.00		8.72	0.00	-2.18
	19:40:48	0.41	0.00		15.12	0.00	-2.74

Notes:

Initial Depth to Water = 37.21 feet
Final Depth to Water = 37.25 feet
Initial Pumping Rate = 250 ml/min
Final Pumping Rate = 200 ml/min
Total Gallons Purged = 3 gallons

URS

GROUNDWATER PURGE AND SAMPLING FORM

Well Identifier: MW-2
Date Sampled: 6/5/2007
Project Name: Chevron Sunol Pipeline
Project Number: 26815217
Collector(s): R. McFarlan, J. Petsche
Time (Initial WL):
Initial Water Level (WL): 33.23 ft.
Depth to Product: No Product
Total Well Depth (T.D.): 38.69 ft.
Casing Diameter (D): 4 **in.**
Casing Volume (A): 3.5 gal.
Total Purge Volume (A x 3 well volumes): 10.5 gal.

Time	Volume Removed	Temp. °F	pH	Cond. µS/cm	Turb. NTU	DO mg/L	ORP mV			Comments
	1	72.82	6.71	1138	69.53	0.83	29			
	3	69.93	6.69	1013	76.85	3.5	61			
	3.5	63.48	6.69	1006	102.4	5.31	70			
	4	63.27	6.69	999.2	104.1	5.13	82			
	5	63.24	6.67	999.6	81.09	3.56	88			
	6	63.16	6.77	1005	83.86	6.96	93			
	7.5	62.51	6.71	1007	63.37	7.2	84			
	8.5	63.23	6.66	993.6	214.9	4.02	90			
	9.5	63.2	6.64	998.7	132.9	2.01	81			
	10.5	63.3	6.67	1003	103.2	2.69	83			

Units for Column Headings:

Volume Removed - Gallons
Temperature - Temp (°F)
Electric Conductivity - Cond. (µS/cm)
Turbidity: Turb. (NTU)

Comments:

PURGE METHOD: BAILER X PUMP _____ OTHER _____

Start Purge Time:
End Purge Time:
Final Water Level: 33.25 ft.
Time (Final WL):
Total Volume Purged: 10.5 gal.
Pump Rate: mL/min
Purged Dry? No
Comments:

SAMPLE ID	TIME	ANALYSES	REMARKS
MW-2	15:10	TPH-GRO, BTEX	

Formula for Calculating Casing Volume

$$[A] = \frac{\pi D^2 h}{4} * 7.48 \frac{gal}{ft^3}$$

D = Well diameter (feet)
h= Height of water column (feet)

Formula for Calculating Volume of Water within the Filter Pack

$$[B] = \left[\frac{\pi D_b^2}{4} h_{sat} - \frac{\pi D_a^2}{4} h_{sat} \right] * [f_p] * 7.48 \frac{gal}{ft^3}$$

D_a = Well diameter (feet)
D_b = Boring diameter (feet)
h_{sat} = saturated filter pack length (ft)
f_p = filter pack porosity = 30%

URS

Troll 9000 | Low-Flow System
06/06/07 | ISI Low-Flow Log

Project Information:

Operator Name	Renee McFarlan
Company Name	URS
Project Name	Chevron Sunol Pipeline
Site Name	Sunol

Pump Information:

Pump Model/Type	Mega Typhoon
Tubing Type	LDPE
Tubing Diameter	0.38 [in]
Tubing Length	50 [ft]
Pump placement from TOC	44 [ft]

Well Information:

Well Id	MW-5
Well diameter	4 [in]
Well total depth	49.5 [ft]
Depth to top of screen	39.5 [ft]
Screen length	10 [ft]
Depth to Water	13.59 [ft]

Pumping information:

Final pumping rate	350 [mL/min]
Flowcell volume	117 [mL]
Calculated Sample Rate	3510 [sec]
Sample rate	180 [sec]
Stabilized drawdown	2.55 [in]

Low-Flow Sampling Stabilization Summary

	Time	Turb [NTU]	pH [pH]	RDO []	Cond [µS/cm]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0	+/-0	+/-0	+/-0	+/-0
Last 5 Readings	6:00:00	85.25	7.42		738.05	0.92	80.52
	9:50:24	79.61	7.41		744.32	0.89	65.75
	13:26:24	73.71	7.40		749.69	0.90	47.44
	8:52:48	68.57	7.39		748.93	0.89	22.80
	0:14:24	62.14	7.40		740.35	0.93	-8.48
Variance in last 3 readings	13:26:24	-5.90	-0.01		5.37	0.01	-18.31
	8:52:48	-5.13	-0.01		-0.76	-0.01	-24.64
	0:14:24	-6.43	0.01		-8.58	0.04	-31.28

Notes:

Initial Depth to Water = 16.14
Final Depth to Water = 13.59
Initial Pumping Rate = 200 ml/min
Final Pumping Rate = 350 ml/min
Total Gallons Purged = 5 gallons

Attachment B
Laboratory Analytical Results

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Analysis Report

ANALYTICAL RESULTS

Prepared for:

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

713-432-3335

Prepared by:

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

SAMPLE GROUP

The sample group for this submittal is 1041555. Samples arrived at the laboratory on Thursday, June 07, 2007. The PO# for this group is 0015010091 and the release number is COSGRAY.

Client Description			Lancaster Labs Number
MW-1	Grab	Water	5074050
MW-2	Grab	Water	5074051
MW-6	Grab	Water	5074052
MW-8	Grab	Water	5074053
MW-7	Grab	Water	5074054
MW-5	Grab	Water	5074055
Stream	Grab	Water	5074056

ELECTRONIC COPY TO	URS	Attn: Angela Liang
ELECTRONIC COPY TO	URS	Attn: Joe Morgan
ELECTRONIC COPY TO	URS	Attn: April Giangerelli
ELECTRONIC COPY TO	URS	Attn: Jacob Henry

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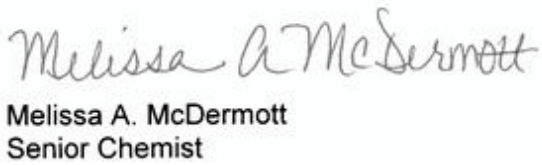
Analysis Report

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

Respectfully Submitted,



Melissa A. McDermott
Senior Chemist

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 5074050

MW-1 **Grab** **Water**
NA **URSO**
Sunol Pipeline **SL0600100443 MW-1**
Collected:06/05/2007 13:40 by RM

Account Number: 11875

Submitted: 06/07/2007 09:20
Reported: 06/18/2007 at 14:19
Discard: 07/19/2007

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

SUN-1

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	17,000.	250.	ug/l	5
	The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.					
06054	BTEX+MTBE by 8260B					
02010	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	ug/l	1
05401	Benzene	71-43-2	3.	0.5	ug/l	1
05407	Toluene	108-88-3	7.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	4.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	1,100.	3.	ug/l	5

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

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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO - Waters	SW-846 8015B modified	1	06/17/2007 17:38	K. Robert Caulfeild-James	5
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	06/14/2007 15:48	Anita M Dale	5
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	06/15/2007 09:19	Anita M Dale	1
01146	GC VOA Water Prep	SW-846 5030B	1	06/17/2007 17:38	K. Robert Caulfeild-James	5
01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/15/2007 09:19	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	06/14/2007 15:48	Anita M Dale	5

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Analysis Report

Lancaster Laboratories Sample No. WW 5074051

MW-2 **Grab** **Water**
NA **URSO**
Sunol Pipeline **SL0600100443 MW-2**
Collected:06/05/2007 15:10 by RM

Account Number: 11875

Submitted: 06/07/2007 09:20
Reported: 06/18/2007 at 14:19
Discard: 07/19/2007

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

SUN-2

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	N.D.	50.	ug/l	1
	The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.					
06054	BTEX+MTBE by 8260B					
02010	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	ug/l	1
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.5	ug/l	1

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

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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO - Waters	SW-846 8015B modified	1	06/08/2007 12:38	K. Robert Caulfeild-James	1
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	06/14/2007 16:12	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/14/2007 16:12	Anita M Dale	1
01146	GC VOA Water Prep	SW-846 5030B	1	06/08/2007 12:38	K. Robert Caulfeild-James	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5074052

MW-6 **Grab** **Water**
NA **URSO**
Sunol Pipeline **SL0600100443 MW-6**
Collected:06/06/2007 09:30 by RM

Account Number: 11875

Submitted: 06/07/2007 09:20
Reported: 06/18/2007 at 14:19
Discard: 07/19/2007

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

SUN-6

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	N.D.	50.	ug/l	1
	The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.					
06054	BTEX+MTBE by 8260B					
02010	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	ug/l	1
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.5	ug/l	1

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

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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO - Waters	SW-846 8015B modified	1	06/08/2007 13:40	K. Robert Caulfeild-James	1
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	06/14/2007 16:36	Anita M Dale	1
01146	GC VOA Water Prep	SW-846 5030B	1	06/08/2007 13:40	K. Robert Caulfeild-James	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/14/2007 16:36	Anita M Dale	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5074053

MW-8 **Grab** **Water**
NA **URSO**
Sunol Pipeline **SL0600100443 MW-8**
Collected:06/06/2007 10:20 by RM

Account Number: 11875

Submitted: 06/07/2007 09:20
Reported: 06/18/2007 at 14:19
Discard: 07/19/2007

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

SUN-8

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	3,600.	50.	ug/l	1
	The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.					
06054	BTEX+MTBE by 8260B					
02010	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	ug/l	1
05401	Benzene	71-43-2	340.	3.	ug/l	5
05407	Toluene	108-88-3	92.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	370.	3.	ug/l	5
06310	Xylene (Total)	1330-20-7	210.	0.5	ug/l	1

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

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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO - Waters	SW-846 8015B modified	1	06/08/2007 14:09	K. Robert Caulfeild-James	1
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	06/14/2007 17:00	Anita M Dale	5
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	06/15/2007 09:43	Anita M Dale	1
01146	GC VOA Water Prep	SW-846 5030B	1	06/08/2007 14:09	K. Robert Caulfeild-James	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	06/14/2007 17:00	Anita M Dale	5
01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/15/2007 09:43	Anita M Dale	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5074054

MW-7 **Grab** **Water**
NA **URSO**
Sunol Pipeline **SL0600100443 MW-7**
Collected:06/06/2007 11:15 by RM

Account Number: 11875

Submitted: 06/07/2007 09:20
Reported: 06/18/2007 at 14:19
Discard: 07/19/2007

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

SUN-7

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	N.D.	50.	ug/l	1
	The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.					
06054	BTEX+MTBE by 8260B					
02010	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	ug/l	1
05401	Benzene	71-43-2	0.7	0.5	ug/l	1
05407	Toluene	108-88-3	0.8	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	0.8	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	2.	0.5	ug/l	1

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

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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO - Waters	SW-846 8015B modified	1	06/08/2007 14:39	K. Robert Caulfeild-James	1
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	06/14/2007 17:24	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/14/2007 17:24	Anita M Dale	1
01146	GC VOA Water Prep	SW-846 5030B	1	06/08/2007 14:39	K. Robert Caulfeild-James	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5074055

MW-5 **Grab** **Water**
NA **URSO**
Sunol Pipeline **SL0600100443 MW-5**
Collected:06/06/2007 12:55 by RM

Account Number: 11875

Submitted: 06/07/2007 09:20
Reported: 06/18/2007 at 14:19
Discard: 07/19/2007

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

SUN-5

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	N.D.	50.	ug/l	1
	The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.					
06054	BTEX+MTBE by 8260B					
02010	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	ug/l	1
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.5	ug/l	1

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

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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO - Waters	SW-846 8015B modified	1	06/08/2007 15:08	K. Robert Caulfeild-James	1
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	06/13/2007 02:53	Michael A Ziegler	1
01146	GC VOA Water Prep	SW-846 5030B	1	06/08/2007 15:08	K. Robert Caulfeild-James	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/13/2007 02:53	Michael A Ziegler	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5074056

Stream **Grab** **Water**
NA **URSO**
Sunol Pipeline **SL0600100443 Stream**
Collected:06/05/2007 16:00 by RM Account Number: 11875

Submitted: 06/07/2007 09:20
Reported: 06/18/2007 at 14:19
Discard: 07/19/2007

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

SUNST

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01728	TPH-GRO - Waters	n.a.	N.D.	50.	ug/l	1
	The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time.					
06054	BTEX+MTBE by 8260B					
02010	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	ug/l	1
05401	Benzene	71-43-2	N.D.	0.5	ug/l	1
05407	Toluene	108-88-3	N.D.	0.5	ug/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.5	ug/l	1
06310	Xylene (Total)	1330-20-7	N.D.	0.5	ug/l	1

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

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

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01728	TPH-GRO - Waters	SW-846 8015B modified	1	06/08/2007 15:38	K. Robert Caulfeild-James	1
06054	BTEX+MTBE by 8260B	SW-846 8260B	1	06/13/2007 03:16	Michael A Ziegler	1
01146	GC VOA Water Prep	SW-846 5030B	1	06/08/2007 15:38	K. Robert Caulfeild-James	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	06/13/2007 03:16	Michael A Ziegler	1

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Analysis Report

Quality Control Summary

Client Name: Chevron Pipeline Co. Group Number: 1041555
Reported: 06/18/07 at 02:19 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: 07159A08A	Sample number(s): 5074051-5074056							
TPH-GRO - Waters	N.D.	50.	ug/l	97	100	75-135	2	30
Batch number: 07166A08A	Sample number(s): 5074050							
TPH-GRO - Waters	N.D.	50.	ug/l	110	110	75-135	0	30
Batch number: D071634AA	Sample number(s): 5074055-5074056							
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	99		73-119		
Benzene	N.D.	0.5	ug/l	106		78-119		
Toluene	N.D.	0.5	ug/l	108		85-115		
Ethylbenzene	N.D.	0.5	ug/l	105		82-119		
Xylene (Total)	N.D.	0.5	ug/l	109		83-113		
Batch number: Z071652AA	Sample number(s): 5074050-5074054							
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	103		73-119		
Benzene	N.D.	0.5	ug/l	104		78-119		
Toluene	N.D.	0.5	ug/l	100		85-115		
Ethylbenzene	N.D.	0.5	ug/l	106		82-119		
Xylene (Total)	N.D.	0.5	ug/l	107		83-113		
Batch number: Z071662AA	Sample number(s): 5074050,5074053							
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	104		73-119		
Benzene	N.D.	0.5	ug/l	101		78-119		
Toluene	N.D.	0.5	ug/l	101		85-115		
Ethylbenzene	N.D.	0.5	ug/l	106		82-119		
Xylene (Total)	N.D.	0.5	ug/l	106		83-113		

Sample Matrix Quality Control

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

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 07159A08A	Sample number(s): 5074051-5074056 UNSPK: P074881								
TPH-GRO - Waters	124	124	63-154	0	30				
Batch number: 07166A08A	Sample number(s): 5074050 UNSPK: P081034								
TPH-GRO - Waters	105	116	63-154	11	30				
Batch number: D071634AA	Sample number(s): 5074055-5074056 UNSPK: P073879								
Methyl Tertiary Butyl Ether	95	94	69-127	1	30				
Benzene	105	106	83-128	1	30				
Toluene	107	109	83-127	2	30				
Ethylbenzene	101	105	82-129	3	30				

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

Quality Control Summary

Client Name: Chevron Pipeline Co. Group Number: 1041555
Reported: 06/18/07 at 02:19 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
Xylene (Total)	106	109	82-130	2	30				
Batch number: Z071652AA	Sample number(s): 5074050-5074054 UNSPK: P075744								
Methyl Tertiary Butyl Ether	106	109	69-127	4	30				
Benzene	109	113	83-128	3	30				
Toluene	108	110	83-127	2	30				
Ethylbenzene	112	115	82-129	3	30				
Xylene (Total)	110	115	82-130	4	30				
Batch number: Z071662AA	Sample number(s): 5074050,5074053 UNSPK: P074848								
Methyl Tertiary Butyl Ether	105	103	69-127	2	30				
Benzene	110	106	83-128	3	30				
Toluene	106	104	83-127	3	30				
Ethylbenzene	112	111	82-129	1	30				
Xylene (Total)	97	97	82-130	0	30				

Surrogate Quality Control

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

Analysis Name: TPH-GRO - Waters
Batch number: 07159A08A

	Trifluorotoluene-F
5074051	79
5074052	81
5074053	93
5074054	82
5074055	77
5074056	78
Blank	79
LCS	83
LCSD	85
MS	83
MSD	84
Limits:	63-135

Analysis Name: TPH-GRO - Waters
Batch number: 07166A08A

	Trifluorotoluene-F
5074050	97
Blank	79
LCS	86
LCSD	85
MS	86
MSD	86

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

Quality Control Summary

Client Name: Chevron Pipeline Co. Group Number: 1041555
Reported: 06/18/07 at 02:19 PM

Surrogate Quality Control

Limits: 63-135

Analysis Name: BTEX+MTBE by 8260B
Batch number: D071634AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
5074055	93	96	97	98
5074056	92	94	96	96
Blank	92	93	96	96
LCS	94	96	99	103
MS	95	96	100	103
MSD	90	90	96	98
Limits:	80-116	77-113	80-113	78-113

Analysis Name: BTEX+MTBE by 8260B
Batch number: Z071652AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
5074051	96	93	103	102
5074052	96	95	104	103
5074054	96	93	100	101
Blank	95	93	105	102
LCS	94	96	105	102
MS	94	97	103	101
MSD	95	94	103	102
Limits:	80-116	77-113	80-113	78-113

Analysis Name: BTEX+MTBE by 8260B
Batch number: Z071662AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
5074050	95	93	105	110
5074053	93	95	104	104
Blank	94	93	105	101
LCS	96	95	106	106
MS	98	94	105	105
MSD	97	95	107	105
Limits:	80-116	77-113	80-113	78-113

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

Chevron California Region Analysis Request/Chain of Custody

Lancaster Laboratories
Where quality is a science.

Acct. #: 11875 For Lancaster Laboratories use only Sample #: 5074050-56 SCR#: 244064

G# 1041555

Facility #:
Site Address: Calaveras Rd, Sunol, CA
Chevron PM: Jeff Cosgray Lead Consultant: URS
Consultant/Office: URS, Oakland CA
Consultant Prj. Mgr.: Joe Morgan
Consultant Phone #: 510-874-3201 Fax #: 510-874-3268
Sampler: Renee McFarlan, Joe Petsche
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 ☐	TPH 8015 MOD GRO	TPH 8015 MOD DRO ☐ Silica Gel Cleanup	8260 full scan	Oxygenates	Lead 7420 ☐ 7421 ☐
MW-1	W			2007 6 5	1340		X		6	X	X				
MW-2	W			2007 6 5	1510		X		6	X	X				
MW-6	W			2007 6 6	0930		X		6	X	X				
MW-8	W			2007 6 6	1020		X		6	X	X				
MW-7	W			2007 6 6	1115		X		6	X	X				
MW-5	W			2007 6 6	1255		X		6	X	X				
Stream	W			2007 6 6	1600		X		6	X	X	n/a	6/8/07		

Comments / Remarks
Please send to Joe Morgan, Greg White, + Jacob Henry at URS
Stream sample also received n/a 6/8/07

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	Renee McFarlan	6/6/07	2:PM			
2	Relinquished by:	Date	Time	Received by:	Date	Time
3	Relinquished by:	Date	Time	Received by:	Date	Time
4	Relinquished by Commercial Carrier: UPS (FedEx) Other			Received by: Kaelyn Bickley	Date 6-7-07	Time 0920

Temperature Upon Receipt 2.9° C°
Custody Seals Intact? Yes No (N/A)

Lancaster Laboratories
Explanation of Symbols and Abbreviations

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

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

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

> greater than

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

ppb parts per billion

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

U.S. EPA data qualifiers:

Organic Qualifiers

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

Inorganic Qualifiers

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

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

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

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Analysis Report

ANALYTICAL RESULTS

Prepared for:

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

713-432-3335

Prepared by:

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

SAMPLE GROUP

The sample group for this submittal is 1029635. Samples arrived at the laboratory on Friday, March 16, 2007. The PO# for this group is 0015010091 and the release number is COSGRAY.

Client Description			Lancaster Labs Number
SVE-Influent	Grab	Air	5006539
SVE-Effluent	Grab	Air	5006540
SVE-3S	Grab	Air	5006541
SVE-4D	Grab	Air	5006542
SVE-5	Grab	Air	5006543
SVE-6	Grab	Air	5006544
SVE-7	Grab	Air	5006545
SVE-9	Grab	Air	5006546

ELECTRONIC COPY TO	URS	Attn: Angela Liang
ELECTRONIC COPY TO	URS	Attn: Joe Morgan
ELECTRONIC COPY TO	URS	Attn: Greg White

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Analysis Report

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

Respectfully Submitted,

Richard H. Karam
Group Leader

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. AQ 5006539

SVE-Influent Grab Air
NA URSO
Sunol Pipeline SL0600100443 SVE-Inf

Collected:03/15/2007 09:32 by GW Account Number: 11875

Submitted: 03/16/2007 09:15
Reported: 04/12/2007 at 13:46
Discard: 05/13/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	870.	1.0	ppm(v)	3,100.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	5.1	1.0	ppm(v)	16.	3.2	mg/m3	5000
07250	Toluene	108-88-3	77.	1.0	ppm(v)	290.	3.8	mg/m3	5000
07261	Ethylbenzene	100-41-4	10.	1.0	ppm(v)	45.	4.3	mg/m3	5000
07262	m/p-Xylene	1330-20-7	49.	1.0	ppm(v)	210.	4.3	mg/m3	5000
07263	o-Xylene	95-47-6	18.	1.0	ppm(v)	78.	4.3	mg/m3	5000

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	03/17/2007 15:11	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	03/21/2007 01:23	Fanella S Zamcho	5000

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Analysis Report

Lancaster Laboratories Sample No. AQ 5006540

SVE-Effluent Grab Air
NA URSO
Sunol Pipeline SL0600100443 SVE-Eff

Collected:03/15/2007 09:30 by GW

Account Number: 11875

Submitted: 03/16/2007 09:15
Reported: 04/12/2007 at 13:46
Discard: 05/13/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	57.	1.0	ppm(v)	200.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	0.035	0.0010	ppm(v)	0.11	0.0032	mg/m3	5
07250	Toluene	108-88-3	0.077	0.0010	ppm(v)	0.29	0.0038	mg/m3	5
07261	Ethylbenzene	100-41-4	0.016	0.0010	ppm(v)	0.071	0.0043	mg/m3	5
07262	m/p-Xylene	1330-20-7	0.042	0.0010	ppm(v)	0.18	0.0043	mg/m3	5
07263	o-Xylene	95-47-6	0.0092	0.0010	ppm(v)	0.040	0.0043	mg/m3	5

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	03/17/2007 15:41	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	03/21/2007 20:32	Fanella S Zamcho	5

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Analysis Report

Lancaster Laboratories Sample No. AQ 5006541

SVE-3S Grab Air
NA URSO
Sunol Pipeline SL0600100443 SVE-3S

Collected:03/15/2007 09:40 by GW

Account Number: 11875

Submitted: 03/16/2007 09:15
Reported: 04/12/2007 at 13:46
Discard: 05/13/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	4,100.	10.	ppm(v)	14,000.	35.	mg/m3	10
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	48.	2.0	ppm(v)	150.	6.4	mg/m3	10000
07250	Toluene	108-88-3	400.	2.0	ppm(v)	1,500.	7.5	mg/m3	10000
07261	Ethylbenzene	100-41-4	35.	2.0	ppm(v)	150.	8.7	mg/m3	10000
07262	m/p-Xylene	1330-20-7	150.	2.0	ppm(v)	670.	8.7	mg/m3	10000
07263	o-Xylene	95-47-6	50.	2.0	ppm(v)	220.	8.7	mg/m3	10000

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	03/29/2007 09:07	David I Ressler	10
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	03/21/2007 04:07	Fanella S Zamcho	10000

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Analysis Report

Lancaster Laboratories Sample No. AQ 5006542

SVE-4D Grab Air
NA URSO
Sunol Pipeline SL0600100443 SVE-4D

Collected:03/15/2007 09:38 by GW

Account Number: 11875

Submitted: 03/16/2007 09:15
Reported: 04/12/2007 at 13:46
Discard: 05/13/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	650.	1.0	ppm(v)	2,300.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	8.6	1.0	ppm(v)	27.	3.2	mg/m3	5000
07250	Toluene	108-88-3	86.	1.0	ppm(v)	320.	3.8	mg/m3	5000
07261	Ethylbenzene	100-41-4	6.8	1.0	ppm(v)	30.	4.3	mg/m3	5000
07262	m/p-Xylene	1330-20-7	34.	1.0	ppm(v)	150.	4.3	mg/m3	5000
07263	o-Xylene	95-47-6	13.	1.0	ppm(v)	55.	4.3	mg/m3	5000

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	03/17/2007 16:42	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	03/21/2007 05:28	Fanella S Zamcho	5000

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Analysis Report

Lancaster Laboratories Sample No. AQ 5006543

SVE-5 **Grab** **Air**
NA **URSO**
Sunol Pipeline **SL0600100443 SVE-5**

Collected:03/15/2007 09:36 by GW

Account Number: 11875

Submitted: 03/16/2007 09:15
Reported: 04/12/2007 at 13:46
Discard: 05/13/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	190.	1.0	ppm(v)	670.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	1.2	0.050	ppm(v)	3.8	0.16	mg/m3	250
07250	Toluene	108-88-3	29.	0.50	ppm(v)	110.	1.9	mg/m3	2500
07261	Ethylbenzene	100-41-4	3.2	0.050	ppm(v)	14.	0.22	mg/m3	250
07262	m/p-Xylene	1330-20-7	18.	0.050	ppm(v)	77.	0.22	mg/m3	250
07263	o-Xylene	95-47-6	6.7	0.050	ppm(v)	29.	0.22	mg/m3	250

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	03/17/2007 17:12	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	03/21/2007 06:51	Fanella S Zamcho	2500
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	03/21/2007 07:32	Fanella S Zamcho	250

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Analysis Report

Lancaster Laboratories Sample No. AQ 5006544

SVE-6 **Grab** **Air**
NA **URSO**
Sunol Pipeline **SL0600100443 SVE-6**

Collected:03/15/2007 09:44 by GW

Account Number: 11875

Submitted: 03/16/2007 09:15
Reported: 04/12/2007 at 13:46
Discard: 05/13/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	930.	1.0	ppm(v)	3,300.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	6.7	1.0	ppm(v)	21.	3.2	mg/m3	5000
07250	Toluene	108-88-3	90.	1.0	ppm(v)	340.	3.8	mg/m3	5000
07261	Ethylbenzene	100-41-4	12.	1.0	ppm(v)	51.	4.3	mg/m3	5000
07262	m/p-Xylene	1330-20-7	66.	1.0	ppm(v)	290.	4.3	mg/m3	5000
07263	o-Xylene	95-47-6	27.	1.0	ppm(v)	120.	4.3	mg/m3	5000

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	03/17/2007 17:43	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	03/21/2007 08:36	Fanella S Zamcho	5000

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Analysis Report

Lancaster Laboratories Sample No. AQ 5006545

SVE-7 **Grab** **Air**
NA **URSO**
Sunol Pipeline **SL0600100443 SVE-7**

Collected:03/15/2007 09:42 by GW

Account Number: 11875

Submitted: 03/16/2007 09:15
Reported: 04/12/2007 at 13:46
Discard: 05/13/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	2,200.	1.0	ppm(v)	7,800.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	15.	1.0	ppm(v)	49.	3.2	mg/m3	5000
07250	Toluene	108-88-3	250.	1.0	ppm(v)	950.	3.8	mg/m3	5000
07261	Ethylbenzene	100-41-4	51.	1.0	ppm(v)	220.	4.3	mg/m3	5000
07262	m/p-Xylene	1330-20-7	230.	1.0	ppm(v)	1,000.	4.3	mg/m3	5000
07263	o-Xylene	95-47-6	94.	1.0	ppm(v)	410.	4.3	mg/m3	5000

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	03/17/2007 18:13	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	03/21/2007 10:19	Fanella S Zamcho	5000

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Analysis Report

Lancaster Laboratories Sample No. AQ 5006546

SVE-9 **Grab** **Air**
NA **URSO**
Sunol Pipeline **SL0600100443 SVE-9**

Collected:03/15/2007 09:46 by GW

Submitted: 03/16/2007 09:15
Reported: 04/12/2007 at 13:46
Discard: 05/13/2007

Account Number: 11875

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	240.	1.0	ppm(v)	850.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	1.3	0.050	ppm(v)	4.2	0.16	mg/m3	250
07250	Toluene	108-88-3	20.	0.050	ppm(v)	76.	0.19	mg/m3	250
07261	Ethylbenzene	100-41-4	3.2	0.050	ppm(v)	14.	0.22	mg/m3	250
07262	m/p-Xylene	1330-20-7	40.	0.050	ppm(v)	180.	0.22	mg/m3	250
07263	o-Xylene	95-47-6	21.	0.050	ppm(v)	92.	0.22	mg/m3	250

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	03/17/2007 18:43	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	03/21/2007 19:52	Fanella S Zamcho	250

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Analysis Report

Quality Control Summary

Client Name: Chevron Pipeline Co. Group Number: 1029635
Reported: 04/12/07 at 01:46 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: A0707830B	Sample number(s): 5006539,5006541-5006546							
Benzene	N.D.	0.00020	ppm(v)	115	106	75-138	8	20
Toluene	N.D.	0.00020	ppm(v)	130	127	75-150	3	20
Ethylbenzene	N.D.	0.00020	ppm(v)	122	122	75-144	0	20
m/p-Xylene	N.D.	0.00020	ppm(v)	119	117	74-145	2	20
o-Xylene	N.D.	0.00020	ppm(v)	122	125	78-152	2	20
Batch number: A0707830C	Sample number(s): 5006540							
Benzene	N.D.	0.00020	ppm(v)	115	106	75-138	8	20
Toluene	N.D.	0.00020	ppm(v)	130	127	75-150	3	20
Ethylbenzene	N.D.	0.00020	ppm(v)	122	122	75-144	0	20
m/p-Xylene	N.D.	0.00020	ppm(v)	119	117	74-145	2	20
o-Xylene	N.D.	0.00020	ppm(v)	122	125	78-152	2	20
Batch number: M070791ZA	Sample number(s): 5006539-5006540,5006542-5006546							
>C4-C10 Hydrocarbons hexane	N.D.	1.0	ppm(v)					
Batch number: M070881ZA	Sample number(s): 5006541							
>C4-C10 Hydrocarbons hexane	N.D.	1.0	ppm(v)					

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

Chevron Generic Analysis Request/Chain of Custody

Lancaster Laboratories
Where quality is a science.

004273

For Lancaster Laboratories use only
Acct. #: 11875 Sample #: 500653946 SCR#:

Group# 1029635

Facility #:
Site Address: Chevron Sunol Pipeline
Chevron PM: Lead Consultant:
Consultant/Office: URS-Oakland
Consultant Prj. Mgr.: Joe Morgan
Consultant Phone #: 510-874-3201 Fax #: 510-874-3268
Sampler: Greg White
Service Order #: ☐ Non SAR:

Analyses Requested

Preservation Codes

Matrix

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water (☐ Potable ☐ NPDES)	Oil ☐ Air ☐	Total Number of Containers	BTEX + MTBE 8021 ☐ 8260 ☐ Naphth ☐	8260 full scan	Oxygenates	TPH G	TPH D (☐ Extended Ring. ☐ Silica Gel Cleanup)	Lead Total ☐ Diss. ☐ Method	VPH/EPH	NWTPH H HCID ☐ quantification	TO-14 BTEX	TPH-gas	
SVE-Influent	3/15/07	0932	x					1									x	x	
SVE-Effluent		0930						1											
~~SVE-3D~~ SVE-3S		0940						1											
SVE-4D		0938						1											
SVE-5		0936						1											
SVE-6		0944						1											
SVE-7		0942						1											
SVE-9		0946						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 MTBE + Naphthalene
☐ Confirm highest hit by 8260
☐ Confirm all hits by 8260
☐ Run ____ oxy's on highest hit
☐ Run ____ oxy's on all hits

Comments / Remarks
Please Email Results to Angela Liang, Joe Morgan, Greg White, Joe Petsche of URS

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

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

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	3/15/07	1330			
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]	Date 3/16/07	Time 0915
Temperature Upon Receipt N/A 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.

3566 Rev. 1/31/02

Lancaster Laboratories
Explanation of Symbols and Abbreviations

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

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

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

> greater than

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

ppb parts per billion

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

U.S. EPA data qualifiers:

Organic Qualifiers

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

Inorganic Qualifiers

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

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

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

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Analysis Report

ANALYTICAL RESULTS

Prepared for:

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

713-432-3335

Prepared by:

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

SAMPLE GROUP

The sample group for this submittal is 1034780. Samples arrived at the laboratory on Monday, April 23, 2007. The PO# for this group is 0015010091 and the release number is COSGRAY.

Client Description			Lancaster Labs Number
SVE-Influent	Grab	Air	5034986
SVE-Effluent	Grab	Air	5034987
SVE-1D	Grab	Air	5034988
SVE-2S	Grab	Air	5034989
SVE-3S	Grab	Air	5034990
SVE-4D	Grab	Air	5034991
SVE-5	Grab	Air	5034992
SVE-6	Grab	Air	5034993
SVE-7	Grab	Air	5034994
SVE-9	Grab	Air	5034995

ELECTRONIC COPY TO	URS	Attn: Angela Liang
ELECTRONIC COPY TO	URS	Attn: Joe Morgan
ELECTRONIC COPY TO	URS	Attn: Greg White
ELECTRONIC COPY TO	Chevron Pipeline Co	Attn: Jacob Henry
ELECTRONIC COPY TO	URS	Attn: Joe Petsche

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Analysis Report

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

Respectfully Submitted,

Richard H. Karam
Group Leader

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. AQ 5034986

SVE-Influent Grab Air
NA URSO
Sunol Pipeline SL0600100443 SVE-Inf

Collected:04/20/2007 09:30 by GW Account Number: 11875

Submitted: 04/23/2007 09:30
Reported: 05/09/2007 at 10:44
Discard: 06/09/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	590.	1.0	ppm(v)	2,100.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	5,200.	500.	ppb(v)	17,000.	1,600.	ug/m3	2500
07250	Toluene	108-88-3	91,000.	500.	ppb(v)	340,000.	1,900.	ug/m3	2500
07261	Ethylbenzene	100-41-4	15,000.	500.	ppb(v)	65,000.	2,200.	ug/m3	2500
07262	m/p-Xylene	1330-20-7	77,000.	500.	ppb(v)	330,000.	2,200.	ug/m3	2500
07263	o-Xylene	95-47-6	35,000.	500.	ppb(v)	150,000.	2,200.	ug/m3	2500

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	04/24/2007 22:52	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	04/30/2007 21:13	Fanella S Zamcho	2500

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Analysis Report

Lancaster Laboratories Sample No. AQ 5034987

SVE-Effluent Grab Air
NA URSO
Sunol Pipeline SL0600100443 SVE-Eff

Collected:04/20/2007 08:45 by GW Account Number: 11875

Submitted: 04/23/2007 09:30
Reported: 05/09/2007 at 10:44
Discard: 06/09/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	44.	1.0	ppm(v)	160.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	14.	10.	ppb(v)	45.	32.	ug/m3	50
07250	Toluene	108-88-3	340.	10.	ppb(v)	1,300.	38.	ug/m3	50
07261	Ethylbenzene	100-41-4	90.	10.	ppb(v)	390.	43.	ug/m3	50
07262	m/p-Xylene	1330-20-7	470.	10.	ppb(v)	2,000.	43.	ug/m3	50
07263	o-Xylene	95-47-6	250.	10.	ppb(v)	1,100.	43.	ug/m3	50

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	04/24/2007 23:22	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	04/30/2007 23:16	Fanella S Zamcho	50

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Analysis Report

Lancaster Laboratories Sample No. AQ 5034988

SVE-1D Grab Air
NA URSO
Sunol Pipeline SL0600100443 SVE-1D

Collected:04/20/2007 09:44 by GW Account Number: 11875

Submitted: 04/23/2007 09:30
Reported: 05/09/2007 at 10:44
Discard: 06/09/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	19.	1.0	ppm(v)	67.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	5.0	1.0	ppb(v)	16.	3.2	ug/m3	5
07250	Toluene	108-88-3	100.	1.0	ppb(v)	390.	3.8	ug/m3	5
07261	Ethylbenzene	100-41-4	19.	1.0	ppb(v)	83.	4.3	ug/m3	5
07262	m/p-Xylene	1330-20-7	140.	1.0	ppb(v)	610.	4.3	ug/m3	5
07263	o-Xylene	95-47-6	70.	1.0	ppb(v)	300.	4.3	ug/m3	5

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	04/24/2007 23:53	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	05/01/2007 00:39	Fanella S Zamcho	5

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Analysis Report

Lancaster Laboratories Sample No. AQ 5034989

SVE-2S Grab Air
NA URSO
Sunol Pipeline SL0600100443 SVE-2S

Collected:04/20/2007 09:46 by GW

Account Number: 11875

Submitted: 04/23/2007 09:30
Reported: 05/09/2007 at 10:44
Discard: 06/09/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	1.3	1.0	ppm(v)	4.5	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	3.0	0.20	ppb(v)	9.6	0.64	ug/m3	1
07250	Toluene	108-88-3	64.	0.20	ppb(v)	240.	0.75	ug/m3	1
07261	Ethylbenzene	100-41-4	12.	0.20	ppb(v)	52.	0.87	ug/m3	1
07262	m/p-Xylene	1330-20-7	62.	0.20	ppb(v)	270.	0.87	ug/m3	1
07263	o-Xylene	95-47-6	28.	0.20	ppb(v)	120.	0.87	ug/m3	1

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	04/25/2007 00:23	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	05/01/2007 02:01	Fanella S Zamcho	1

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Analysis Report

Lancaster Laboratories Sample No. AQ 5034990

SVE-3S Grab Air
NA URSO
Sunol Pipeline SL0600100443 SVE-3S

Collected:04/20/2007 09:48 by GW

Account Number: 11875

Submitted: 04/23/2007 09:30
Reported: 05/09/2007 at 10:44
Discard: 06/09/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	3,000.	1.0	ppm(v)	11,000.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	41,000.	2,000.	ppb(v)	130,000.	6,400.	ug/m3	10000
07250	Toluene	108-88-3	330,000.	2,000.	ppb(v)	1,200,000.	7,500.	ug/m3	10000
07261	Ethylbenzene	100-41-4	31,000.	2,000.	ppb(v)	130,000.	8,700.	ug/m3	10000
07262	m/p-Xylene	1330-20-7	120,000.	2,000.	ppb(v)	520,000.	8,700.	ug/m3	10000
07263	o-Xylene	95-47-6	44,000.	2,000.	ppb(v)	190,000.	8,700.	ug/m3	10000

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	04/25/2007 00:54	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	05/01/2007 02:43	Fanella S Zamcho	10000

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. AQ 5034991

SVE-4D **Grab** **Air**
NA **URSO**
Sunol Pipeline **SL0600100443 SVE-4D**

Collected:04/20/2007 09:42 by GW

Account Number: 11875

Submitted: 04/23/2007 09:30
Reported: 05/09/2007 at 10:44
Discard: 06/09/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	950.	1.0	ppm(v)	3,300.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	6,800.	1,000.	ppb(v)	22,000.	3,200.	ug/m3	5000
07250	Toluene	108-88-3	77,000.	1,000.	ppb(v)	290,000.	3,800.	ug/m3	5000
07261	Ethylbenzene	100-41-4	5,900.	1,000.	ppb(v)	26,000.	4,300.	ug/m3	5000
07262	m/p-Xylene	1330-20-7	27,000.	1,000.	ppb(v)	120,000.	4,300.	ug/m3	5000
07263	o-Xylene	95-47-6	10,000.	1,000.	ppb(v)	43,000.	4,300.	ug/m3	5000

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	04/25/2007 01:24	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	05/01/2007 04:05	Fanella S Zamcho	5000

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Analysis Report

Lancaster Laboratories Sample No. AQ 5034992

SVE-5 **Grab** **Air**
NA **URSO**
Sunol Pipeline **SL0600100443 SVE-5**

Collected:04/20/2007 09:40 by GW

Account Number: 11875

Submitted: 04/23/2007 09:30
Reported: 05/09/2007 at 10:44
Discard: 06/09/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	360.	1.0	ppm(v)	1,300.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	790.	20.	ppb(v)	2,500.	64.	ug/m3	100
07250	Toluene	108-88-3	21,000.	200.	ppb(v)	80,000.	750.	ug/m3	1000
07261	Ethylbenzene	100-41-4	2,200.	20.	ppb(v)	9,600.	87.	ug/m3	100
07262	m/p-Xylene	1330-20-7	14,000.	20.	ppb(v)	61,000.	87.	ug/m3	1000
07263	o-Xylene	95-47-6	5,600.	20.	ppb(v)	24,000.	87.	ug/m3	100

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	04/25/2007 01:54	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	05/01/2007 05:27	Fanella S Zamcho	1000
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	05/01/2007 06:09	Fanella S Zamcho	100

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Analysis Report

Lancaster Laboratories Sample No. AQ 5034993

SVE-6 **Grab** **Air**
NA **URSO**
Sunol Pipeline **SL0600100443 SVE-6**

Collected:04/20/2007 09:58 by GW

Account Number: 11875

Submitted: 04/23/2007 09:30
Reported: 05/09/2007 at 10:44
Discard: 06/09/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	910.	1.0	ppm(v)	3,200.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	6,300.	1,000.	ppb(v)	20,000.	3,200.	ug/m3	5000
07250	Toluene	108-88-3	79,000.	1,000.	ppb(v)	300,000.	3,800.	ug/m3	5000
07261	Ethylbenzene	100-41-4	9,200.	1,000.	ppb(v)	40,000.	4,300.	ug/m3	5000
07262	m/p-Xylene	1330-20-7	50,000.	1,000.	ppb(v)	220,000.	4,300.	ug/m3	5000
07263	o-Xylene	95-47-6	22,000.	1,000.	ppb(v)	96,000.	4,300.	ug/m3	5000

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	04/25/2007 02:25	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	05/01/2007 06:50	Fanella S Zamcho	5000

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Analysis Report

Lancaster Laboratories Sample No. AQ 5034994

SVE-7 **Grab** **Air**
NA **URSO**
Sunol Pipeline **SL0600100443 SVE-7**

Collected:04/20/2007 09:56 by GW

Account Number: 11875

Submitted: 04/23/2007 09:30
Reported: 05/09/2007 at 10:44
Discard: 06/09/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	2,000.	1.0	ppm(v)	7,000.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	7,100.	200.	ppb(v)	23,000.	640.	ug/m3	1000
07250	Toluene	108-88-3	180,000.	2,000.	ppb(v)	690,000.	7,500.	ug/m3	10000
07261	Ethylbenzene	100-41-4	37,000.	200.	ppb(v)	160,000.	870.	ug/m3	1000
07262	m/p-Xylene	1330-20-7	170,000.	200.	ppb(v)	740,000.	870.	ug/m3	10000
07263	o-Xylene	95-47-6	76,000.	200.	ppb(v)	330,000.	870.	ug/m3	1000

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	04/25/2007 02:55	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	05/01/2007 08:13	Fanella S Zamcho	10000
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	05/01/2007 13:38	Fanella S Zamcho	1000

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Analysis Report

Lancaster Laboratories Sample No. AQ 5034995

SVE-9 **Grab** **Air**
NA **URSO**
Sunol Pipeline **SL0600100443 SVE-9**

Collected:04/20/2007 10:00 by GW

Account Number: 11875

Submitted: 04/23/2007 09:30
Reported: 05/09/2007 at 10:44
Discard: 06/09/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	230.	1.0	ppm(v)	810.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	440.	20.	ppb(v)	1,400.	64.	ug/m3	100
07250	Toluene	108-88-3	8,100.	20.	ppb(v)	30,000.	75.	ug/m3	100
07261	Ethylbenzene	100-41-4	1,100.	20.	ppb(v)	4,800.	87.	ug/m3	100
07262	m/p-Xylene	1330-20-7	16,000.	20.	ppb(v)	69,000.	87.	ug/m3	1000
07263	o-Xylene	95-47-6	8,100.	20.	ppb(v)	35,000.	87.	ug/m3	100

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	04/25/2007 03:26	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	05/01/2007 14:27	Fanella S Zamcho	1000
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	05/01/2007 15:01	Fanella S Zamcho	100

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Analysis Report

Quality Control Summary

Client Name: Chevron Pipeline Co. Group Number: 1034780
Reported: 05/09/07 at 10:44 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: A0712030A	Sample number(s): 5034986-5034994							
Benzene	N.D.	0.20	ppb(v)	103	93	75-138	9	20
Toluene	N.D.	0.20	ppb(v)	108	103	75-150	5	20
Ethylbenzene	N.D.	0.20	ppb(v)	109	103	75-144	6	20
m/p-Xylene	N.D.	0.20	ppb(v)	107	97	74-145	10	20
o-Xylene	N.D.	0.20	ppb(v)	113	100	78-152	12	20
Batch number: A0712030B	Sample number(s): 5034995							
Benzene	N.D.	0.20	ppb(v)	103	93	75-138	9	20
Toluene	N.D.	0.20	ppb(v)	108	103	75-150	5	20
Ethylbenzene	N.D.	0.20	ppb(v)	109	103	75-144	6	20
m/p-Xylene	N.D.	0.20	ppb(v)	107	97	74-145	10	20
o-Xylene	N.D.	0.20	ppb(v)	113	100	78-152	12	20
Batch number: M071161ZA	Sample number(s): 5034986-5034995							
>C4-C10 Hydrocarbons hexane	N.D.	1.0	ppm(v)					

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

Chevron Generic Analysis Request/Chain of Custody

Lancaster Laboratories
Where quality is a science.

004264

For Lancaster Laboratories use only
Acct. #: 11875 Sample #: 503498 10-95 SCR#:

Group# 1034780

Facility #:
Site Address: Chevron Sunol Pipeline
Chevron PM: Lead Consultant:
Consultant/Office: URS - Oakland
Consultant Prj. Mgr.: Joe Morgan
Consultant Phone #: 510-874-~~3200~~ 3201 Fax #: 510-874-3268
Sampler: G. White
Service Order #: ☐ Non SAR:

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Water (☐ Potable ☐ NPDES)	Oil ☐ Air	Total Number of Containers	BTEX + MTBE 8021 ☐ 8260 ☐ Naphth ☐	8260 full scan	Oxygenates ___	TPH G ___	TPH D ___ (☐ Extended Rng. ☐ Silica Gel Cleanup)	Lead Total ☐ Diss. ☐ Method ___	VPH/EPH	NWTPH H HCID ☐ quantification	TO-14 BTEX	TO-18 TPH-g
SVE- Influent	4/20/07	0930	X				X	1									X	X
SVE- Effluent		0845																
SVE-1D		0944																
SVE-2S		0946																
SVE-3S		0948																
SVE-4D		0942																
SVE-5		0940																
SVE-6		0958																
SVE-7		0956																
SVE-9		1000																

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

Comments / Remarks
Email Results to Joe Morgan, Angela Liang, Greg White, Joe Petsche, Jake Henry jacob_henry@urscorp.com of URS

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

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

Relinquished by:	Date	Time	Received by:	Date	Time
	4/20/07	1430			
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:	Date	Time
Temperature Upon Receipt N/A C°			Custody Seals Intact? Yes No N/A	4/23/07	0930

Lancaster Laboratories
Explanation of Symbols and Abbreviations

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

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

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

> greater than

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

ppb parts per billion

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

U.S. EPA data qualifiers:

Organic Qualifiers

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

Inorganic Qualifiers

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

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

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

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Analysis Report

ANALYTICAL RESULTS

Prepared for:

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

713-432-3335

Prepared by:

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

SAMPLE GROUP

The sample group for this submittal is 1039508. Samples arrived at the laboratory on Wednesday, May 23, 2007. The PO# for this group is 0015010091 and the release number is COSGRAY.

Client Description			Lancaster Labs Number
SVE-Influent	Grab	Air	5061929
SVE-Effluent	Grab	Air	5061930
SVE-3S	Grab	Air	5061931
SVE-4D	Grab	Air	5061932
SVE-5	Grab	Air	5061933
SVE-6	Grab	Air	5061934
SVE-7	Grab	Air	5061935
SVE-9	Grab	Air	5061936

ELECTRONIC COPY TO	URS	Attn: Angela Liang
ELECTRONIC COPY TO	URS	Attn: Joe Morgan
ELECTRONIC COPY TO	URS	Attn: Jacob Henry
ELECTRONIC COPY TO	URS	Attn: Joe Petsche

Lancaster Laboratories

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Analysis Report

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

Respectfully Submitted,

Richard H. Karam
Group Leader

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. AQ 5061929

SVE-Influent Grab Air
NA URSO
Sunol Pipeline SL0600100443 SVE-Inf

Collected:05/18/2007 08:26 by JH

Account Number: 11875

Submitted: 05/23/2007 09:25
Reported: 06/01/2007 at 10:20
Discard: 07/02/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	610.	1.0	ppm(v)	2,200.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	4.5	0.20	ppm(v)	14.	0.64	mg/m3	1000
07250	Toluene	108-88-3	68.	0.20	ppm(v)	260.	0.75	mg/m3	1000
07261	Ethylbenzene	100-41-4	8.7	0.20	ppm(v)	38.	0.87	mg/m3	1000
07262	m/p-Xylene	1330-20-7	40.	0.20	ppm(v)	170.	0.87	mg/m3	1000
07263	o-Xylene	95-47-6	17.	0.20	ppm(v)	73.	0.87	mg/m3	1000

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	05/24/2007 22:30	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	05/29/2007 14:55	Fanella S Zamcho	1000

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. AQ 5061930

SVE-Effluent Grab Air
NA URSO
Sunol Pipeline SL0600100443 SVE-Eff

Collected:05/18/2007 08:00 by JH Account Number: 11875

Submitted: 05/23/2007 09:25
Reported: 06/01/2007 at 10:20
Discard: 07/02/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	17.	1.0	ppm(v)	60.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	0.0072	0.0010	ppm(v)	0.023	0.0032	mg/m3	5
07250	Toluene	108-88-3	0.067	0.0010	ppm(v)	0.25	0.0038	mg/m3	5
07261	Ethylbenzene	100-41-4	0.016	0.0010	ppm(v)	0.069	0.0043	mg/m3	5
07262	m/p-Xylene	1330-20-7	0.057	0.0010	ppm(v)	0.25	0.0043	mg/m3	5
07263	o-Xylene	95-47-6	0.032	0.0010	ppm(v)	0.14	0.0043	mg/m3	5

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	05/24/2007 23:00	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	05/29/2007 17:01	Fanella S Zamcho	5

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. AQ 5061931

SVE-3S Grab Air
NA URSO
Sunol Pipeline SL0600100443 SVE-3S

Collected:05/18/2007 08:30 by JH

Account Number: 11875

Submitted: 05/23/2007 09:25
Reported: 06/01/2007 at 10:20
Discard: 07/02/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	1,400.	1.0	ppm(v)	4,900.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	14.	1.0	ppm(v)	44.	3.2	mg/m3	5000
07250	Toluene	108-88-3	120.	1.0	ppm(v)	450.	3.8	mg/m3	5000
07261	Ethylbenzene	100-41-4	11.	1.0	ppm(v)	46.	4.3	mg/m3	5000
07262	m/p-Xylene	1330-20-7	40.	1.0	ppm(v)	170.	4.3	mg/m3	5000
07263	o-Xylene	95-47-6	15.	1.0	ppm(v)	67.	4.3	mg/m3	5000

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	05/24/2007 23:31	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	05/29/2007 17:42	Fanella S Zamcho	5000

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Analysis Report

Lancaster Laboratories Sample No. AQ 5061932

SVE-4D Grab Air
NA URSO
Sunol Pipeline SL0600100443 SVE-4D

Collected:05/18/2007 08:30 by JH

Account Number: 11875

Submitted: 05/23/2007 09:25
Reported: 06/01/2007 at 10:21
Discard: 07/02/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	460.	1.0	ppm(v)	1,600.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	2.9	0.20	ppm(v)	9.1	0.64	mg/m3	1000
07250	Toluene	108-88-3	37.	0.20	ppm(v)	140.	0.75	mg/m3	1000
07261	Ethylbenzene	100-41-4	2.8	0.20	ppm(v)	12.	0.87	mg/m3	1000
07262	m/p-Xylene	1330-20-7	13.	0.20	ppm(v)	55.	0.87	mg/m3	1000
07263	o-Xylene	95-47-6	4.7	0.20	ppm(v)	20.	0.87	mg/m3	1000

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	05/25/2007 00:01	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	05/29/2007 19:06	Fanella S Zamcho	1000

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Analysis Report

Lancaster Laboratories Sample No. AQ 5061933

SVE-5 **Grab** **Air**
NA **URSO**
Sunol Pipeline **SL0600100443 SVE-5**

Collected:05/18/2007 08:30 by JH

Account Number: 11875

Submitted: 05/23/2007 09:25
Reported: 06/01/2007 at 10:21
Discard: 07/02/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	200.	1.0	ppm(v)	700.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	0.35	0.020	ppm(v)	1.1	0.064	mg/m3	100
07250	Toluene	108-88-3	13.	0.20	ppm(v)	50.	0.75	mg/m3	1000
07261	Ethylbenzene	100-41-4	1.4	0.020	ppm(v)	6.3	0.087	mg/m3	100
07262	m/p-Xylene	1330-20-7	7.8	0.020	ppm(v)	34.	0.087	mg/m3	100
07263	o-Xylene	95-47-6	3.5	0.020	ppm(v)	15.	0.087	mg/m3	100

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	05/25/2007 00:32	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	05/29/2007 20:30	Fanella S Zamcho	1000
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	05/29/2007 21:12	Fanella S Zamcho	100

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Analysis Report

Lancaster Laboratories Sample No. AQ 5061934

SVE-6 **Grab** **Air**
NA **URSO**
Sunol Pipeline **SL0600100443 SVE-6**

Collected:05/18/2007 08:30 by JH

Account Number: 11875

Submitted: 05/23/2007 09:25
Reported: 06/01/2007 at 10:21
Discard: 07/02/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	850.	1.0	ppm(v)	3,000.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	8.6	0.50	ppm(v)	27.	1.6	mg/m3	2500
07250	Toluene	108-88-3	150.	0.50	ppm(v)	560.	1.9	mg/m3	2500
07261	Ethylbenzene	100-41-4	19.	0.50	ppm(v)	81.	2.2	mg/m3	2500
07262	m/p-Xylene	1330-20-7	110.	0.50	ppm(v)	470.	2.2	mg/m3	2500
07263	o-Xylene	95-47-6	49.	0.50	ppm(v)	210.	2.2	mg/m3	2500

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	05/25/2007 01:02	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	05/29/2007 21:53	Fanella S Zamcho	2500

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Analysis Report

Lancaster Laboratories Sample No. AQ 5061935

SVE-7 **Grab** **Air**
NA **URSO**
Sunol Pipeline **SL0600100443 SVE-7**

Collected:05/18/2007 08:30 by JH

Account Number: 11875

Submitted: 05/23/2007 09:25
Reported: 06/01/2007 at 10:21
Discard: 07/02/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	1,600.	1.0	ppm(v)	5,600.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	4.5	1.0	ppm(v)	14.	3.2	mg/m3	5000
07250	Toluene	108-88-3	160.	1.0	ppm(v)	620.	3.8	mg/m3	5000
07261	Ethylbenzene	100-41-4	30.	1.0	ppm(v)	130.	4.3	mg/m3	5000
07262	m/p-Xylene	1330-20-7	140.	1.0	ppm(v)	610.	4.3	mg/m3	5000
07263	o-Xylene	95-47-6	60.	1.0	ppm(v)	260.	4.3	mg/m3	5000

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	05/25/2007 01:32	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	05/29/2007 23:15	Fanella S Zamcho	5000

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Analysis Report

Lancaster Laboratories Sample No. AQ 5061936

SVE-9 **Grab** **Air**
NA **URSO**
Sunol Pipeline **SL0600100443 SVE-9**

Collected:05/18/2007 08:30 by JH

Account Number: 11875

Submitted: 05/23/2007 09:25
Reported: 06/01/2007 at 10:21
Discard: 07/02/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	180.	1.0	ppm(v)	630.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	0.26	0.10	ppm(v)	0.83	0.32	mg/m3	500
07250	Toluene	108-88-3	5.0	0.10	ppm(v)	19.	0.38	mg/m3	500
07261	Ethylbenzene	100-41-4	0.63	0.10	ppm(v)	2.7	0.43	mg/m3	500
07262	m/p-Xylene	1330-20-7	9.1	0.10	ppm(v)	39.	0.43	mg/m3	500
07263	o-Xylene	95-47-6	5.0	0.10	ppm(v)	22.	0.43	mg/m3	500

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	05/25/2007 02:03	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	05/30/2007 00:37	Fanella S Zamcho	500

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Analysis Report

Quality Control Summary

Client Name: Chevron Pipeline Co. Group Number: 1039508
Reported: 06/01/07 at 10:21 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: A0714530B	Sample number(s): 5061929-5061936							
Benzene	N.D.	0.00020	ppm(v)	98	90	75-138	8	20
Toluene	N.D.	0.00020	ppm(v)	112	100	75-150	11	20
Ethylbenzene	N.D.	0.00020	ppm(v)	112	101	75-144	10	20
m/p-Xylene	N.D.	0.00020	ppm(v)	108	97	74-145	11	20
o-Xylene	N.D.	0.00020	ppm(v)	113	105	78-152	7	20
Batch number: M071491ZA	Sample number(s): 5061929-5061936							
>C4-C10 Hydrocarbons hexane	N.D.	1.0	ppm(v)					

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

Chevron California Region Analysis Request/Chain of Custody

Lancaster Laboratories
Where quality is a science.

Acct. #: 11875 For Lancaster Laboratories use only Sample #: 5061929-36 SCR#: 242053

G# 1039508

Facility #:
Site Address: Chevron Sunol Pipeline
Chevron PM: Lead Consultant:
Consultant/Office: URS - Oakland
Consultant Prj. Mgr.: Joe Morgan
Consultant Phone #: 510-874-3201 Fax #:
Sampler: J. Henry
Service Order #: ☐ Non SAR:

Field Point Name	Matrix	Repeat Sample	Top Depth	Year Month Day	Time Collected	New Field Pt.	Grab (Any)	Composite	Total Number of Containers	BTEX + MTBE 8260 ☐ 8021 ☐	TPH 8015 MOD GRO	TPH 8015 MOD DRO ☐ Silica Gel Cleanup	8260 full scan	Oxygenates ___	Lead 7420 ☐ 7421 ☐	TO-14 BTEX	TO-18 PH
SVE-Influent	Air			5/18/07	0826		X										
SVE-Effluent	Air				0800												
SVE-3S	Air				0830												
SVE-4D	Air																
SVE-5	Air																
SVE-6	Air																
SVE-7	Air																
SVE-9	Air																

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

Comments / Remarks
Email results to Joe Morgan, Angela Liang, Greg White, Joe Petsche, Jacob Henry of URS

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

	Date	Time		Date	Time
Relinquished by:	5/22/07	1430	Received by:		
Relinquished by:			Received by:		
Relinquished by:			Received by:		
Relinquished by Commercial Carrier: UPS FedEx Other			Received by:	5/23/07	0925
Temperature Upon Receipt ____ C°			Custody Seals Intact? Yes No		

Lancaster Laboratories
Explanation of Symbols and Abbreviations

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

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

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

> greater than

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

ppb parts per billion

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

U.S. EPA data qualifiers:

Organic Qualifiers

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

Inorganic Qualifiers

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

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

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

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Lancaster Laboratories

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Analysis Report

ANALYTICAL RESULTS

Prepared for:

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

713-432-3335

Prepared by:

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

SAMPLE GROUP

The sample group for this submittal is 1042803. Samples arrived at the laboratory on Friday, June 15, 2007. The PO# for this group is 0015010091 and the release number is COSGRAY.

Client Description			Lancaster Labs Number
SVE-Influent	Grab	Air	5081563
SVE-Effluent	Grab	Air	5081564
SVE-3S-6-14-07	Grab	Air	5081565
SVE-4D-6-14-07	Grab	Air	5081566
SVE-5-6-14-07	Grab	Air	5081567
SVE-6-6-14-07	Grab	Air	5081568
SVE-7-6-14-07	Grab	Air	5081569
SVE-9-6-14-07	Grab	Air	5081570

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

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Analysis Report

COPY TO

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

Respectfully Submitted,

Richard H. Karam
Group Leader

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. AQ 5081563

SVE-Influent Grab Air
NA URSO
Sunol Pipeline SL0600100443 SVE-Inf

Collected:06/14/2007 09:03 by JP Account Number: 11875

Submitted: 06/15/2007 09:15
Reported: 07/05/2007 at 11:10
Discard: 08/05/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	610.	1.0	ppm(v)	2,200.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	4.3	0.50	ppm(v)	14.	1.6	mg/m3	2500
07250	Toluene	108-88-3	91.	0.50	ppm(v)	340.	1.9	mg/m3	2500
07261	Ethylbenzene	100-41-4	13.	0.50	ppm(v)	56.	2.2	mg/m3	2500
07262	m/p-Xylene	1330-20-7	75.	0.50	ppm(v)	330.	2.2	mg/m3	2500
07263	o-Xylene	95-47-6	31.	0.50	ppm(v)	130.	2.2	mg/m3	2500

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	06/19/2007 23:08	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	06/29/2007 14:50	Fanella S Zamcho	2500

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. AQ 5081564

SVE-Effluent Grab Air
NA URSO
Sunol Pipeline SL0600100443 SVE-Eff

Collected:06/14/2007 09:00 by JP Account Number: 11875

Submitted: 06/15/2007 09:15
Reported: 07/05/2007 at 11:10
Discard: 08/05/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	16.	1.0	ppm(v)	56.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	0.0022	0.00020	ppm(v)	0.0071	0.00064	mg/m3	1
07250	Toluene	108-88-3	0.021	0.00020	ppm(v)	0.081	0.00075	mg/m3	1
07261	Ethylbenzene	100-41-4	0.00056	0.00020	ppm(v)	0.0024	0.00087	mg/m3	1
07262	m/p-Xylene	1330-20-7	0.0019	0.00020	ppm(v)	0.0081	0.00087	mg/m3	1
07263	o-Xylene	95-47-6	0.00053	0.00020	ppm(v)	0.0023	0.00087	mg/m3	1

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	06/19/2007 23:38	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	06/29/2007 18:37	Fanella S Zamcho	1

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Analysis Report

Lancaster Laboratories Sample No. AQ 5081565

SVE-3S-6-14-07 Grab Air
NA URSO
Sunol Pipeline SL0600100443 SVE-3S

Collected:06/14/2007 09:08 by JP

Account Number: 11875

Submitted: 06/15/2007 09:15
Reported: 07/05/2007 at 11:10
Discard: 08/05/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	870.	1.0	ppm(v)	3,100.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	11.	0.50	ppm(v)	36.	1.6	mg/m3	2500
07250	Toluene	108-88-3	140.	0.50	ppm(v)	540.	1.9	mg/m3	2500
07261	Ethylbenzene	100-41-4	13.	0.50	ppm(v)	55.	2.2	mg/m3	2500
07262	m/p-Xylene	1330-20-7	62.	0.50	ppm(v)	270.	2.2	mg/m3	2500
07263	o-Xylene	95-47-6	21.	0.50	ppm(v)	89.	2.2	mg/m3	2500

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	06/20/2007 00:09	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	06/29/2007 17:21	Fanella S Zamcho	2500

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Analysis Report

Lancaster Laboratories Sample No. AQ 5081566

SVE-4D-6-14-07 Grab Air
NA URSO
Sunol Pipeline SL0600100443 SVE-4D

Collected:06/14/2007 09:20 by JP

Account Number: 11875

Submitted: 06/15/2007 09:15
Reported: 07/05/2007 at 11:10
Discard: 08/05/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	460.	1.0	ppm(v)	1,600.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	5.1	0.50	ppm(v)	16.	1.6	mg/m3	2500
07250	Toluene	108-88-3	75.	0.50	ppm(v)	280.	1.9	mg/m3	2500
07261	Ethylbenzene	100-41-4	4.9	0.50	ppm(v)	21.	2.2	mg/m3	2500
07262	m/p-Xylene	1330-20-7	29.	0.50	ppm(v)	120.	2.2	mg/m3	2500
07263	o-Xylene	95-47-6	9.3	0.50	ppm(v)	40.	2.2	mg/m3	2500

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	06/20/2007 00:39	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	06/29/2007 19:14	Fanella S Zamcho	2500

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Analysis Report

Lancaster Laboratories Sample No. AQ 5081567

SVE-5-6-14-07 Grab Air
NA URSO
Sunol Pipeline SL0600100443 SVE-5

Collected:06/14/2007 09:15 by JP Account Number: 11875

Submitted: 06/15/2007 09:15
Reported: 07/05/2007 at 11:10
Discard: 08/05/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	250.	1.0	ppm(v)	880.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	0.43	0.010	ppm(v)	1.4	0.032	mg/m3	50
07250	Toluene	108-88-3	7.6	0.10	ppm(v)	28.	0.38	mg/m3	500
07261	Ethylbenzene	100-41-4	1.3	0.010	ppm(v)	5.8	0.043	mg/m3	50
07262	m/p-Xylene	1330-20-7	6.9	0.010	ppm(v)	30.	0.043	mg/m3	50
07263	o-Xylene	95-47-6	3.3	0.010	ppm(v)	14.	0.043	mg/m3	50

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	06/20/2007 01:10	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	07/02/2007 13:07	Fanella S Zamcho	500
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	07/02/2007 13:44	Fanella S Zamcho	50

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Analysis Report

Lancaster Laboratories Sample No. AQ 5081568

SVE-6-6-14-07 Grab Air
NA URSO
Sunol Pipeline SL0600100443 SVE-6

Collected:06/14/2007 09:40 by JP Account Number: 11875

Submitted: 06/15/2007 09:15
Reported: 07/05/2007 at 11:10
Discard: 08/05/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	970.	1.0	ppm(v)	3,400.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	5.4	1.0	ppm(v)	17.	3.2	mg/m3	5000
07250	Toluene	108-88-3	110.	1.0	ppm(v)	420.	3.8	mg/m3	5000
07261	Ethylbenzene	100-41-4	16.	1.0	ppm(v)	71.	4.3	mg/m3	5000
07262	m/p-Xylene	1330-20-7	110.	1.0	ppm(v)	480.	4.3	mg/m3	5000
07263	o-Xylene	95-47-6	52.	1.0	ppm(v)	230.	4.3	mg/m3	5000

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	06/20/2007 01:40	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	07/02/2007 14:22	Fanella S Zamcho	5000

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Analysis Report

Lancaster Laboratories Sample No. AQ 5081569

SVE-7-6-14-07 Grab Air
NA URSO
Sunol Pipeline SL0600100443 SVE-7

Collected:06/14/2007 09:25 by JP

Account Number: 11875

Submitted: 06/15/2007 09:15
Reported: 07/05/2007 at 11:10
Discard: 08/05/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	1,900.	1.0	ppm(v)	6,700.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	5.3	1.0	ppm(v)	17.	3.2	mg/m3	5000
07250	Toluene	108-88-3	230.	1.0	ppm(v)	850.	3.8	mg/m3	5000
07261	Ethylbenzene	100-41-4	53.	1.0	ppm(v)	230.	4.3	mg/m3	5000
07262	m/p-Xylene	1330-20-7	270.	1.0	ppm(v)	1,200.	4.3	mg/m3	5000
07263	o-Xylene	95-47-6	130.	1.0	ppm(v)	560.	4.3	mg/m3	5000

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	06/20/2007 02:10	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	07/02/2007 15:36	Fanella S Zamcho	5000

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Analysis Report

Lancaster Laboratories Sample No. AQ 5081570

SVE-9-6-14-07 Grab Air
NA URSO
Sunol Pipeline SL0600100443 SVE-9

Collected:06/14/2007 09:35 by JP

Account Number: 11875

Submitted: 06/15/2007 09:15
Reported: 07/05/2007 at 11:10
Discard: 08/05/2007

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

CAT No.	Analysis Name	CAS Number	As Received Final Result	MDL	Units	As Received Final Result	MDL	Units	DF
07548	>C4-C10 Hydrocarbons in Air								
07551	>C4-C10 Hydrocarbons hexane	n.a.	140.	1.0	ppm(v)	490.	3.5	mg/m3	1
07869	TO-14A VOA Ext. List Tedlar								
07238	Benzene	71-43-2	0.19	0.025	ppm(v)	0.61	0.080	mg/m3	125
07250	Toluene	108-88-3	3.4	0.025	ppm(v)	13.	0.094	mg/m3	125
07261	Ethylbenzene	100-41-4	0.55	0.025	ppm(v)	2.4	0.11	mg/m3	125
07262	m/p-Xylene	1330-20-7	7.0	0.025	ppm(v)	30.	0.11	mg/m3	125
07263	o-Xylene	95-47-6	3.9	0.025	ppm(v)	17.	0.11	mg/m3	125

The sample was collected in a Tedlar bag which is not the container referenced in the EPA method.

State of California Lab Certification No. 2116

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

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
07548	>C4-C10 Hydrocarbons in Air	EPA 25 modified	1	06/20/2007 02:41	David I Ressler	1
07869	TO-14A VOA Ext. List Tedlar	EPA TO14A	1	07/02/2007 19:18	Fanella S Zamcho	125

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Analysis Report

Quality Control Summary

Client Name: Chevron Pipeline Co. Group Number: 1042803
Reported: 07/05/07 at 11:10 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: C0717930B	Sample number(s): 5081563-5081566							
Benzene	N.D.	0.00020	ppm(v)	92	91	75-138	1	20
Toluene	N.D.	0.00020	ppm(v)	93	91	75-150	3	20
Ethylbenzene	N.D.	0.00020	ppm(v)	104	100	75-144	3	20
m/p-Xylene	N.D.	0.00020	ppm(v)	104	101	74-145	3	20
o-Xylene	N.D.	0.00020	ppm(v)	112	107	78-152	5	20
Batch number: C0717930C	Sample number(s): 5081567-5081570							
Benzene	N.D.	0.00020	ppm(v)	92	91	75-138	1	20
Toluene	N.D.	0.00020	ppm(v)	93	91	75-150	3	20
Ethylbenzene	N.D.	0.00020	ppm(v)	104	100	75-144	3	20
m/p-Xylene	N.D.	0.00020	ppm(v)	104	101	74-145	3	20
o-Xylene	N.D.	0.00020	ppm(v)	112	107	78-152	5	20
Batch number: M071711ZA	Sample number(s): 5081563-5081570							
>C4-C10 Hydrocarbons hexane	N.D.	1.0	ppm(v)					

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

Chevron California Region Analysis Request/Chain of Custody

Lancaster Laboratories
Where quality is a science.

Acct. #: 11875 For Lancaster Laboratories use only Sample #: 5081563-70 SCR#: 242024

G# 1042803

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

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 ☐	TPH 8015 MOD GRO	TPH 8015 MOD DRO ☐ Silica Gel Cleanup	8260 full scan	Oxygenates	Lead 7420 ☐ 7421 ☐	TO-14 BTEX	TO-18 TPHGRO
SVE-Influent	Air			2007-6-14	0903		X									X	X
SVE-Effluent					0900												
SVE-3S-6-14-07					0908												
SVE-4D-6-14-07					0920												
SVE-5-6-14-07					0915												
SVE-6-6-14-07					0930												
SVE-7-6-14-07					0925												
SVE-9-6-14-07					0935												

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

Comments / Remarks

Send reports to Joe Morgan, Joe Petsche, and Jake Henry of URS.

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

	Date	Time		Date	Time
Relinquished by:	6-14-07	1:30	Received by:		
Relinquished by:			Received by:		
Relinquished by:			Received by:		
Relinquished by Commercial Carrier: UPS (FedEx) Other			Received by: Deborah A Neslund	6/15/07	0915
Temperature Upon Receipt ____ C°			Custody Seals Intact? Yes (N/A)		

Lancaster Laboratories
Explanation of Symbols and Abbreviations

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

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

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

> greater than

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

ppb parts per billion

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

U.S. EPA data qualifiers:

Organic Qualifiers

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

Inorganic Qualifiers

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

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

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

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Attachment C
Notification Letter to the BAAQMD

COPY

STRATUS ENVIRONMENTAL, INC.
3330 Cameron Park Drive, Ste 550
Cameron Park, California 95682
(530) 676-6004 ~ Fax: (530) 676-6005

November 2, 2006
Project No. U2042-2627-01

Mr. Robert Cave
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, California 94109

Re: Notification of Proposed SVE Event
(BAAQMD Application No. 12773 & Plant No. 17101)
Chevron Pipeline Company
Sunol Pipeline Spill Area
Sunol, California

Dear Mr. Cave:

Stratus Environmental, Inc. (Stratus), on behalf of CBA Equipment, LLC (CBA), has prepared this letter to notify the Bay Area Air Quality Management District (BAAQMD) regarding a 6-month soil vapor extraction (SVE) event at Calaveras Road, Sunol, California (Figure 1). The SVE event is scheduled to be conducted between November 13, 2006, and May 13, 2006. The proposed SVE system will be operated 24 hours a day during the testing period, using a 30-horsepower (hp) rated propane generator, under a various location permit (Plant No. 17101).

An SVE event was conducted at this site for approximately three months between November 2005 and February 2006. CBA has been retained to conduct an additional 6-month SVE event to reduce the subsurface petroleum hydrocarbon mass.

During the proposed 6-month SVE event, petroleum hydrocarbon laden soil vapors will be extracted from existing vapor extraction wells (see Figure 1) using the 15-hp rated liquid ring blower of a CBA 200 cubic feet per minute (cfm) thermal oxidizer. The extracted soil vapors will be abated in a thermal oxidizer before discharging into the atmosphere (see Figure 2). A 25 kilowatt (30-hp) propane generator or similar will be used to be energize the control panel of the SVE system.

SYSTEM START-UP AND OPERATION

Stratus will conduct routine site visits during the 6-month period to verify system operation, optimize system performance, and conduct maintenance if warranted. In addition, influent and effluent air samples will be collected on a monthly basis to verify compliance with BAAQMD permit requirements.

November 2, 2006

During the system start-up and subsequent site visits, the following parameters will be monitored and recorded on field data sheets:

- Influent, operating, and effluent temperatures,
- Vapor extraction rate,
- Applied vacuum at each vapor extraction well,
- Influent flow into the system, and
- Photo-ionization detector (PID) measurements for organic vapors from the extraction wells.

Air samples will be collected on a monthly basis and forwarded to a state certified laboratory to be analyzed for gasoline range organics (GRO) by United States Environmental Protection Agency (USEPA) Method 8015, and for benzene, toluene, ethylbenzene, and total xylenes (BTEX), and methyl tertiary butyl ether (MTBE) by USEPA Method 8020. Analytical results and field data collected will be used to calculate and verify the destruction efficiency of the system. The first set of influent and effluent air samples will be analyzed on a 24-hour turnaround time; the results will be forwarded to BAAQMD via facsimile. The remainder of the air samples will be analyzed on a standard turnaround time (2 to 3 weeks).

Stratus will prepare and submit quarterly reports to BAAQMD that will include a tabulated analytical summary, estimated mass emission rates, and destruction efficiency of the system.

If you have any questions regarding this notification, please call Kiran Nagaraju at (530) 676-6007.

Sincerely,

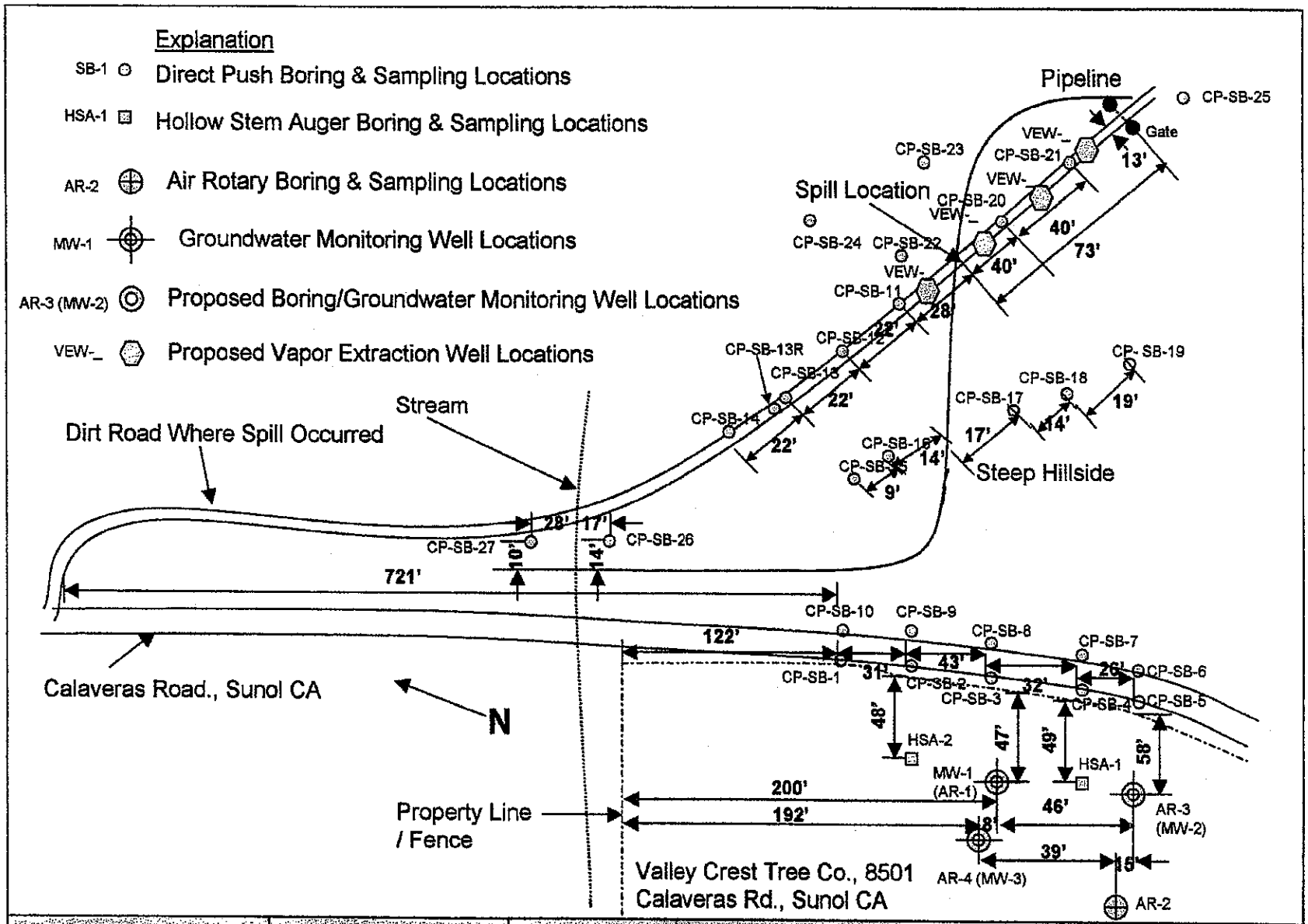
STRATUS ENVIRONMENTAL, INC.

Kiran Nagaraju
Project Engineer

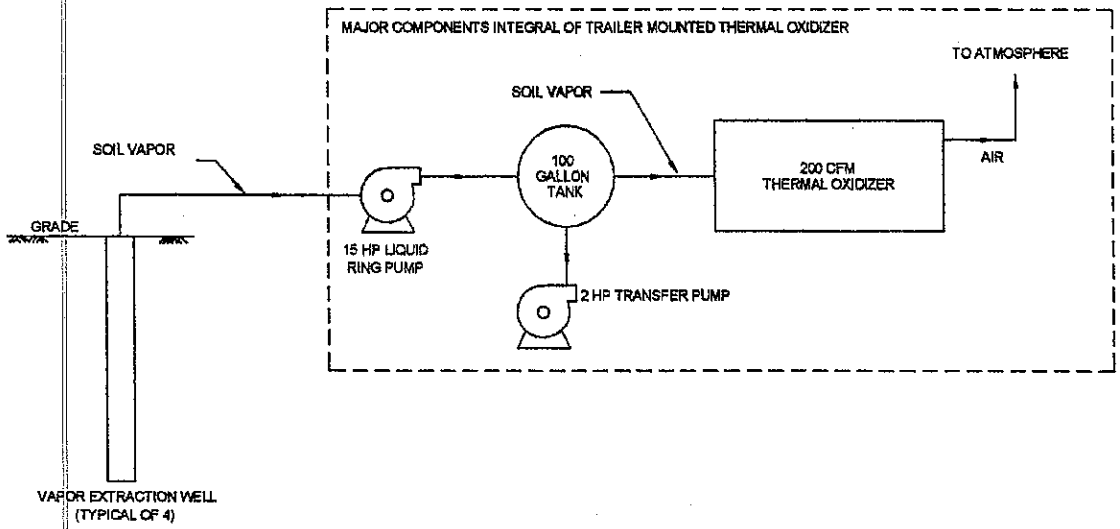
Jay R. Johnson
Project Manager

Attachments Figure 1 Site Plan – Boring and Proposed Well Locations
Figure 2 Process Flow Diagram

cc: Ms. Angela Liang, URS Corporation Americas



URS Corporation Oakland, CA	Not to Scale Revised 11/3/05	**Boring and Proposed Well Locations** **Chevron Pipeline Company** **Sunol Pipeline Spill Area, Sunol, California**	Figure 1



SOIL VAPOR EXTRACTION & ABATEMENT
NOT TO SCALE

THIS IS A PROCESS FLOW DIAGRAM, THEREFORE INSTRUMENTATION AND CONTROL EQUIPMENT DETAILS ARE NOT SHOWN.
INSTRUMENT FUNCTIONS AND INTERACTIONS ARE ALSO NOT SHOWN.
EQUIPMENT SIZES ARE NOT PROPORTIONAL AND ARE NOT INDICATIVE OF FINAL SIZES.

STRATUS ENVIRONMENTAL, INC.

CHEVRON PIPELINE COMPANY
SUNOL PIPELINE SPILL AREA
SUNOL, CALIFORNIA

PROCESS FLOW DIAGRAM

FIGURE
2

PROJECT NO.
USUNOL

Attachment D
BAAQMD Permit for the SVE System

BAY AREA AIR QUALITY
MANAGEMENT DISTRICT
939 ELLIS STREET
SAN FRANCISCO, CALIFORNIA 94109
(415) 771-6000

PERMIT TO OPERATE

Plant# 17101 Page: 1 Expires: SEP 1, 2007

CBA Equipment, LLC
24988 Blue Ravine, Ste 108 181
Folsom, Ca 95630

Location: 24988 Blue Ravine, Ste 108 181
Folsom, Ca 95630

S#	DESCRIPTION	[Schedule]	PAID
1	CHEM> Contaminated soil remediation, Contaminated soil vapor Portable SVE System Abated by: A1 Afterburner	[G1, 382 days]	751

1 Permit Source, 0 Exempt Sources

*** See attached Permit Conditions ***

The operating parameters described above are based on information supplied by permit holder and may differ from the limits set forth in the attached conditions of the Permit to Operate. The limits of operation in the permit conditions are not to be exceeded. Exceeding these limits is considered a violation of District regulations subject to enforcement action.

*** PERMIT CONDITIONS ***

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CONDITION ID #22399

1. The operator of this source shall provide written notification to the Engineering Division at least 3 days prior to start-up of operation at any new location. The notification shall include:

   a. Application Number (12773) and Plant Number (17101).
   b. Street address, including zip code, for the location where the equipment will be operated.
   c. The name and telephone number of a contact person where the equipment will be operated.
   d. The date of initial start-up and estimated duration of operations at that location.
   e. The distance from the source to the outer boundary of the nearest K-12 school, or indication that the distance is greater than 1500 feet.

   In the event that the start-up is delayed less than 5 days, the operator may provide telephone notice of said change to the assigned Plant Engineer in the Engineering Division. If the start-up is delayed more than 5 days, written notification must be resubmitted.

2. This equipment shall not remain at any single location for a period in excess of 12 consecutive months, following the date of initial operation except as allowed under Section 2-1-220.10. If this portable equipment remains at any fixed location for more than 12 months, the portable permit will automatically revert to a conventional permanent location permit and will lose its portability. [basis: Reg. 2-1-220.2]

3. This portable equipment, S-1, shall operate at all times in conformance with the eligibility requirements set forth in Regulation 2-1-220 for portable equipment.

*** PERMIT CONDITIONS ***

4. This equipment is not to be operated within 1000 feet of the outer boundary of any K-12 school, unless the applicable requirements of the California Health and Safety Code Section 42301.6 have been met. This will require the submittal of an application for a revised permit to operate. [basis: Reg. 2-1-220.4]

5. This equipment shall be used exclusively for the removal of non-chlorinated volatile organic compounds associated with petroleum products from extracted soil vapor. This shall be demonstrated by onsite sampling required in condition 10 below. [basis: Health Risk Management Policy]

6. Precursor Organic Compound (POC) emissions from Source S-1 shall be abated by abatement device A-1, dual-mode thermal/catalytic oxidizer during all periods of operation. Soil vapor flow rate shall not exceed 200 scfm. [basis: Reg. 8-47-301.1,2]

7. The POC abatement efficiency of abatement device A-1 shall be maintained at a minimum of 98.5% by weight for inlet POC concentrations greater than or equal to 2000 ppmv (measured as C6). For inlet concentrations below 2000 ppmv and greater than or equal to 200 ppmv, a minimum abatement efficiency of 97% shall be maintained. For inlet concentrations below 200 ppmv, a minimum abatement efficiency of 90% shall be maintained. The minimum abatement efficiency shall be waived if outlet POC concentrations are shown to be less than 10 ppmv (measured as C6). In no event shall benzene emissions to the atmosphere exceed 0.250 pounds per day. Annual emissions of benzene shall not exceed 6.70 pounds per year. [basis: BACT; Health Risk Management Policy]

8. While operating as a Thermal Oxidizer, the minimum operating temperature of A-1 shall not be less than 1400 degrees Fahrenheit. While operating as a Catalytic Oxidizer, the minimum

*** PERMIT CONDITIONS ***

operating temperature of A-1 shall not be less than 600 degrees Fahrenheit.

9. To determine compliance with Condition Number 8, the dual-mode thermal/catalytic oxidizer shall be equipped with continuous measuring and temperature recording instrumentation. The temperature data collected from the temperature recorder shall be maintained in a file which shall be available for District inspection for a period of at least 2 years following the date on which such data are recorded.

10. To determine compliance with Condition 7, within 24 hours after start-up of the catalytic oxidizer and within 24 hours after start-up of the thermal oxidizer at any new location, the operator of this source shall:

    a. Analyze the inlet gas stream to determine the vapor flow rate and concentration of POC present.
    b. Analyze exhaust gas to determine the flow rate, and the concentration of benzene and POC present.
    c. Calculate the benzene emission rate in pounds per day based on the exhaust gas analysis and the operating exhaust flow rate. The soil vapor flow rate shall be decreased, if necessary, to demonstrate compliance with Condition 7.
    d. Calculate the POC abatement efficiency based on the inlet and exhaust gas sampling analysis. For the purpose of determining compliance with condition 7, the POC concentration shall be reported as hexane.
    e. Submit to the District's Engineering Division the test results and emission calculations within one month from the testing date. Samples shall be analyzed according to modified EPA test methods 8015 and 8021 or their equivalent to determine the concentrations of POC and benzene.

11. Within 30 days from the completion of each

*** PERMIT CONDITIONS ***

treatment operation at a given location, the operator of this source shall provide the assigned Plant Engineer in the Engineering Division with a summary showing the following information:

a. The dates and total number of days that the equipment was at that location and the dates, and total number of days that the equipment was operated at that location.
b. A summary of the abatement efficiency and benzene emission rate as determined and reported in the start-up sampling report required by condition 10e above.
c. The results of any additionally performed emission test, analysis, or monitoring result logged in for the day of operation they were taken.
d. The total throughput of contaminated soil vapor processed by S-1 at that location (indicated in cubic feet).
e. The total emissions of benzene at that location based on the sampling results required by condition 10 above. [basis: Reg. 1-523]

12. Within 30 days after the end of every calendar year, the operator of this source shall provide the assigned Plant Engineer in the Engineering Division a year end summary showing the following information:

a. The location(s) at which the equipment was operated including the dates operated at each location.
b. The total throughput of contaminated soil vapor for the previous four quarters (indicated in cubic feet).
c. The total benzene emissions for the previous four quarters (indicated in pounds). [basis Reg. 1-523]

13. The operator shall maintain a file containing all measurements, records and other data that are required to be collected pursuant to the

*** PERMIT CONDITIONS ***

various provisions of this conditional Permit to Operate. All measurements, records and data required to be maintained by the operator shall be retained for at least two years following the date the data is recorded. [basis Reg. 1-523]

14. Any non-compliance with these conditions shall be reported to the Compliance and Enforcement Division at the time that it is first discovered. The submittal shall detail the corrective action taken and shall include the data showing the exceedance as well as the time of occurrence.

~~~~~~~~~~~~~~~~~~~~~~~~~~~ END OF CONDITIONS ~~~~~~~~~~~~~~~~~~~~~~~~~~~
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S#	Source Description	Annual Average lbs/day PART	ORG	NOx	SO2	CO
1	Portable SVE System	-	1.23	-	-	-
	T O T A L S		1.23			