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10:49 am, Jan 28, 2010

Alameda County  
Environmental Health

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January 26, 2010  
(date)

Alameda County Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577

Re: Chevron Facility # 9-8139

Address: 16304 Foothill Boulevard, San Leandro, California

I have reviewed the attached report titled Additional Site Investigation Report  
\_\_\_\_\_ and dated January 26, 2010.

I agree with the conclusions and recommendations presented in the referenced report. The information in this report is accurate to the best of my knowledge and all local Agency/Regional Board guidelines have been followed. This report was prepared by Conestoga-Rovers & Associates, upon whose assistance and advice I have relied.

This letter is submitted pursuant to the requirements of California Water Code Section 13267(b)(1) and the regulating implementation entitled Appendix A pertaining thereto.

I declare under penalty of perjury that the foregoing is true and correct.

Sincerely,

Stacie H. Frerichs  
Project Manager

Enclosure: Report



**CONESTOGA-ROVERS  
& ASSOCIATES**

10969 Trade Center Drive, Suite 106, Rancho Cordova, CA 95670  
Telephone: 916-889-8900 Facsimile: 916-889-8999  
[www.CRAworld.com](http://www.CRAworld.com)

January 26, 2010

Reference No. 611971

Mr. Mark Detterman PG, CEG  
Alameda County Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

Re: Additional Site Investigation Report  
Chevron Station No. 9-8139  
16304 Foothill Boulevard  
San Leandro, California  
LOP Case #RO0000368

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Dear Mr. Detterman:

Conestoga-Rovers & Associates (CRA) has prepared this *Additional Site Investigation Report* on behalf of Chevron Environmental Management Company (Chevron) presenting the results of the recent investigation at the site referenced above. In a letter dated October 8, 2008 (Attachment A), Alameda County Environmental Health (ACEH) requested additional investigation at the site to further evaluate the vertical extent of impacted groundwater beneath the site and soil and groundwater quality in the area of the former gasoline underground storage tanks (USTs). To accomplish these objectives, three additional exploratory borings (GP-3 through GP-5) were advanced at the site. The work was performed in general accordance with CRA's *Work Plan for Additional Subsurface Investigation* (work plan) dated December 15, 2008. The site description and background, details and results of the investigation, and our conclusions and recommendations are presented in the following sections.

#### **SITE DESCRIPTION AND BACKGROUND**

The site is an active Chevron-branded gasoline station located on the northeast side of Foothill Boulevard in San Leandro, California (Figure 1). Current station facilities include a station building, two gasoline USTs, and two dispenser islands. The date the site was first occupied by a service station is unknown; however, based on previous tank testing documentation, steel USTs were installed in approximately 1965. In an aerial photograph dated 1968, the site appears to be occupied by a service station in the former configuration. Former station facilities at that time included at least a 7,500-gallon steel gasoline UST; the details of other former USTs are unknown. In the early 1980s, the USTs and piping at the site were replaced with fiberglass equipment. In 1998, due to Chevron's planned sale of the property, the existing station was demolished including the removal of three 10,000-gallon, fiberglass gasoline USTs, a 1,000-gallon, fiberglass used-oil UST, two dispenser islands and associated

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product piping, three hydraulic hoists, and a clarifier (oil/water separator). The site was subsequently redeveloped with the current station. Vehicle maintenance is no longer performed onsite. Current and former station facilities are shown on Figure 2. Land use in the site vicinity is mixed commercial and residential. The site is bounded by Foothill Boulevard to the southwest, a church to the northwest, apartment buildings to the northeast, and a motel to the southeast. The northwest portion of the site is also used for access to the apartment buildings. Interstate 580 is located adjacent to the southwest of Foothill Boulevard.

Environmental work has been ongoing at the site since 1982. Prior to the current investigation, two exploratory borings (GP-1 and GP-2) have been drilled, and 14 monitoring wells (MW-1 through MW-14) and three groundwater extraction wells (E-1, E-2 [formerly MW-5], and E-3 [formerly MW-4]) have been installed both on- and offsite. Wells MW-1 through MW-3, MW-6, MW-7, and E-1 were destroyed prior to station demolition in 1998. Groundwater monitoring has been performed since 1989. Confirmation soil sampling also was performed during station demolition activities. Remedial activities performed at the site have consisted of the over-excavation of impacted soil (approximately 1,110 cubic yards) and groundwater extraction (approximately 3,000 gallons) during UST removal/station construction activities. A groundwater extraction (GWE) system operated at the site from 1991 through 1994 that removed approximately 666,500 gallons of groundwater (7.3 pounds of hydrocarbons) from the subsurface. Oxygen Releasing Compound® (ORC) reportedly also was placed in wells E-3, MW-8, and MW-9 for some time beginning in July 1999. The approximate well, boring, and soil sample locations are shown on Figure 2. A summary of the previous environmental work is included as Attachment B.

In November 2007, borings GP-1 and GP-2 were drilled to approximately 45 feet below grade (fbg) in the area of the former dispenser islands to further evaluate the vertical extent of impacted soil and groundwater beneath the site. Only low concentrations of petroleum hydrocarbons were detected in the soil samples collected from the borings; the results indicated that the vertical extent of impacted soil had been adequately evaluated. Groundwater samples were also collected from each boring at approximate depths of 32 and 45 fbg. Elevated concentrations of total petroleum hydrocarbons as gasoline (TPHg) (up to 13,000 micrograms per liter [ $\mu\text{g}/\text{L}$ ]) and methyl tertiary butyl ether (MTBE) (up to 49,000  $\mu\text{g}/\text{L}$ ) were detected in the samples collected at 32 fbg. Only low concentrations of TPHg (110  $\mu\text{g}/\text{L}$ ) and MTBE (11  $\mu\text{g}/\text{L}$ ) were detected in the sample collected at 45 fbg from boring GP-1. However, elevated concentrations of TPHg (11,000  $\mu\text{g}/\text{L}$ ) and MTBE (6,100  $\mu\text{g}/\text{L}$ ) were detected in the sample collected at 45 fbg from boring GP-2; the concentrations of several other constituents were greater than those detected at 32 fbg, indicating that some degree of vertical cross-contamination may have occurred as the borings were drilled and samples collected using standard direct-push techniques.



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Based on these results, ACEH (in the October 1, 2008 letter) requested additional investigation to further evaluate deeper groundwater quality at the site. The drilling of a previously proposed boring in the area of the former gasoline USTs that had not been completed during the 2007 investigation was also requested. CRA subsequently prepared and submitted the December 15, 2008 work plan that proposed the drilling of two borings adjacent to previous borings GP-1 and GP-2 to further evaluate the previous results and deeper groundwater quality, and the drilling of the boring in the former gasoline UST pit. The borings would be drilled using dual-tube technology to minimize the risk of cross-contamination across different water-bearing zones.

### **INVESTIGATION ACTIVITIES**

Boring GP-3 was drilled within the former gasoline UST pit to further evaluate soil and groundwater quality in this area, and borings GP-4 and GP-5 were drilled adjacent to previous borings GP-1 and GP-2, respectively, to further evaluate the previous results and deeper groundwater quality. The approximate boring locations are shown on Figure 2. The details of the investigation are presented in the following sections. Fieldwork was performed by CRA Staff Scientist Chris Benedict under the supervision of James Kiernan, P.E.

***Drilling Activities:*** Prior to drilling, CRA obtained Permit No. 2009-0968 from Alameda County Public Works Agency for the borings. A copy of the permit is included as Attachment C. Drilling activities were performed by PeneCore Drilling (C-57 License # 906899) of Sacramento, California, under the supervision of CRA.

Fieldwork was performed from November 4 to 6, 2009. The upper 5 feet of the borings was first cleared for underground utilities using a hand-auger. Following utility clearance, the borings were advanced to the total depth using truck-mounted direct-push equipment. Dual-tube technology (outer casing that remains in place during drilling) was utilized to minimize the risk of cross-contamination. Borings GP-3 through GP-5 were advanced to total depths of approximately 53 fbg (drilling refusal), 67.5 fbg, and 63 fbg, respectively.

Soil samples were obtained continuously from the borings for logging and observation purposes. The soil samples were collected using a macro-core sampler containing a 4-foot acetate liner hydraulically driven into undisturbed soil at the bottom of the borehole at each interval. The soil encountered in the borings was logged in accordance with American Society for Testing and Materials (ASTM) D-2488 protocols, and generally consisted of fine-grained soil (clay and silt) with varying amounts of sand and gravel to approximately 67.5 fbg, the maximum depth of exploration; one or more layers of silty sand were also observed in borings GP-3 and GP-5. Copies of the boring logs are included in Attachment C. Soil samples were



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screened in the field for the presence of organic vapors using a photo-ionization detector (PID) and visually observed for any evidence of impact. The PID measurements are also presented on the boring logs. CRA's standard field procedures are included as Attachment D.

Groundwater was first encountered in boring GP-3 at approximately 15 fbg just above the interface of gravelly fill material (apparent former UST pit backfill) and an underlying moist clay layer; no other apparent water-bearing zones were observed in the boring to 53 fbg. Groundwater was first encountered in boring GP-4 at approximately 31 fbg within a relatively thin (2½-feet thick) layer of sandy clay with gravel; what appeared to be additional water-bearing zones were observed at approximately 47 fbg within a layer of clay with sand, and approximately 65 fbg within a layer of gravelly clay with sand. Groundwater was first encountered in boring GP-5 at approximately 37 fbg within a layer of sandy clay with gravel that extended to approximately 42.5 fbg; the underlying layer of silty sand with gravel (approximately 42.5 to 51 fbg) also appeared to be water-bearing, and groundwater was also encountered at approximately 63 fbg within a layer of silt with sand.

**Soil Sampling and Laboratory Analysis:** Soil samples were collected and retained for laboratory analysis from boring GP-3 at approximately 5-foot intervals beginning at 10 fbg, and from borings GP-4 (10 fbg) and GP-5 (20 fbg) when PID readings were greater than 100 parts per million by volume (ppmv). The samples were cut from the acetate liner, capped using Teflon tape and plastic end caps, labeled, placed in an ice-chilled cooler, and transported under chain-of-custody to Lancaster Laboratories, Inc. (Lancaster) in Lancaster, Pennsylvania, for analysis. The soil samples were analyzed for the following constituents:

- TPHg by EPA Method 8015B
- Benzene, toluene, ethylbenzene, xylenes (BTEX), MTBE, di-isopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), and tertiary butyl alcohol (TBA) by EPA Method 8260B

**Grab-Groundwater Sampling and Laboratory Analysis:** Depth-discrete groundwater samples were collected at an approximate depth of 15 fbg from boring GP-3, approximate depths of 32 fbg, 47 fbg, and 65 fbg from boring GP-4, and approximate depths of 37 fbg, 46 fbg, and 63 fbg from boring GP-5. The groundwater samples were collected by removing the drill rods, setting temporary slotted PVC casing in the borehole, and slightly retracting the outer casing to allow for the infiltration of groundwater. The samples were then collected by lowering a disposable Teflon bailer down the PVC casing to the screen zone. To further minimize the risk of cross-contamination, the borehole was dewatered using either a peristaltic pump or tubing equipped with a check valve after the collection of each groundwater sample and prior to further drilling. The groundwater samples were collected in the appropriate laboratory-supplied containers, placed in an ice-chilled cooler, and transported under



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chain-of-custody to Lancaster for analysis. The groundwater samples were analyzed for the same constituents as the soil samples.

*Investigation-Derived Waste:* Soil cuttings and decontamination rinsate generated during drilling activities were temporarily stored onsite in a 55-gallon steel drum, and sampled for disposal purposes. Once profiled, the drum will be removed from the site by Integrated Wastestream Management (IWM) of San Jose, California, and transported to a Chevron-approved facility for disposal.

### SOIL SAMPLE ANALYTICAL RESULTS

Low concentrations of TPHg (ranging from 2.1 to 210 milligrams per kilogram [mg/kg]) were detected in the soil samples collected at 10 to 20 fbg from boring GP-3. TPHg was not detected in any of the soil samples collected below 20 fbg from boring GP-3. BTEX generally were not detected in the soil samples collected from boring GP-3 with the exception of a low concentration of ethylbenzene (0.055 mg/kg) in the sample collected at 17 fbg, and low concentrations of benzene (0.13 mg/kg), ethylbenzene (5.9 mg/kg), and xylenes (2.7 mg/kg) in the sample collected at 20 fbg. MTBE was detected in the majority of the soil samples collected from boring GP-3 at concentrations up to 2.5 mg/kg; however, only trace concentrations (up to 0.003 mg/kg) were detected in the samples collected below 25 fbg. Other fuel oxygenates generally were not detected in the soil samples collected from boring GP-3 with the exception of low concentrations of TAME (up to 0.35 mg/kg) and TBA (up to 1.2 mg/kg) in a few of the samples collected at 25 fbg or above.

TPHg was detected in the samples collected at 10 fbg from boring GP-4 and at 20 fbg from boring GP-5 at concentrations of 710 mg/kg and 350 mg/kg, respectively; low concentrations of benzene (0.1 mg/kg and 0.046 mg/kg, respectively), ethylbenzene (6.7 mg/kg and 4.1 mg/kg, respectively), and xylenes (13 mg/kg and 4 mg/kg, respectively) were also detected. MTBE was detected in the samples collected at 10 fbg from boring GP-4 and at 20 fbg from boring GP-5 at concentrations of 0.63 mg/kg and 0.15 mg/kg, respectively. Other fuel oxygenates generally were not detected in the samples with the exception of a low concentration of TAME (0.067 mg/kg) in the sample collected at 20 fbg from boring GP-5. The soil sample analytical results are presented in Table 1. A copy of the laboratory report and chain-of-custody documentation is included as Attachment E.



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### **GRAB-GROUNDWATER SAMPLE ANALYTICAL RESULTS**

TPH<sub>g</sub> was detected in the sample collected at 15 fbg from boring GP-3 at a concentration of 650 µg/L. Low concentrations of benzene (3 µg/L), ethylbenzene (11 µg/L), and xylenes (3 µg/L) were also detected; and MTBE, TAME, and TBA were detected at concentrations of 490 µg/L, 75 µg/L, and 190 µg/L, respectively. Other fuel oxygenates and toluene were not detected in the sample.

TPH<sub>g</sub> was detected in the samples collected at 32, 47, and 65 fbg from boring GP-4 at concentrations of 180 µg/L, 130 µg/L, and 55 µg/L, respectively; low concentrations of benzene (up to 3 µg/L), ethylbenzene (up to 6 µg/L), and xylenes (up to 9 µg/L) were also detected. Toluene was not detected in any of the samples collected from boring GP-4. MTBE was detected in the samples collected at 32, 47, and 65 fbg from boring GP-4 at concentrations of 920 µg/L, 13 µg/L, and 10 µg/L, respectively. Other fuel oxygenates generally were not detected in the samples collected from boring GP-4 with the exception of low concentrations of TAME (120 µg/L) and TBA (5 µg/L) in the sample collected at 32 fbg, and a low concentration of TAME (1 µg/L) in the sample collected at 47 fbg.

TPH<sub>g</sub> was detected in the sample collected at 35 fbg from boring GP-5 at a concentration of 100 µg/L, but was not detected in the two deeper samples. BTEX generally were not detected in the samples collected from boring GP-5 with the exception of low concentrations of benzene (0.5 µg/L), ethylbenzene (0.9 µg/L), and xylenes (0.5 µg/L) in the sample collected at 35 fbg, and a low concentration of ethylbenzene (1 µg/L) in the sample collected at 46 fbg. MTBE was only detected in the samples collected at 35 fbg (460 µg/L) and 46 fbg (2 µg/L) from boring GP-5. Other fuel oxygenates generally were not detected in the samples collected from boring GP-5 with the exception of low concentrations of TAME (54 µg/L) and TBA (7 µg/L) in the sample collected at 35 fbg. The grab-groundwater sample analytical results are presented in Table 2. A copy of the laboratory report and chain-of-custody documentation is included as Attachment E.

### **CONCLUSIONS AND RECOMMENDATIONS**

During this investigation, boring GP-3 was drilled in the former gasoline UST pit to further evaluate soil and groundwater quality in this area, and borings GP-4 and GP-5 were drilled adjacent to previous borings GP-1 and GP-2, respectively, to further evaluate the previous results and deeper groundwater quality in the area of the former dispenser islands. The borings were drilled using dual-tube technology to minimize the risk of cross-contamination.



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Only low concentrations of petroleum hydrocarbons were detected in the soil samples collected from boring GP-3. TPHg was only detected at concentrations up to 210 mg/kg, and BTEX generally were not detected (benzene was only detected in one sample [0.13 mg/kg at 20 fbg]). Low concentrations of TAME (up to 0.35 mg/kg) and TBA (up to 1.2 mg/kg) were also detected. However, these constituents generally were not detected in the samples collected below 20 fbg. MTBE was detected in the majority of the soil samples collected from boring GP-3; however, the concentrations were low (up to 2.5 mg/kg) and only trace concentrations (up to 0.003 mg/kg) were detected in the samples collected below 25 fbg. Based on the analytical results, soil in the area of the former gasoline USTs is not significantly impacted. The detected concentrations at 15 and 17 fbg were similar to or less than those detected at 14 fbg beneath the former USTs in 1998. As only trace concentrations were detected below 25 fbg, the vertical extent of impacted soil in this area has been adequately evaluated.

Only low concentrations of TPHg (650 µg/L), BTEX (benzene at 3 µg/L), TAME (75 µg/L), and TBA (190 µg/L) were detected in the groundwater sample collected at approximately 15 fbg in boring GP-3. A slightly elevated concentration of MTBE (490 µg/L) was also detected. No other water-bearing zones were observed in boring GP-3. This water may be perched groundwater within the former tank pit; water was reported in the UST excavation at approximately 12 fbg in 1998. However, the historical depth to first-encountered groundwater in the previous borings drilled at and in the vicinity of the site has ranged from 15 to 32 fbg. Similar variability in the depth to groundwater (16 or 30 fbg) was observed in well borings drilled at the nearby Foothill Gas facility at 16210 Foothill Boulevard. Therefore, there appears to be some variability in the depth to first-encountered groundwater at the site and in the site vicinity. As noted by ACEH in the October 1, 2008 letter (Technical Comment No. 2), elevated concentrations of TPHg, BTEX, and MTBE were historically detected in nearby well MW-3 located directly downgradient of the former USTs prior to its destruction in 1998 (last sampled in 1996). However, this well was only sampled prior to the removal of the USTs and associated groundwater extraction activities in 1998. Based on the analytical results from the current investigation, shallow groundwater in the area of the former gasoline USTs is impacted; however, the residual concentrations are generally low. Current data suggests that concentrations have decreased over the years following the removal of the USTs.

TPHg was detected in the soil samples collected at 10 fbg from boring GP-4 (710 mg/kg) and 20 fbg from boring GP-5 (350 mg/kg); low concentrations of BTEX (benzene at 0.1 mg/kg and 0.046 mg/kg, respectively) and MTBE (0.63 mg/kg and 0.15 mg/kg, respectively) were also detected. The concentrations detected at 20 fbg in boring GP-5 were generally similar to those detected at 20 fbg in previous boring GP-2. As previously concluded based on the results of the 2007 investigation, the vertical extent of impacted soil in the area of the former dispenser islands has been adequately evaluated.





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Low concentrations of TPHg (180 µg/L), BTEX (benzene at 0.8 µg/L), TAME (120 µg/L), and TBA (5 µg/L) were detected in the groundwater sample collected at 32 fbg from boring GP-4; an elevated concentration of MTBE (920 µg/L) was also detected. Groundwater concentrations in boring GP-4 generally decreased with depth. The sample collected at 47 fbg contained TPHg at 130 µg/L, benzene at 0.6 µg/L, and MTBE at 13 µg/L; the sample collected at 65 fbg contained TPHg at 55 µg/L, benzene at 3 µg/L, and MTBE at 10 µg/L. Low concentrations of TPHg (100 µg/L), BTEX (benzene at 0.5 µg/L), TAME (54 µg/L), and TBA (7 µg/L) were also detected in the groundwater sample collected at 37 fbg from boring GP-5; a slightly elevated concentration of MTBE (460 µg/L) was also detected. Concentrations in groundwater again decreased with depth. The sample collected at 46 fbg from boring GP-5 only contained ethylbenzene (1 µg/L) and MTBE (2 µg/L); TPHg, BTEX, and fuel oxygenates were not detected in the sample collected at 63 fbg.

The TPHg and BTEX concentrations detected in groundwater at 32 fbg in boring GP-4 and the TPHg, BTEX, MTBE, TAME, and TBA concentrations detected in groundwater at 35 and 46 fbg in boring GP-5 during the current investigation were significantly lower than those detected at similar depths in the adjacent borings during the 2007 investigation. As dual-tube technology was used during the current investigation, and based on the previous results in GP-2 in which the concentrations of several constituents were significantly higher in the deeper sample than the shallower sample (notably benzene not detected at 32 fbg but detected at 48 µg/L at 45 fbg), some degree of cross-contamination may have occurred during the previous investigation. Based on the field notes from 2007, drilling and sampling activities were alternated between borings throughout the day. The concentrations detected during the current investigation are much more similar to those recently detected in nearby well E-2 and downgradient wells MW-13 and MW-14. The potential source for the cross-contamination is unknown. The possibility of a recent release from the current dispensers or piping was considered; however, if this was the case, such a significant drop off in concentrations since 2007, particularly TPHg, would not be expected, and the BTEX concentrations at the time would be expected to be higher. Therefore, the previous results do not appear attributable to a recent release. Based on the above information, the current results are more representative of groundwater quality in this area, and based on these analytical results, the vertical extent of impacted groundwater in the area of the former dispenser islands has been adequately evaluated.

Based on the results of this investigation, no further investigation is warranted at the site at this time. Due to the presence of Highway 580, further downgradient investigation is not feasible. As decreasing trends are evident in the site wells, and based on the site conditions, the site appears to be a good candidate for low-risk case closure. Therefore, CRA plans to prepare and submit a case closure request on behalf of Chevron. In the meantime, CRA recommends continued monitoring and sampling of the site wells to further evaluate groundwater quality



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and concentration trends. Please note that in the October 1, 2008 letter, ACEH approved the destruction of wells MW-9, MW-10, MW-11, and MW-13; the results of the work were to be presented in this report. Sampling of these wells has been discontinued; however, in order to be cost-effective, destruction of the wells is not planned until case closure along with the remaining wells.

We appreciate your assistance on this project. If you have any questions or need any additional information please contact Mr. James Kiernan at (916) 889-8917.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

Christopher J. Benedict

James P. Kiernan, P.E. #C68498

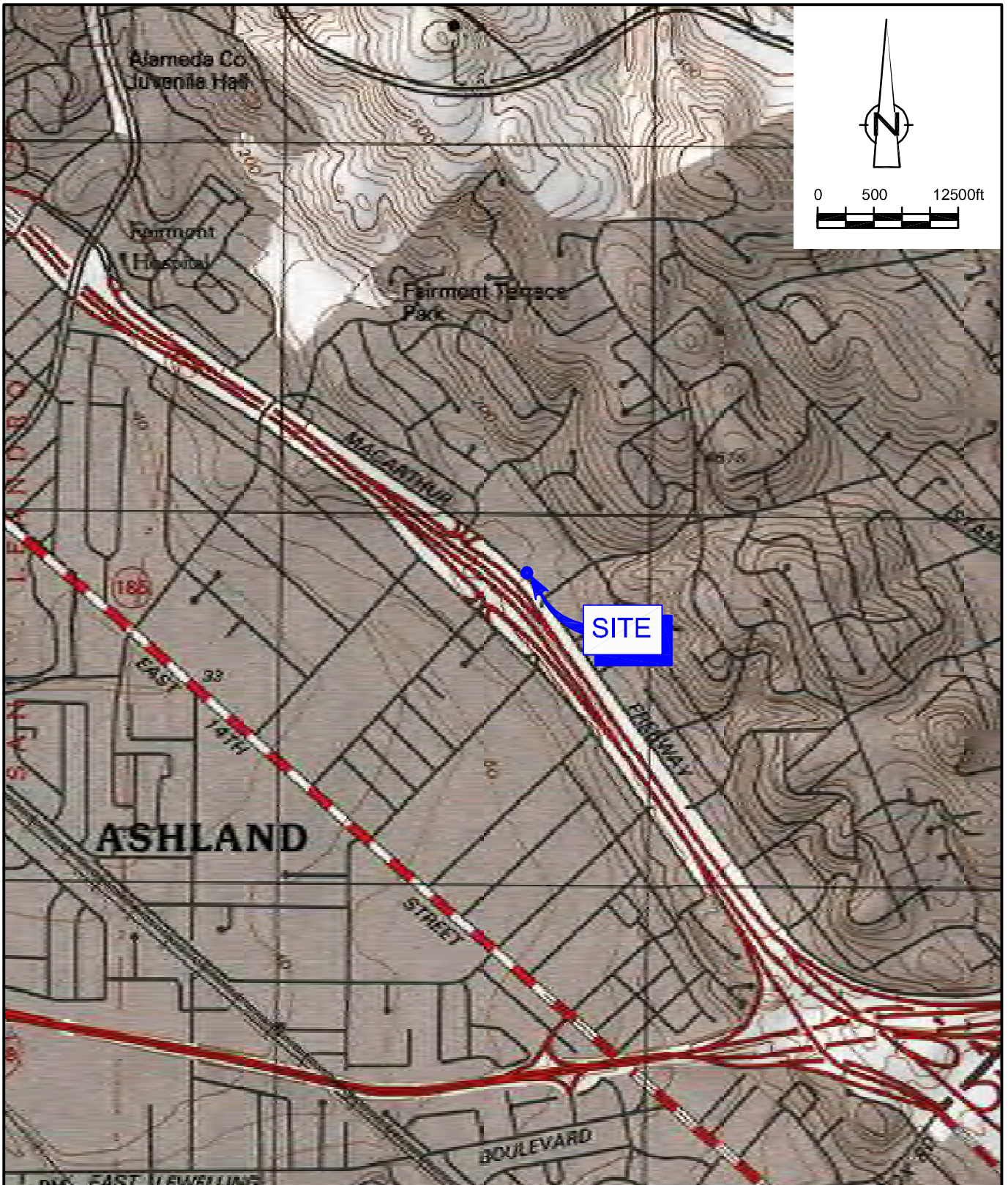
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- |              |  |
|--------------|--|
| Figure 1     | Vicinity Map                               |
| Figure 2     | Site Plan                                  |
| Table 1      | Soil Sample Analytical Results             |
| Table 2      | Grab-Groundwater Sample Analytical Results |
| Attachment A | ACEH Letter Dated October 1, 2008          |
| Attachment B | Summary of Previous Environmental Work     |
| Attachment C | Drilling Permit and Boring Logs            |
| Attachment D | Standard Field Procedures                  |
| Attachment E | Laboratory Reports                         |



cc: Ms. Stacie Frerichs, Chevron  
Mr. Harv Dhaliwal, G&S Associates, Inc.

## FIGURES

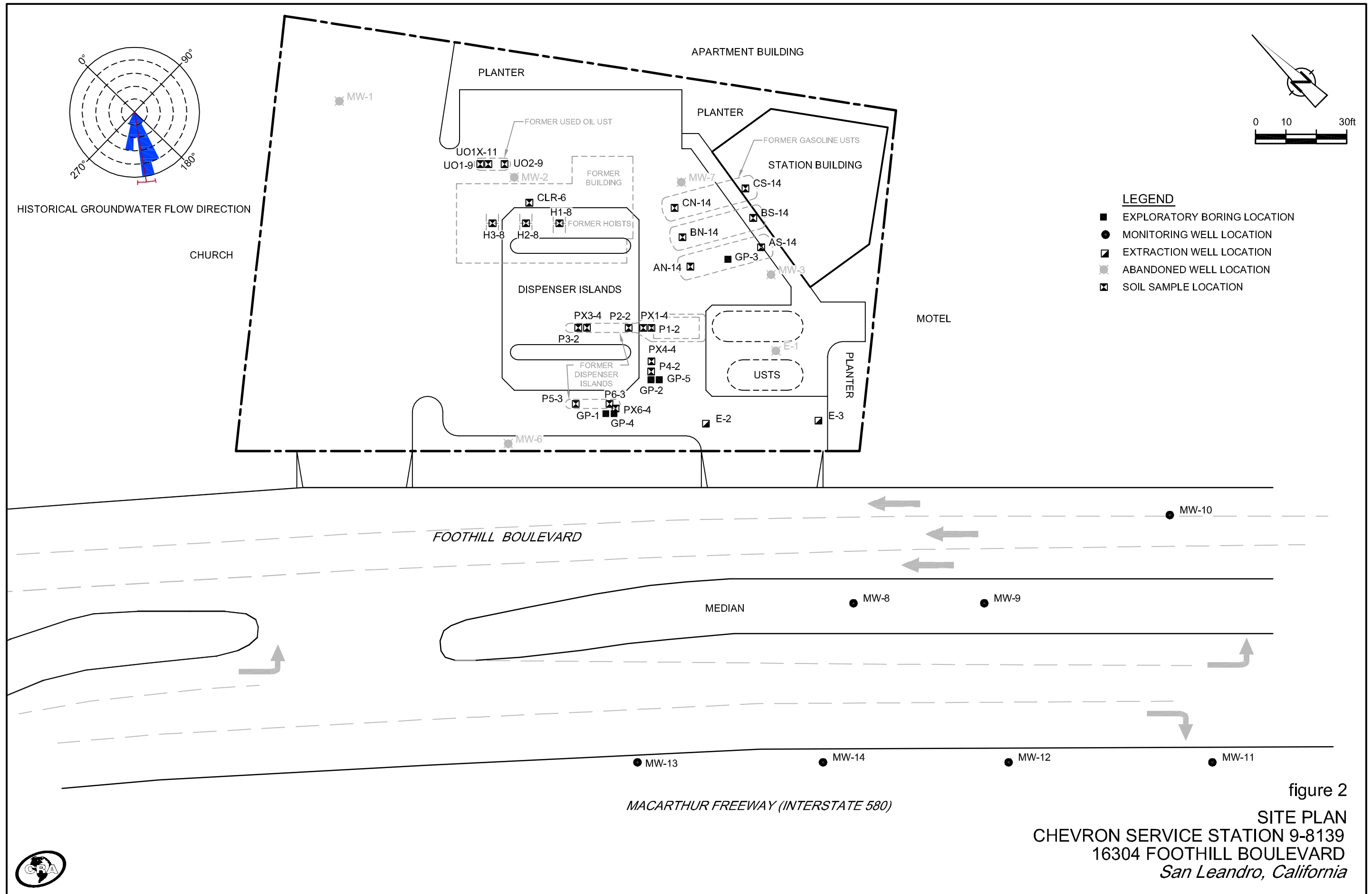


SOURCE: TOPO! MAPS.

figure 1

VICINITY MAP  
 CHEVRON SERVICE STATION 9-8139  
 16304 FOOTHILL BOULEVARD  
*San Leandro, California*





## TABLES

**SOIL SAMPLE ANALYTICAL RESULTS  
CHEVRON STATION 9-8139  
16304 FOOTHILL BOULEVARD  
SAN LEANDRO, CALIFORNIA**

<i>Boring ID</i>	<i>Sample Depth (fbg)</i>	<i>Sample Date</i>	<i>TPHg</i>	<i>Benzene</i>	<i>Toluene</i>	<i>Ethylbenzene</i>	<i>Xylenes</i>	<i>MTBE</i>	<i>TAME</i>	<i>TBA</i>	<i>ETBE</i>	<i>DIPE</i>
←———— Concentrations reported in milligrams per kilogram (mg/kg) —————→												
GP-3	10	11/4/09	<b>5.1</b>	<0.0005	<0.001	<0.001	<0.001	<b>0.008</b>	<0.001	<b>0.14</b>	<0.001	<0.001
	15	11/4/09	<b>2.1</b>	<0.0005	<0.001	<0.001	<0.001	<b>0.013</b>	<b>0.001</b>	<b>0.037</b>	<0.001	<0.001
	17	11/4/09	<b>35</b>	<0.026	<0.052	<b>0.055</b>	<0.052	<b>2.5</b>	<b>0.35</b>	<b>1.2</b>	<0.052	<0.052
	20	11/4/09	<b>210</b>	<b>0.13</b>	<0.053	<b>5.9</b>	<b>2.7</b>	<b>1.6</b>	<b>0.25</b>	<1.1	<0.053	<0.053
	25	11/4/09	<1.0	<0.0005	<0.001	<0.001	<0.001	<b>0.34</b>	<b>0.038</b>	<0.020	<0.001	<0.001
	30	11/4/09	<1.1	<0.0005	<0.0009	<0.0009	<0.0009	<b>0.0008</b>	<0.0009	<0.019	<0.0009	<0.0009
	35	11/4/09	<1.0	<0.0005	<0.001	<0.001	<0.001	<b>0.0007</b>	<0.001	<0.021	<0.001	<0.001
	40	11/4/09	<0.9	<0.0005	<0.001	<0.001	<0.001	<b>0.002</b>	<0.001	<0.021	<0.001	<0.001
	45	11/4/09	<1	<0.0005	<0.001	<0.001	<0.001	<0.0005	<0.001	<0.021	<0.001	<0.001
	50	11/4/09	<1.1	<0.0005	<0.001	<0.001	<0.001	<b>0.003</b>	<0.001	<0.019	<0.001	<0.001
GP-4	10	11/5/09	<b>710</b>	<b>0.1</b>	<0.049	<b>6.7</b>	<b>13</b>	<b>0.63</b>	<0.049	<0.98	<0.049	<0.049
GP-5	20	11/6/09	<b>350</b>	<b>0.046</b>	<0.053	<b>4.1</b>	<b>4</b>	<b>0.15</b>	<b>0.067</b>	<1.1	<0.053	<0.053

**Abbreviations/Notes:**

fbg = feet below grade

Total petroleum hydrocarbons as gasoline (TPHg) by EPA Method 8015

Benzene, toluene, ethylbenzene and xylenes (BTEX) by EPA Method 8260B

Methyl tertiary butyl ether (MTBE) by EPA Method 8260B

Tertiary amyl methyl ether (TAME) by EPA Method 8260B

Tertiary butyl alcohol (TBA) by EPA Method 8260B

Ethyl tertiary butyl ether (ETBE) by EPA Method 8260B

Di-isopropyl ether (DIPE) by EPA Method 8260B

&lt;x = Not detected at or above stated laboratory reporting limits

TABLE 2

**GRAB-GROUNDWATER SAMPLE ANALYTICAL RESULTS  
CHEVRON STATION 9-8139  
16304 FOOTHILL BOULEVARD  
SAN LEANDRO, CALIFORNIA**

<i>Boring ID</i>	<i>Sample Depth (fbg)</i>	<i>Sample Date</i>	<i>TPHg</i>	<i>Benzene</i>	<i>Toluene</i>	<i>Ethylbenzene</i>	<i>Xylenes</i>	<i>MTBE</i>	<i>TAME</i>	<i>TBA</i>	<i>ETBE</i>	<i>DIPE</i>
			← Concentrations reported in micrograms per liter (µg/L) →									
GP-3	15	11/4/09	650	3	<0.5	11	3	490	75	190	<0.5	<0.5
GP-4	32	11/5/09	180	0.8	<0.5	1	1	920	120	5	<0.5	<0.5
	47	11/5/09	130	0.6	<0.5	0.6	0.6	13	1	<2	<0.5	<0.5
	65	11/5/09	55	3	<0.5	6	9	10	<0.5	<2	<0.5	<0.5
GP-5	37	11/6/09	100	0.5	<0.5	0.9	0.5	460	54	7	<0.5	<0.5
	46	11/6/09	<50	<0.5	<0.5	1	<0.5	2	<0.5	<2	<0.5	<0.5
	63	11/6/09	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<0.5	<0.5

**Abbreviations/Notes:**

fbg = feet below grade

Total petroleum hydrocarbons as gasoline (TPHg) by EPA Method 8015

Benzene, toluene, ethylbenzene and xylenes (BTEX) by EPA Method 8260B

Methyl tertiary butyl ether (MTBE) by EPA Method 8260B

Tertiary amyl methyl ether (TAME) by EPA Method 8260B

Tertiary butyl alcohol (TBA) by EPA Method 8260B

Ethyl tertiary butyl ether (ETBE) by EPA Method 8260B

Di-isopropyl ether (DIPE) by EPA Method 8260B

&lt;x = Not detected at or above stated laboratory reporting limits



ATTACHMENT A

ACEH LETTER DATED OCTOBER 1, 2008



ENVIRONMENTAL HEALTH SERVICES  
ENVIRONMENTAL PROTECTION  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-8577  
(510) 567-6700  
FAX (510) 337-9335

October 1, 2008

Ms. Staci Frerichs  
Chevron Environmental Management  
6001 Bollinger Canyon Rd K2256  
PO Box 6012  
San Ramon, CA 94583-2324

Mr. Harv Dhaliwal  
G & S Associates Inc.  
4430 Deerfield Way  
Danville, CA 94506

Mr. Bhushan Bansal  
Bansal Inc.  
1784 150<sup>th</sup> Street  
San Leandro, CA 94578-1826

Equilon Enterprises LLC  
c/o Stewart Title Co  
1980 Post Boulevard  
Houston, TX 77056

Subject: Fuel Leak Case No. RO0000368 (Global ID # T0600100303), Chevron #9-8139, 16304 Foothill Blvd., San Leandro, CA 94587

Dear Ms. Frerichs, Mr. Harv Dhaliwal, Mr. Bhushan Bansal and Equilon Enterprises:

Alameda County Environmental Health (ACEH) staff have reviewed the case file for the above referenced site and the document entitled "Subsurface Investigation Report and Well Destruction Workplan," received February 1, 2008 and prepared by Conestoga Rovers Associates (CRA). Results from the subsurface investigation indicate that residual petroleum hydrocarbon contamination was discovered in soil and groundwater at a depth of up to 45 feet bgs; TPHg, benzene and MtBE were detected in groundwater at 45 feet bgs at concentrations of up to 11,000 µg/l, 48 µg/l and 6,100 µg/l, respectively. The high concentrations of TPHg and MtBE in groundwater at 45 feet bgs indicate that the vertical extent of contamination is undefined beneath your site. In addition, CRA recommends the decommissioning of five downgradient monitoring wells; wells MW-8, MW-9 and MW-10 are located in high traffic areas are considered a safety hazard, while wells MW-11 and MW-13 were removed from monitoring in 2005.

Furthermore, CRA proposed the installation a soil boring in the former tank pit to assess the extent of soil and groundwater contamination at this location (revised work plan submitted in May 2006, approved by ACEH in August 2006). To date we have not received verification that the proposed soil boring has been installed. Based on ACEH staff review of the case file, we request that you address the following technical comments and send us the reports described below. Please provide 72-hour advance written notification to this office (e-mail preferred to [mail to:steven.plunkett@acgov.org](mailto:mail:to:steven.plunkett@acgov.org)) prior to the start of field activities.

#### **TECHNICAL COMMENTS**

1. **Subsurface Investigation Results.** Results from the subsurface investigation completed in February 2008 indicate that residual contamination remains in place in soil and groundwater beneath your site. Of particular concern are the high levels of dissolved phase TPHg and MtBE detected in groundwater at a depth of 32 feet bgs at concentrations up to 13,000 µg/l TPHg, and 49,000 µg/l MtBE. In addition, TPHg and MtBE were also detected in groundwater at 45 feet bgs at concentrations of up to 11,000 µg/l and 6,100 µg/l, respectively.

These data indicate a significant source of residual contamination remains in place beneath the former UST tank pit.

CRA states that due to the presence of elevated levels of dissolved phase hydrocarbon contamination detected during depth discrete groundwater sampling at 45 feet bgs, the vertical extent of contamination in groundwater remains undefined. Therefore, due to the high concentrations of TPHg and MtBE at depths of up to 45 feet bgs, ACEH requires additional onsite and offsite characterization. We recommend the installation of CMT wells or well clusters to monitor the discrete hydrogeologic zones identified during the investigation. We request that you prepare a work plan to evaluate the deeper water bearing zones beneath and downgradient of your site. Please submit the work plan according to the schedule outlined below.

2. **Source Area Characterization.** High levels of dissolved phase contamination were detected in former monitoring well MW-3 (decommissioned in 1996) at concentrations of up to 37,000 µg/l TPHg, 12,000 µg/l benzene and 13,000 µg/l MtBE. To evaluate residual contamination in the source area, ACEH requested additional site characterization beneath the former tank pit. However, during our review of the investigation report submitted in February 2008 ACEH noted that CRA did not complete the installation of the proposed soil boring in the source area, beneath the former tank pit. As a result, we request that you complete the scope of work as proposed in the work plan. Please present the results from the soil boring installation in the soil and groundwater investigation report requested below.
3. **Proposed Monitoring Well Decommissioning.** CRA has proposed the decommissioning of five offsite monitoring wells; MW-8, MW-9, MW-10, MW-11 and MW-13. ACEH agrees with the removal of monitoring wells MW-9 and MW-10, which are located in Foothill Boulevard and pose a safety hazard. However, we do not agree with the removal of well MW-8, which continues to exhibit high dissolved phase contamination, and is an important location needed to monitor the dissolved phase plume. We recommend changing the sampling frequency for MW-8 from quarterly to annually. In addition, CRA proposes the removal of monitoring wells MW-11 and MW-13. ACEH concurs with the decommissioning of wells MW-11 and MW-13. Please present the results from the well decommissioning in the soil and groundwater investigation report requested below.

### **TECHNICAL REPORT REQUEST**

Please submit technical reports to Alameda County Environmental Health (Attention: Mr. Steven Plunkett), according to the following schedule:

- **December 21, 2008** – Work Plan
- **March 30, 2009** – Soil and Groundwater Investigation Report

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

### **ELECTRONIC SUBMITTAL OF REPORTS**

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of reports in electronic form. The electronic copy replaces paper copies and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program FTP site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) Geotracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of

information for all groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and other data to the Geotracker database over the Internet. Beginning July 1, 2005, these same reporting requirements were added to Spills, Leaks, Investigations, and Cleanup (SLIC) sites. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites is required in Geotracker (in PDF format). Please visit the SWRCB website for more information on these requirements ([http://www.swrcb.ca.gov/ust/electronic\\_submittal/report\\_rqmts.shtml](http://www.swrcb.ca.gov/ust/electronic_submittal/report_rqmts.shtml)).

#### PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

#### PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

#### UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

#### AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

If you have any questions, please call me at (510) 383-1761 or send me an electronic mail message at [steven.plunkett@acgov.org](mailto:steven.plunkett@acgov.org).

Sincerely,



Steven Plunkett  
Hazardous Materials Specialist



Jerry Wickham, Pg, CHg, CEG  
Senior Hazardous Materials Specialist

Staci Frerichs, Harv Dhaliwal, Bhushan Bansal and Equilon Enterprises  
October 1, 2008  
RO0000368  
Page 4

cc: Laura Genin  
CRA  
5900 Hollis Street, Suite A  
Emeryville, CA 94608

Donna Drogos, ACEH, Steven Plunkett ACEH, File

ATTACHMENT B  
SUMMARY OF PREVIOUS ENVIRONMENTAL WORK

## SUMMARY OF PREVIOUS ENVIRONMENTAL WORK

**April 1982 Leak Confirmation and Well Installation:** In April 1982, the underground storage tanks (USTs) and lines at the site were pressure tested. The tanks tested tight, but a leak was found due to a highly corroded vapor line for the regular gasoline piping. Approximately 25 gallons of product were lost during the test and a temporary spot repair reportedly was made. The regular gasoline UST was noted as a 7,500-gallon steel tank that had been installed approximately 17 years earlier. Shortly thereafter, the USTs and product piping at the site reportedly were replaced. Two observation wells (W-1 and W-2) were installed in the tank backfill.

**December 1986 Product Loss, UST System Repair, and Testing:** In December 1986, the station reported petroleum inventory losses. A tightness test was performed and a leak in the regular gasoline system (10,000-gallon fiberglass UST) was confirmed and subsequently repaired. The system was retested tight in December 1986 by Gettler-Ryan, Inc. (G-R).

**June 1989 Soil Vapor Survey:** Due to the previous releases, EA Engineering, Science, and Technology, Inc. (EA) conducted a soil vapor survey at the site in June 1989. A total of 19 soil vapor samples were collected at various depths (3, 8, and/or 10.5 feet below grade [fbg]) from nine locations (V1 through V9) across the site. The deeper samples were collected from points V1 through V4, and V9 located near the gasoline and used-oil USTs. The samples were analyzed for total volatile hydrocarbons (TVH) and benzene, toluene, ethylbenzene, and xylenes (BTEX). TVH was detected in 12 of the samples at concentrations ranging from 1 to 48 parts per million (ppm). Benzene was only detected in one of the samples (1 ppm). Toluene, ethylbenzene, and xylenes were not detected in any of the samples. A detailed summary of these activities was presented in the July 1989 *Report of Investigation, Soil Vapor Contaminant Assessment* prepared by EA.

**November and December 1989 Well Installation and Well Survey:** In November and December 1989, Chempro installed groundwater monitoring wells MW-1 through MW-4 at the site. Wells MW-1 and MW-2 were screened from 25 to 30 feet below grade (fbg), well MW-3 was screened from 15.5 to 25.5 fbg, and well MW-4 was screened from 12 to 22 fbg. A total of nine soil samples were collected at various depths (ranging from 5 to 25 fbg) from the well borings and analyzed for total petroleum hydrocarbons as gasoline (TPHg) and BTEX; the three samples collected from borings MW-1 and MW-2 were additionally analyzed for TPH as diesel (TPHd), total oil and grease (TOG), and the metals lead, chromium, cadmium, and zinc. TPHg was only detected in two of the soil samples at concentrations up to 24 milligrams per kilogram (mg/kg). Low concentrations of BTEX (up to 16 mg/kg) were detected in three of the samples. TOG was only detected in the soil sample collected at 25 fbg from boring MW-1 (20 mg/kg). TPHd was not detected in any of the soil samples analyzed. Lead (20 mg/kg), chromium (up to 50 mg/kg), cadmium (up to 1.3 mg/kg), and zinc (up to 48 mg/kg) were detected in all three of the samples analyzed.

The initial groundwater samples collected from the wells were analyzed for TPHg, BTEX, and ethylene dibromide (EDB). TPHg was only detected in the initial groundwater samples collected from wells MW-3 and MW-4 at concentrations of 24,000 micrograms per liter ( $\mu\text{g}/\text{L}$ ) and 19,000  $\mu\text{g}/\text{L}$ , respectively. BTEX (benzene at 2,400  $\mu\text{g}/\text{L}$  and 390  $\mu\text{g}/\text{L}$ , respectively) were

generally also only detected in wells MW-3 and MW-4. EDB was not detected in any of the wells. The groundwater samples collected from wells MW-1 and MW-2 were also analyzed for TPHd, TOG, and metals; which generally were not detected with the exception of cadmium in well MW-1 (20 µg/L), and zinc in wells MW-1 (20 µg/L) and MW-2 (10 µg/L).

A well survey was also conducted to evaluate the presence of any water wells within a ½-mile radius of the site. Information on any wells was requested from the Alameda County Flood Control and Water Conservation District. Nine active water-supply wells (one domestic, one municipal, and seven irrigation) were identified within the search radius. The wells were generally located to the west/southwest of the site. A detailed summary of these activities was presented in the February 21, 1990 *Soil and Groundwater Investigation* report prepared by Chemical Processors, Inc. (Chempro).

**May through August 1990 Well Installation and Hydraulic Testing:** In May 1990, Chempro installed monitoring wells MW-5 through MW-7 and 6-inch diameter extraction well E-1 at the site. In August 1990, Chempro installed offsite monitoring well MW-8 within the median of Foothill Boulevard. Extraction well E-1 was screened from 18.1 to 26.5 fbg, well MW-5 from 14.3 to 23.7 fbg, MW-6 from 24.6 to 29.6 fbg, MW-7 from 21.5 to 26.5 fbg, and MW-8 from 21.5 to 30 fbg. A total of nine soil samples were collected at various depths (ranging from 5.5 to 25 fbg) from the borings and analyzed for TPHg and BTEX. TPHg was only detected in four of the soil samples (up to 130 mg/kg). Low concentrations of BTEX (up to 7.4 mg/kg) were also detected in several of the samples. The initial groundwater samples collected from the wells were analyzed for TPHg, BTEX, and EDB; which were only detected in wells MW-5 and E-1. TPHg was detected in wells MW-5 and E-1 at concentrations of 28,000 µg/L and 3,900 µg/L, respectively. Benzene was detected in wells MW-5 and E-1 at concentrations of 920 µg/L and 260 µg/L, respectively. Toluene (up to 1,100 µg/L), ethylbenzene (up to 460 µg/L), xylenes (up to 1,300 µg/L), and EDB (up to 2.4 µg/L) were also detected in both wells. The groundwater samples collected from wells MW-5, MW-6, MW-7, and E-1 were also analyzed for chlorinated hydrocarbons, which were not detected.

Hydraulic testing was also performed to evaluate the transmissivity, hydraulic conductivity, and storage coefficient of the aquifer beneath the site. The testing was performed by pumping from well E-1 and monitoring the response in wells MW-3, MW-5, and MW-7. Based on the testing results, the transmissivity was approximately 550 gallons per day per foot (gpd/ft), the hydraulic conductivity was approximately  $4.3 \times 10^{-3}$  centimeters per second (cm/s), the storage coefficient was approximately  $2.6 \times 10^{-3}$ , and the average groundwater flow velocity was  $5.2 \times 10^{-4}$  cm/s (540 feet/year). The radius of influence for well E-1 was determined to be approximately 100 ft. During the September 7, 1990 sampling event, approximately 0.04 feet of light non-aqueous phase liquid (LNAPL) was observed in well MW-5; on September 25, 1990, the thickness of LNAPL in well MW-5 was measured at 1.3 feet. A detailed summary of these activities was presented in the November 7, 1990 *Remedial Investigation Report* prepared by Chempro.

**1990-1991 Remedial Activities:** In September 1990, a groundwater extraction (GWE) system was installed at the site; the system included extraction well E-1 and two 1,000-pound carbon vessels. In October 1990, Chempro initiated a LNAPL removal program (hand bailing) in well MW-5. The GWE system began initial operation in January 1991; however, due to the quantity



of LNAPL, system modifications were necessary (oil/water separator needed) and it was shut off until the modifications could be made. The LNAPL removal program in well MW-5 was also discontinued in January 1991. A detailed summary of these activities was presented in the April 1, 1991 *Quarterly Summary Report* prepared by Chempro.

**June 1991 Well Installation and Reconstruction:** In June 1991, Burlington Environmental, Inc. (BE) installed offsite monitoring well MW-9 in the median of Foothill Boulevard and converted 2-inch monitoring wells MW-4 and MW-5 into 4-inch extraction wells E-3 and E-2, respectively. Extraction wells E-2 and E-3 were screened from 15 to 25 fbg, and well MW-9 was screened from 17 to 27 fbg. A soil sample was collected at 15 fbg from boring MW-9 and analyzed for TPHg and BTEX; TPHg (43 mg/kg) and low concentrations of BTEX (up to 1.9 mg/kg) were detected. Groundwater samples were collected from the wells and analyzed for TPHg and BTEX. TPHg was detected in wells MW-9, E-2, and E-3 at concentrations of 16,000 µg/L, 2,900 µg/L, and 5,300 µg/L, respectively. Benzene was detected in wells MW-9, E-2, and E-3 at concentrations of 94 µg/L, 460 µg/L, and 150 µg/L, respectively; toluene (up to 300 µg/L), ethylbenzene (up to 180 µg/L), and xylenes (up to 2,500 µg/L) were also detected in the three wells. A detailed summary of these activities was presented in the September 23, 1991 *Additional Soil and Groundwater Investigation Report* prepared by BE.

**August 1991 to June 1994 Groundwater Extraction:** The GWE system (wells E-1 through E-3) at the site was restarted in August 1991 following the installation of an oil/water separator and connection to wells E-2 and E-3 and operated almost continuously until June 1994. The treated groundwater was discharged under permit to the sanitary sewer. The system removed approximately 666,500 gallons of groundwater; however, only 7.3 pounds of TPHg were removed from the subsurface. As hydrocarbons had not been detected in the influent groundwater since July 1993, the system was shut off in June 1994 with Alameda County Environmental Health (ACEH) approval. This work was documented in the December 20, 1994 *Comprehensive Site Evaluation and Proposed Future Action Plan* prepared by Weiss Associates.

**April and May 1992 Subsurface Investigation:** In April 1992, BE installed offsite monitoring wells MW-10 and MW-11. The wells were both screened from 14.5 to 29.5 fbg. A soil sample was collected at 15 fbg from each boring and analyzed for TPHg and BTEX; which were not detected. The sample collected from boring MW-10 was additionally analyzed for total lead, which was detected at 6 mg/kg. The initial groundwater samples collected from the wells did not contain TPHg or BTEX. A detailed summary of these activities was presented in the July 28, 1992 *Supplemental Soil and Groundwater Investigation Report* prepared by BE.

**September 1998 Well Destructions:** In September 1998, G-R destroyed wells MW-1, MW-2, MW-3, MW-6, and MW-7 (via over-drilling) prior to site renovation. This work was documented in a letter from G-R dated October 26, 1998.

**October 1998 Well Destruction:** In October 1998, G-R destroyed extraction well E-1 via over-drilling. This work was documented in the November 17, 1998 *Well Destruction Report* prepared by G-R.

**October and November 1998 Station Demolition:** In October and November 1998, the station was demolished. As part of these activities, three 10,000-gallon, fiberglass gasoline USTs, a

1,000-gallon, fiberglass used-oil UST, associated product piping, three hydraulic hoists, and one clarifier were removed. Groundwater was encountered in the gasoline UST excavation at approximately 12 fbg; a sheen was noted on the groundwater. Six soil samples (AN, AS, BN, BS, CN, and CS) were collected at approximately 14 fbg beneath the gasoline USTs and analyzed for TPHg, BTEX, methyl tertiary butyl ether (MTBE), and lead. TPHg was only detected in two of the samples (28.8 and 154 mg/kg) and low concentrations of ethylbenzene (up to 0.875 mg/kg) and xylenes (up to 9.86 mg/kg) were detected in two or three of the samples. MTBE (ranging from 1.41 to 12.7 mg/kg) was detected in five of the samples, and lead (up to 5.1 mg/kg) was detected in all the samples. Six soil samples (P1 through P6) were also detected beneath the dispensers and product piping at depths of 2 or 3 fbg and analyzed for the same constituents. Low concentrations of TPHg (up to 11.4 mg/kg) and BTEX (up to 1.29 mg/kg) were detected in three of the samples. An elevated concentration of TPHg (1,560 mg/kg) was detected in sample P4; toluene, ethylbenzene, and xylenes (up to 30.6 mg/kg) were also detected. MTBE (ranging from 0.283 to 8.61 mg/kg) was detected in five of the samples, and lead (up to 11 mg/kg) was detected in all the samples.

Over-excavation was subsequently performed in the former product piping trenches; the trenches were widened to approximately 6 feet and deepened to approximately 4 fbg. Four additional samples (PX1, PX3, PX4, and PX6) were collected from the bottom of the trenches and analyzed for TPHg, BTEX, and MTBE. Low concentrations of TPHg (up to 2.49 mg/kg) and BTEX (up to 1.66 mg/kg) were detected in two of the samples; MTBE (up to 2.9 mg/kg) was detected in all of the samples.

Two soil samples (UO1 and UO2) were collected at approximately 9 fbg beneath the used-oil UST and analyzed for TPHg, TPHd, BTEX, MTBE, TOG, halogenated volatile organic compounds (HVOCs), semi-VOCs, and the metals cadmium, chromium, lead, nickel, and zinc. TPHg (3.9 mg/kg), TPHd (410 mg/kg), and TOG (3,460 mg/kg) were only detected in sample UO1. BTEX, MTBE, and HVOCs were not detected in either of the samples. Semi-VOCs generally were not detected in the samples with the exception of Bis(2-ethylhexyl) phthalate at 0.533 mg/kg and fluorine at 0.379 mg/kg in sample UO1. The chromium (up to 31 mg/kg), lead (up to 20 mg/kg), nickel (up to 38 mg/kg), and zinc (up to 51 mg/kg) concentrations detected in the samples were consistent with background levels; cadmium was not detected. The half of the excavation where sample UO1 was collected was subsequently over-excavated to approximately 11 fbg and an additional sample (UO1X) was collected. TPHg, BTEX, MTBE, and HVOCs were not detected in the sample; TPHd and TOG were detected at 38 and 476 mg/kg, respectively. Semi-VOCs generally were not detected with the exception of Bis(2-ethylhexyl) phthalate at 3.42 mg/kg. The detected metals concentrations were consistent with background levels.

Three soil samples (H1 through H3) were collected at approximately 8 fbg beneath each of the three hoists and analyzed for TPHd; which was only detected in one of the samples (59 mg/kg). One sample (CLR) was collected at approximately 6 fbg beneath the clarifier and analyzed for TPHg, TPHd, BTEX, MTBE, TOG, HVOCs, semi-VOCs, and the metals cadmium, chromium, lead, nickel, and zinc. The sample contained low concentrations of TPHg (4.72 mg/kg), TPHd (7.3 mg/kg), and TOG (44.3 mg/kg); BTEX, MTBE, and HVOCs were not detected. Semi-VOCs generally were not detected with the exception of Bis(2-ethylhexyl) phthalate at 0.924 mg/kg. The detected metals concentrations were consistent with background levels.

Approximately 3,000 gallons of water were removed from the UST excavations prior to backfilling. Approximately 80 cubic yards of impacted soil was removed and disposed offsite during the work. Approximately 100 cubic yards of material (mainly pea gravel) was re-used as backfill. A detailed summary of these activities was presented in the January 19, 1999 *UST Removal and Sampling Report* prepared by Touchstone.

**1999 Soil Removal During New Station Construction:** In July 1999, approximately 900 cubic yards of soil that had been excavated from the new gasoline UST pit was disposed offsite. In September 1999, approximately 130 cubic yards of soil that had been generated during excavation of utility trenches and site grading activities was disposed offsite. This work was documented in a letter prepared by G-R dated November 8, 1999.

**August 2000 Well Installations:** In August 2000, G-R installed offsite monitoring wells MW-12 through MW-14. Wells MW-12, MW-13, and MW-14 were screened from 10.5 to 28.5 fbg, 19 to 34 fbg, and 14.5 to 29.5 fbg, respectively. A total of five soil samples were collected at various depths from the well borings and analyzed for TPHg, BTEX, and MTBE. TPHg and BTEX were not detected in any of the samples. MTBE was only detected in the two soil samples collected from boring MW-14 at 16 fbg (2.9 mg/kg) and 21 fbg (0.13 mg/kg). A detailed summary of these activities was presented in the September 26, 2000 *Off-Site Well Installation Report* prepared by G-R.

**November 2007 Subsurface Investigation:** In November 2007, CRA advanced two onsite exploratory borings (GP-1 and GP-2) to approximately 45 fbg downgradient of the former dispenser islands to evaluate the vertical extent of impacted soil and groundwater. A total of seven soil samples were collected at various depths from the borings and analyzed for TPHg, BTEX, MTBE, tertiary butyl alcohol (TBA), and tertiary amyl methyl ether (TAME). TPHg was detected in the majority of the samples at concentrations ranging from 14 to 200 mg/kg. Low concentrations of benzene (up to 0.067 mg/kg), ethylbenzene (up to 0.61 mg/kg), xylenes (up to 0.74 mg/kg), MTBE (up to 1.3 mg/kg), TBA (up to 0.25 mg/kg), and TAME (up to 0.17 mg/kg) were also detected in the samples. Groundwater samples were also collected from each boring at depths of 32 and 45 fbg and analyzed for the same constituents. Elevated concentrations of TPHg were detected in the samples collected at 32 fbg from boring GP-1 (6,500 µg/L) and at 32 fbg (13,000 µg/L) and 45 fbg (11,000 µg/L) from boring GP-2; only a low concentration (110 µg/L) was detected in the sample collected at 45 fbg from boring GP-1. Benzene was only detected in the samples collected at 32 fbg from boring GP-1 (110 µg/L) and at 45 fbg from boring GP-2 (48 µg/L). Low concentrations of toluene, ethylbenzene, and xylenes (up to 740 µg/L) were detected in the samples. Elevated concentrations of MTBE were detected in the samples collected at 32 fbg from boring GP-1 (890 µg/L) and at 32 fbg (49,000 µg/L) and 45 fbg (6,100 µg/L) from boring GP-2; only a low concentration (11 µg/L) was detected in the sample collected at 45 fbg from boring GP-1. TAME was detected in the samples collected at 32 fbg (88 µg/L) and 45 fbg (2 µg/L) from boring GP-1; TBA was detected in the sample collected at 32 fbg from boring GP-1 (11 µg/L), but was not detected in the sample collected at 45 fbg. Elevated concentrations of TAME were detected in the samples collected at 32 fbg (7,300 µg/L) and 45 fbg (1,500 µg/L) from boring GP-2; lower concentrations of TBA (360 and 910 µg/L, respectively) were also detected.

ATTACHMENT C  
DRILLING PERMIT AND BORING LOGS

# Alameda County Public Works Agency - Water Resources Well Permit



399 Elmhurst Street  
Hayward, CA 94544-1395  
Telephone: (510)670-6633 Fax:(510)782-1939

**Application Approved on: 10/21/2009 By jamesy**

**Permit Numbers: W2009-0968**  
**Permits Valid from 11/03/2009 to 11/04/2009**

**Application Id:** 1256064528819  
**Site Location:** 16304 Foothill Blvd, San Leandro

**City of Project Site:** San Leandro

**Project Start Date:** 11/03/2009  
**Assigned Inspector:** Contact John Shouldice at (510) 670-5424 or johns@acpwa.org

**Completion Date:** 11/04/2009

**Applicant:** Conestoga-Rovers & Associates - Chris

**Phone:** 916-889-8900

Benedict  
10969 Trade Center Dr, # 107, Rancho Cordova, CA 95670

**Property Owner:**

Chevron Corp  
P.O. Box 6012, San Ramon, CA 94583

**Phone:** --

**Client:** \*\* same as Property Owner \*\*

	<b>Total Due:</b>	\$265.00	
<b>Receipt Number: WR2009-0388</b>	<b>Total Amount Paid:</b>	\$265.00	
<b>Payer Name : CRA, Inc</b>	<b>Paid By: CHECK</b>	<b>PAID IN FULL</b>	

**Works Requesting Permits:**

Borehole(s) for Investigation-Contamination Study - 3 Boreholes  
Driller: Penecore Drilling - Lic #: 906899 - Method: DP

**Work Total: \$265.00**

**Specifications**

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2009-0968	10/21/2009	02/01/2010	3	2.50 in.	60.00 ft

**Specific Work Permit Conditions**

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.
2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.
3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.
4. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

## **Alameda County Public Works Agency - Water Resources Well Permit**

5. Applicant shall contact John Shouldice for an inspection time at 510-670-5424 at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
  6. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.
  7. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.
-



<b>CLIENT NAME</b>	Chevron Environmental Management Co.	<b>BORING/WELL NAME</b>	GP-3
<b>JOB/SITE NAME</b>	9-8139	<b>DRILLING STARTED</b>	04-Nov-09
<b>LOCATION</b>	16304 Foothill Boulevard, San Leandro	<b>DRILLING COMPLETED</b>	04-Nov-09
<b>PROJECT NUMBER</b>	611971	<b>WELL DEVELOPMENT DATE (YIELD)</b>	NA
<b>DRILLER</b>	PeneCore Drilling	<b>GROUND SURFACE ELEVATION</b>	Not Surveyed
<b>DRILLING METHOD</b>	Hydraulic push - Dual-tube	<b>TOP OF CASING ELEVATION</b>	Not Surveyed
<b>BORING DIAMETER</b>	2.5 inches	<b>SCREENED INTERVAL</b>	NA
<b>LOGGED BY</b>	C. Benedict	<b>DEPTH TO WATER (First Encountered)</b>	15.0 fbg (04-Nov-09)
<b>REVIEWED BY</b>	J. Kiernan, PE# C68498	<b>DEPTH TO WATER (Static)</b>	NA
<b>REMARKS</b>	Cleared for utilities to 5 fbg using hand-auger.		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
				0.8			<b>Asphalt</b>	0.8	
				5			<b>FILL: Sandy SILT with gravel:</b> Brown; moist; 1/8" to 1/2" angular gravel.		
0		GP-3- 10		10			<b>FILL: Sandy CLAY with gravel:</b> Greenish gray; moist; medium plasticity; 1/8" to 1/2" gravel.		
0		GP-3- 15		15			<b>FILL: GRAVEL:</b> Gray; moist; 1/8 to 1/2" gravel.		
208		GP-3- 17		15.5			Wet at 15-15.5 fbg. <b>CLAY:</b> Brown; moist; high plasticity; very stiff.	15.5	
1071		GP-3- 20		20	CH		Color change to gray.		
1.5		GP-3- 25		25			Color change to brown.		
				26.0	ML		<b>Gravelly SILT:</b> Brown; moist; medium plasticity; soft.	26.0	
				27.5			<b>CLAY:</b> Brown; moist; high plasticity; stiff.	27.5	
0		GP-3- 30		30	CH		<b>CLAY with sand:</b> Brown; moist; medium plasticity; well graded sand; medium stiff.		
				34.0			<b>SILT with sand:</b> Brown; moist; medium plasticity; medium	34.0	
		GP-3- 35		35					

WELL LOG (PID) I:\CHEVRON\6119--611971--1611971-1.GPJ DEFAULT.GDT 12/17/09



<b>CLIENT NAME</b>	<u>Chevron Environmental Management Co.</u>	<b>BORING/WELL NAME</b>	<u>GP-3</u>
<b>JOB/SITE NAME</b>	<u>9-8139</u>	<b>DRILLING STARTED</b>	<u>04-Nov-09</u>
<b>LOCATION</b>	<u>16304 Foothill Boulevard, San Leandro</u>	<b>DRILLING COMPLETED</b>	<u>04-Nov-09</u>

Continued from Previous Page

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
0					ML		stiff.		
					CL		<b>CLAY with sand:</b> Brown; moist; high plasticity; stiff.	37.0	
							<b>Silty SAND:</b> Light brown; dry; well-graded sand.	38.0	
0		GP-3- 40		40	SM			41.0	
					ML		<b>SILT with sand:</b> Light Gray; dry; low plasticity; fine sand.		
							Color change to light brown	44.0	
0		GP-3- 45		45	SM		<b>Silty SAND:</b> Light brown; moist; fine to medium sand.	45.0	
							<b>Sandy SILT:</b> Gray; dry; low plasticity.		
							Color change to light brown.		
0		GP-3- 50		50	ML		Color change to gray.		
							<b>REFUSAL</b>	53.0	
									Bottom of Boring @ 53 fbg

WELL LOG (PID) I:\CHEVRON\6119--611971-1\611971-2\611971-1.GPJ DEFAULT.GDT 12/17/09





<b>CLIENT NAME</b>	<u>Chevron Environmental Management Co.</u>	<b>BORING/WELL NAME</b>	<u>GP-4</u>
<b>JOB/SITE NAME</b>	<u>9-8139</u>	<b>DRILLING STARTED</b>	<u>05-Nov-09</u>
<b>LOCATION</b>	<u>16304 Foothill Boulevard, San Leandro</u>	<b>DRILLING COMPLETED</b>	<u>05-Nov-09</u>
<b>PROJECT NUMBER</b>	<u>611971</u>	<b>WELL DEVELOPMENT DATE (YIELD)</b>	<u>NA</u>
<b>DRILLER</b>	<u>PeneCore Drilling</u>	<b>GROUND SURFACE ELEVATION</b>	<u>Not Surveyed</u>
<b>DRILLING METHOD</b>	<u>Hydraulic push - Dual-tube</u>	<b>TOP OF CASING ELEVATION</b>	<u>Not Surveyed</u>
<b>BORING DIAMETER</b>	<u>2.5 inches</u>	<b>SCREENED INTERVAL</b>	<u>NA</u>
<b>LOGGED BY</b>	<u>C. Benedict</u>	<b>DEPTH TO WATER (First Encountered)</b>	<u>31.0 fbg (05-Nov-09)</u>
<b>REVIEWED BY</b>	<u>J. Kiernan, PE# C68498</u>	<b>DEPTH TO WATER (Static)</b>	<u>NA</u>
<b>REMARKS</b>	<u>Cleared for utilities to 5 fbg using hand-auger.</u>		

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
				0.5			<b>Ashpalt.</b>	0.5	
				2.0			<b>FILL: Silty SAND with gravel:</b> Aggregate base; brown; moist.	2.0	
							<b>CLAY:</b> Dark gray; moist; high plasticity; stiff.		
				5			Color change to brown with green mottling.		
					CL		Very stiff.		
238		GP-4- 10		10			Color change to brown.		
				15			<b>CLAY with sand:</b> Brown; moist; high plasticity; very stiff.	15.0	
							Trace fine gravel.		
75							Color change to light brown.		
28.5				20			Green mottling present.		
16.4					CH		Thin (<1 inch) layer of increased fine gravel and sand; greenish gray; wet; medium plasticity; soft.		
22.2				22.2			Color change to brown; stiff.		
2.7				25			Color change to light brown.		
9.6					CL		<b>CLAY with sand:</b> Light brown; moist; medium plasticity.	28.5	
3.6				30			<b>Sandy CLAY with gravel:</b> Light brown; moist; medium plasticity. Wet at 31 fbg.	30.0	
0					CL		<b>CLAY with sand:</b> Light brown; moist; medium plasticity; stiff.	32.5	
				35					

WELL LOG (PID) I:\CHEVRON\6119--611971-1\611971-1.GPJ DEFAULT.GDT 12/17/09



<b>CLIENT NAME</b>	<u>Chevron Environmental Management Co.</u>	<b>BORING/WELL NAME</b>	<u>GP-4</u>
<b>JOB/SITE NAME</b>	<u>9-8139</u>	<b>DRILLING STARTED</b>	<u>05-Nov-09</u>
<b>LOCATION</b>	<u>16304 Foothill Boulevard, San Leandro</u>	<b>DRILLING COMPLETED</b>	<u>05-Nov-09</u>

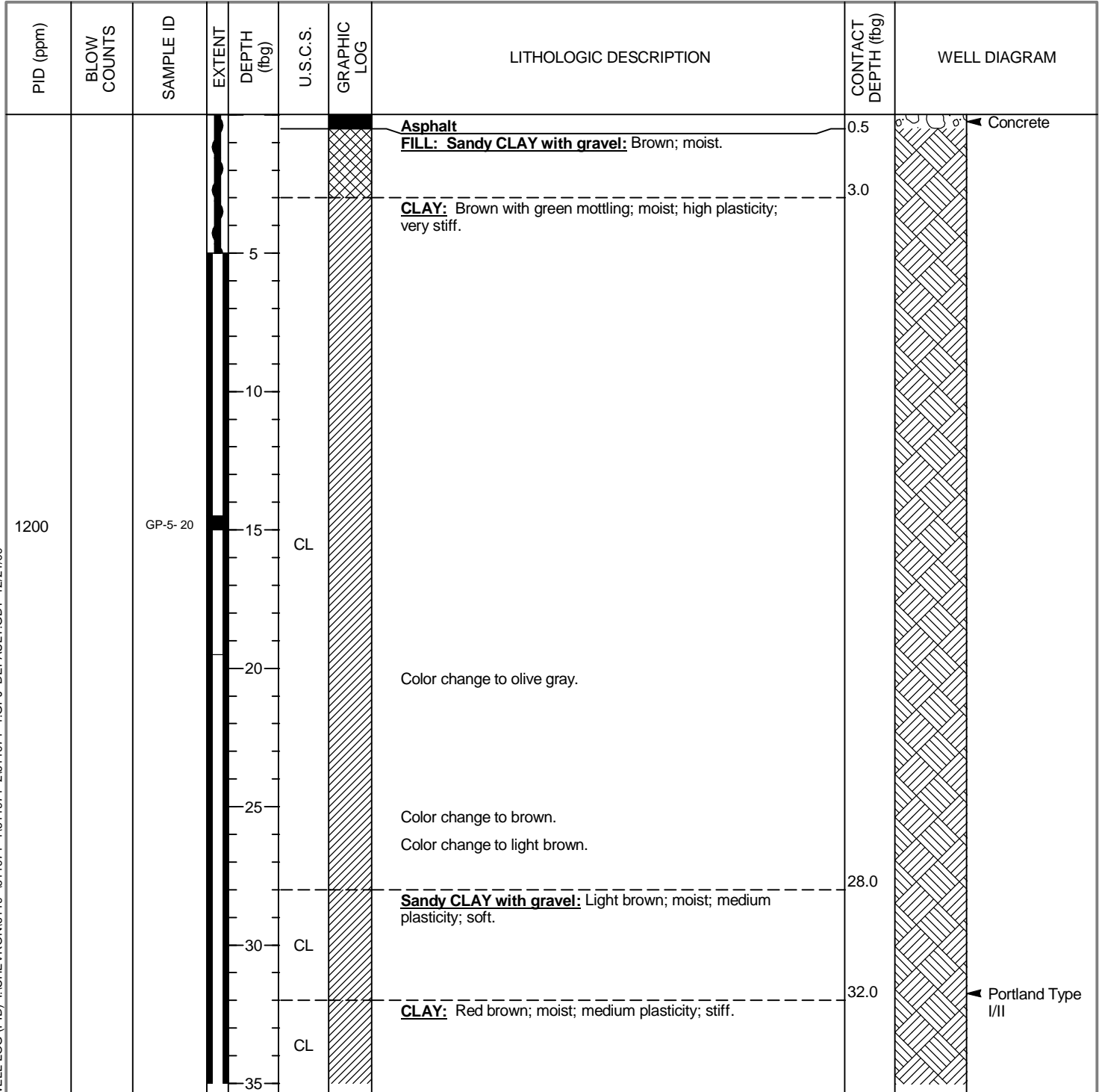
Continued from Previous Page

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
0							Color change to dark brown.		
0				40			Color change to light brown.		
0				45			Increase silt with depth; color change to brown; less stiff.		
					CL		Wet at 47 fbg.		
0				50			Increase clay; light brown; moist; very stiff.		
0				55					
0				60					
0				65				65.0	
					CL		<b>Gravelly CLAY with sand:</b> Light brown; wet; medium estimated plasticity; 1/8-1/2 inch gravel.		
								67.5	
									Bottom of Boring @ 67.5 fbg

WELL LOG (PID) I:\CHEVRON\6119--611971-1\611971-2\611971-1.GPJ DEFAULT.GDT 12/17/09



<b>CLIENT NAME</b>	<u>Chevron Environmental Management Co.</u>	<b>BORING/WELL NAME</b>	<u>GP-5</u>
<b>JOB/SITE NAME</b>	<u>9-8139</u>	<b>DRILLING STARTED</b>	<u>06-Nov-09</u>
<b>LOCATION</b>	<u>16304 Foothill Boulevard, San Leandro</u>	<b>DRILLING COMPLETED</b>	<u>06-Nov-09</u>
<b>PROJECT NUMBER</b>	<u>611971</u>	<b>WELL DEVELOPMENT DATE (YIELD)</b>	<u>NA</u>
<b>DRILLER</b>	<u>PeneCore Drilling</u>	<b>GROUND SURFACE ELEVATION</b>	<u>Not Surveyed</u>
<b>DRILLING METHOD</b>	<u>Hydraulic push - Dual-tube</u>	<b>TOP OF CASING ELEVATION</b>	<u>Not Surveyed</u>
<b>BORING DIAMETER</b>	<u>2.5 inches</u>	<b>SCREENED INTERVAL</b>	<u>NA</u>
<b>LOGGED BY</b>	<u>C. Benedict</u>	<b>DEPTH TO WATER (First Encountered)</b>	<u>37.0 fbg (06-Nov-09)</u> ▼
<b>REVIEWED BY</b>	<u>J. Kiernan, PE# C68498</u>	<b>DEPTH TO WATER (Static)</b>	<u>NA</u> ▼
<b>REMARKS</b>	<u>Cleared for utilities to 5 fbg using hand-auger.</u>		



WELL LOG (PID) I:\CHEVRON\6119--611971--1611971-1\GPJ DEFAULT.GDT 12/21/09



<b>CLIENT NAME</b>	<u>Chevron Environmental Management Co.</u>	<b>BORING/WELL NAME</b>	<u>GP-5</u>
<b>JOB/SITE NAME</b>	<u>9-8139</u>	<b>DRILLING STARTED</b>	<u>06-Nov-09</u>
<b>LOCATION</b>	<u>16304 Foothill Boulevard, San Leandro</u>	<b>DRILLING COMPLETED</b>	<u>06-Nov-09</u>

Continued from Previous Page

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
				35.3			<b>Sandy CLAY with gravel:</b> Red brown; moist; medium plasticity; stiff. Wet at 37 fbg.	35.3	
				42.5			<b>Silty SAND with gravel:</b> Light brown; wet; fine to medium sand.	42.5	
				51.0			<b>CLAY with sand:</b> Olive gray; moist; medium plasticity; stiff; fine to coarse sand.	51.0	
				60.0			<b>SILT with sand:</b> Gray; moist; medium plasticity; hard.	60.0	
				63.0			Wet at 63 fbg.	63.0	Bottom of Boring @ 63 fbg

WELL LOG (PID) I:\CHEVRON\6119--611971-1\611971-1.GPJ DEFAULT.GDT 12/21/09

ATTACHMENT D  
STANDARD FIELD PROCEDURES

# CRA

## STANDARD FIELD PROCEDURES FOR GEOPROBE® SOIL AND GROUNDWATER SAMPLING

This document describes Conestoga-Rovers & Associates standard field methods for GeoProbe® soil and ground water sampling. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

### Objectives

Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor odor or staining, estimate ground water depth and quality and to submit samples for chemical analysis.

### Soil Classification/Logging

All soil samples are classified according to the Unified Soil Classification System by a trained geologist or engineer working under the supervision of a California Professional Geologist (PG) or a Certified Engineering Geologist (CEG). The following soil properties are noted for each soil sample:

- Principal and secondary grain size category (i.e., sand, silt, clay or gravel)
- Approximate percentage of each grain size category,
- Color,
- Approximate water or separate-phase hydrocarbon saturation percentage,
- Observed odor and/or discoloration,
- Other significant observations (i.e., cementation, presence of marker horizons, mineralogy), and
- Estimated permeability.

### Soil Sampling

GeoProbe® soil samples are collected from borings driven using hydraulic push technologies. A minimum of one and one half ft of the soil column is collected for every five ft of drilled depth. Additional soil samples can be collected near the water table and at lithologic changes. Samples are collected using samplers lined with polyethylene or brass tubes driven into undisturbed sediments at the bottom of the borehole. The ground surface immediately adjacent to the boring is used as a datum to measure sample depth. The horizontal location of each boring is measured in the field relative to a permanent on-site reference using a measuring wheel or tape measure.

Drilling and sampling equipment is steam-cleaned or washed prior to drilling and between borings to prevent cross-contamination. Sampling equipment is washed between samples with trisodium phosphate or an equivalent EPA-approved detergent.

### Sample Storage, Handling and Transport

Sampling tubes chosen for analysis are trimmed of excess soil and capped with Teflon® tape and plastic end caps. Soil samples are labeled and stored at or below 4°C on either crushed or dry ice, depending upon local regulations. Samples are transported under chain-of-custody to a State-certified analytic laboratory.

# CRA

## **Field Screening**

After a soil sample has been collected, soil from the remaining tubing is placed inside a sealed plastic bag and set aside to allow hydrocarbons to volatilize from the soil. After ten to fifteen minutes, a portable GasTech<sup>®</sup> or photoionization detector measures volatile hydrocarbon vapor concentrations in the bag's headspace, extracting the vapor through a slit in the plastic bag. The measurements are used along with the field observations, odors, stratigraphy and ground water depth to select soil samples for analysis.

## **Grab Ground Water Sampling**

Ground water samples are collected from the open borehole using bailers, advancing disposable Tygon<sup>®</sup> tubing into the borehole and extracting ground water using a diaphragm pump, or using a hydro-punch style sampler with a bailer or tubing. The ground water samples are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4° C, and transported under chain-of-custody to the laboratory.

## **Discrete Depth Soil and Ground Water Sampling**

Soil and groundwater samples are collected for lithologic and chemical analysis using a direct driven, dual tube soil coring system. A hydraulic hammer drives sampling rods into the ground to collect continuous soil cores. Two nested sampling rods are driven at the same time: a larger diameter outer rod to act as a temporary drive casing and a smaller inner rod to retrieve soil cores. As the rods are advanced the soil is driven into a sample barrel that is attached to the end of the inner rod. The outer rod ensures that the sample is collected from the desired interval by preventing sloughing of the overlying material. After reaching the desired depth the inner rods are removed from the boring and the sleeves containing the soil sample are removed from the inner sample barrel. Sampling tubes chosen for analysis are trimmed of excess soil and capped with Teflon<sup>®</sup> tape and plastic end caps. Soil samples are labeled and stored at or below 4°C on either crushed or dry ice, depending upon local regulations. Samples are transported under chain-of-custody to a State-certified analytic laboratory.

When collecting groundwater samples, the sample barrel and inner rods are removed from the boring once the targeted water bearing zone has been reached. The drive casing is pulled up from 0.5 to 5 feet to allow groundwater to enter the borehole. Small diameter well casing and screen is then installed in the borehole to facilitate sample collection. The drive casing is then pulled up sufficiently to expose the desired length of screen and samples are collected using a bailer, peristaltic, bladder or inertial pump. The ground water samples are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4° C, and transported under chain-of-custody to the laboratory.

# CRA

## **Duplicates and Blanks**

Blind duplicate water samples are usually collected only for monitoring well sampling programs, at a rate of one blind sample for every 10 wells sampled. Laboratory-supplied trip blanks accompany samples collected for all sampling programs to check for cross-contamination caused by sample handling and transport. These trip blanks are analyzed if the internal laboratory quality assurance/quality control (QA/QC) blanks contain the suspected field contaminants. An equipment blank may also be analyzed if non-dedicated sampling equipment is used.

## **Grouting**

If the borings are not completed as wells, the borings are filled to the ground surface with cement grout poured or pumped through a tremie pipe.

I:\MISC\SOPS\GEOPROBE WITH DISCRETE DEPTH.DOC



ATTACHMENT E  
LABORATORY REPORTS

## ANALYTICAL RESULTS

Prepared for:

Chevron c/o CRA  
Suite 110  
2000 Opportunity Drive  
Roseville CA 95678

916-677-3407

Prepared by:

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

November 20, 2009

Project: 98139

Samples arrived at the laboratory on Tuesday, November 10, 2009. The PO# for this group is 98139 and the release number is MTI. The group number for this submittal is 1170290.

<u>Client Sample Description</u>	<u>Lancaster Labs (LLI) #</u>
GP-3-S-10-091104 NA Soil	5832011
GP-3-S-15-091104 NA Soil	5832012
GP-3-S-17-091104 NA Soil	5832013
GP-3-S-20-091104 NA Soil	5832014
GP-3-S-25-091104 NA Soil	5832015
GP-3-S-30-091104 NA Soil	5832016
GP-3-S-35-091104 NA Soil	5832017
GP-3-S-40-091104 NA Soil	5832018
GP-3-S-45-091104 NA Soil	5832019
GP-3-S-50-091104 NA Soil	5832020
GP-4-S-10-091105 NA Soil	5832021
GP-5-S-20-091106 NA Soil	5832022

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

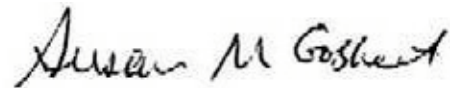
ELECTRONIC      Chevron c/o CRA  
COPY TO  
ELECTRONIC      Chevron c/o CRA  
COPY TO

Attn: CRA EDD

Attn: James Kiernan

Questions? Contact your Client Services Representative  
Angela M Miller at (717) 656-2300

Respectfully Submitted,



Susan M. Goshert  
Group Leader



# Analysis Report

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

**Sample Description:** GP-3-S-10-091104 NA Soil  
Facility# 98139 MTI# 611971 CRAW  
16304 Foothill-San Leandro T0600100303 GP-3

LLI Sample # SW 5832011  
LLI Group # 1170290  
CA

**Project Name:** 98139

Collected: 11/04/2009 09:48 by CB

Account Number: 11997

Submitted: 11/10/2009 09:05

Chevron c/o CRA

Reported: 11/20/2009 at 16:43

Suite 110

Discard: 12/21/2009

2000 Opportunity Drive  
Roseville CA 95678

G-310

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>GC/MS</b>	<b>Volatiles</b>	<b>SW-846 8260B</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	
07361	t-Amyl methyl ether	994-05-8	N.D.	0.001	0.005	0.97
07361	Benzene	71-43-2	N.D.	0.0005	0.005	0.97
07361	t-Butyl alcohol	75-65-0	0.14	0.019	0.097	0.97
07361	Ethyl t-butyl ether	637-92-3	N.D.	0.001	0.005	0.97
07361	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.97
07361	di-Isopropyl ether	108-20-3	N.D.	0.001	0.005	0.97
07361	Methyl Tertiary Butyl Ether	1634-04-4	0.008	0.0005	0.005	0.97
07361	Toluene	108-88-3	N.D.	0.001	0.005	0.97
07361	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.97
<b>GC</b>	<b>Volatiles</b>	<b>SW-846 8015B modified</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	
01725	TPH-GRO N. CA soil C6-C12	n.a.	5.1	2.1	2.1	52.63

### General Sample Comments

State of California Lab Certification No. 2501

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

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07361	BTEX+5 Oxygenates+EDC+EDB	SW-846 8260B	1	A093151AA	11/11/2009 17:55	Chelsea B Eastep	0.97
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	200931419781	11/10/2009 18:24	Eric L Vera	n.a.
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	2	200931419781	11/10/2009 18:23	Eric L Vera	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5030A	1	200931419781	11/10/2009 18:21	Eric L Vera	n.a.
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	09317A34A	11/13/2009 22:11	Marie D John	52.63
01150	GC - Bulk Soil Prep	SW-846 5030A	1	200931419781	11/10/2009 18:22	Eric L Vera	n.a.

\*=This limit was used in the evaluation of the final result



# Analysis Report

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

Sample Description: GP-3-S-15-091104 NA Soil  
Facility# 98139 MTI# 611971 CRAW  
16304 Foothill-San Leandro T0600100303 GP-3

LLI Sample # SW 5832012  
LLI Group # 1170290  
CA

Project Name: 98139

Collected: 11/04/2009 09:50 by CB

Account Number: 11997

Submitted: 11/10/2009 09:05  
Reported: 11/20/2009 at 16:43  
Discard: 12/21/2009

Chevron c/o CRA  
Suite 110  
2000 Opportunity Drive  
Roseville CA 95678

G-315

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>GC/MS Volatiles SW-846 8260B</b>			mg/kg	mg/kg	mg/kg	
07361	t-Amyl methyl ether	994-05-8	0.001	0.001	0.005	1.01
07361	Benzene	71-43-2	N.D.	0.0005	0.005	1.01
07361	t-Butyl alcohol	75-65-0	0.037	0.020	0.10	1.01
07361	Ethyl t-butyl ether	637-92-3	N.D.	0.001	0.005	1.01
07361	Ethylbenzene	100-41-4	N.D.	0.001	0.005	1.01
07361	di-Isopropyl ether	108-20-3	N.D.	0.001	0.005	1.01
07361	Methyl Tertiary Butyl Ether	1634-04-4	0.013	0.0005	0.005	1.01
07361	Toluene	108-88-3	N.D.	0.001	0.005	1.01
07361	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	1.01
<b>GC Volatiles SW-846 8015B modified</b>			mg/kg	mg/kg	mg/kg	
01725	TPH-GRO N. CA soil C6-C12	n.a.	2.1	1.0	1.0	25.85

### General Sample Comments

State of California Lab Certification No. 2501

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

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07361	BTEX+5 Oxygenates+EDC+EDB	SW-846 8260B	1	A093151AA	11/11/2009 18:18	Chelsea B Eastep	1.01
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	200931419781	11/10/2009 18:28	Eric L Vera	n.a.
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	2	200931419781	11/10/2009 18:27	Eric L Vera	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5030A	1	200931419781	11/10/2009 18:26	Eric L Vera	n.a.
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	09317A34A	11/13/2009 13:09	Marie D John	25.85
01150	GC - Bulk Soil Prep	SW-846 5030A	1	200931419781	11/10/2009 18:27	Eric L Vera	n.a.

\*=This limit was used in the evaluation of the final result



# Analysis Report

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

**Sample Description:** GP-3-S-17-091104 NA Soil  
Facility# 98139 MTI# 611971 CRAW  
16304 Foothill-San Leandro T0600100303 GP-3

LLI Sample # SW 5832013  
LLI Group # 1170290  
CA

**Project Name:** 98139

Collected: 11/04/2009 10:13 by CB

Account Number: 11997

Submitted: 11/10/2009 09:05

Chevron c/o CRA

Reported: 11/20/2009 at 16:43

Suite 110

Discard: 12/21/2009

2000 Opportunity Drive  
Roseville CA 95678

G-317

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>GC/MS</b>	<b>Volatiles</b>	<b>SW-846 8260B</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	
07361	t-Amyl methyl ether	994-05-8	0.35	0.052	0.26	51.76
07361	Benzene	71-43-2	N.D.	0.026	0.26	51.76
07361	t-Butyl alcohol	75-65-0	1.2	1.0	5.2	51.76
07361	Ethyl t-butyl ether	637-92-3	N.D.	0.052	0.26	51.76
07361	Ethylbenzene	100-41-4	0.055	0.052	0.26	51.76
07361	di-Isopropyl ether	108-20-3	N.D.	0.052	0.26	51.76
07361	Methyl Tertiary Butyl Ether	1634-04-4	2.5	0.026	0.26	51.76
07361	Toluene	108-88-3	N.D.	0.052	0.26	51.76
07361	Xylene (Total)	1330-20-7	N.D.	0.052	0.26	51.76

The GC/MS volatile analysis was performed according to the high level soil method due to the level of non-target compounds. Therefore, the reporting limits were raised.

GC Volatiles	SW-846 8015B modified	mg/kg	mg/kg	mg/kg	
01725	TPH-GRO N. CA soil C6-C12	n.a.	35	19	483.56

### General Sample Comments

State of California Lab Certification No. 2501

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

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07361	BTEX+5 Oxygenates+EDC+EDB	SW-846 8260B	1	R093151AA	11/11/2009 15:27	Nicholas R Rossi	51.76
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	200931419781	11/10/2009 18:32	Eric L Vera	n.a.
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	2	200931419781	11/10/2009 18:31	Eric L Vera	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5030A	1	200931419781	11/10/2009 18:30	Eric L Vera	n.a.
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	09317A34A	11/13/2009 22:47	Marie D John	483.56
01150	GC - Bulk Soil Prep	SW-846 5030A	1	200931419781	11/10/2009 18:30	Eric L Vera	n.a.

\*=This limit was used in the evaluation of the final result



# Analysis Report

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

**Sample Description:** GP-3-S-20-091104 NA Soil  
**Facility#** 98139 **MTI#** 611971 CRAW  
 16304 Foothill-San Leandro T0600100303 GP-3

**LLI Sample #** SW 5832014  
**LLI Group #** 1170290  
 CA

**Project Name:** 98139

Collected: 11/04/2009 10:15 by CB

Account Number: 11997

Submitted: 11/10/2009 09:05

Chevron c/o CRA

Reported: 11/20/2009 at 16:43

Suite 110

Discard: 12/21/2009

2000 Opportunity Drive  
 Roseville CA 95678

G-320

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>GC/MS</b>	<b>Volatiles</b>	<b>SW-846 8260B</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	
07361	t-Amyl methyl ether	994-05-8	0.25	0.053	0.26	52.74
07361	Benzene	71-43-2	0.13	0.026	0.26	52.74
07361	t-Butyl alcohol	75-65-0	N.D.	1.1	5.3	52.74
07361	Ethyl t-butyl ether	637-92-3	N.D.	0.053	0.26	52.74
07361	Ethylbenzene	100-41-4	5.9	0.053	0.26	52.74
07361	di-Isopropyl ether	108-20-3	N.D.	0.053	0.26	52.74
07361	Methyl Tertiary Butyl Ether	1634-04-4	1.6	0.026	0.26	52.74
07361	Toluene	108-88-3	N.D.	0.053	0.26	52.74
07361	Xylene (Total)	1330-20-7	2.7	0.053	0.26	52.74
<b>GC</b>	<b>Volatiles</b>	<b>SW-846 8015B modified</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	
01725	TPH-GRO N. CA soil C6-C12	n.a.	210	19	19	464.68

### General Sample Comments

State of California Lab Certification No. 2501

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

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07361	BTEX+5 Oxygenates+EDC+EDB	SW-846 8260B	1	R093151AA	11/11/2009 15:49	Nicholas R Rossi	52.74
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	200931419781	11/10/2009 18:36	Eric L Vera	n.a.
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	2	200931419781	11/10/2009 18:35	Eric L Vera	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5030A	1	200931419781	11/10/2009 18:33	Eric L Vera	n.a.
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	09317A34B	11/16/2009 12:07	Carrie E Miller	464.68
01150	GC - Bulk Soil Prep	SW-846 5030A	1	200931419781	11/10/2009 18:34	Eric L Vera	n.a.

\*=This limit was used in the evaluation of the final result



# Analysis Report

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

Sample Description: GP-3-S-25-091104 NA Soil  
Facility# 98139 MTI# 611971 CRAW  
16304 Foothill-San Leandro T0600100303 GP-3

LLI Sample # SW 5832015  
LLI Group # 1170290  
CA

Project Name: 98139

Collected: 11/04/2009 11:45 by CB

Account Number: 11997

Submitted: 11/10/2009 09:05  
Reported: 11/20/2009 at 16:43  
Discard: 12/21/2009

Chevron c/o CRA  
Suite 110  
2000 Opportunity Drive  
Roseville CA 95678

G-325

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>GC/MS</b>	<b>Volatiles</b>	<b>SW-846 8260B</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	
07361	t-Amyl methyl ether	994-05-8	0.038	0.001	0.005	1.02
07361	Benzene	71-43-2	N.D.	0.0005	0.005	1.02
07361	t-Butyl alcohol	75-65-0	N.D.	0.020	0.10	1.02
07361	Ethyl t-butyl ether	637-92-3	N.D.	0.001	0.005	1.02
07361	Ethylbenzene	100-41-4	N.D.	0.001	0.005	1.02
07361	di-Isopropyl ether	108-20-3	N.D.	0.001	0.005	1.02
07361	Methyl Tertiary Butyl Ether	1634-04-4	0.34	0.026	0.26	52.52
07361	Toluene	108-88-3	N.D.	0.001	0.005	1.02
07361	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	1.02
<b>GC</b>	<b>Volatiles</b>	<b>SW-846 8015B modified</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1.0	1.0	25.88

### General Sample Comments

State of California Lab Certification No. 2501

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

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07361	BTEX+5 Oxygenates+EDC+EDB	SW-846 8260B	1	A093151AA	11/11/2009 19:27	Chelsea B Eastep	1.02
07361	BTEX+5 Oxygenates+EDC+EDB	SW-846 8260B	1	R093171AA	11/13/2009 17:06	Nicholas R Rossi	52.52
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	200931419781	11/10/2009 18:39	Eric L Vera	n.a.
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	2	200931419781	11/10/2009 18:38	Eric L Vera	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5030A	1	200931419781	11/10/2009 18:39	Eric L Vera	n.a.
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	09317A34A	11/13/2009 13:45	Marie D John	25.88
01150	GC - Bulk Soil Prep	SW-846 5030A	1	200931419781	11/10/2009 18:37	Eric L Vera	n.a.

\*=This limit was used in the evaluation of the final result





# Analysis Report

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

Sample Description: GP-3-S-30-091104 NA Soil  
Facility# 98139 MTI# 611971 CRAW  
16304 Foothill-San Leandro T0600100303 GP-3

LLI Sample # SW 5832016  
LLI Group # 1170290  
CA

Project Name: 98139

Collected: 11/04/2009 12:00 by CB

Account Number: 11997

Submitted: 11/10/2009 09:05  
Reported: 11/20/2009 at 16:43  
Discard: 12/21/2009

Chevron c/o CRA  
Suite 110  
2000 Opportunity Drive  
Roseville CA 95678

G-330

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>GC/MS</b>	<b>Volatiles</b>	<b>SW-846 8260B</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	
07361	t-Amyl methyl ether	994-05-8	N.D.	0.0009	0.005	0.93
07361	Benzene	71-43-2	N.D.	0.0005	0.005	0.93
07361	t-Butyl alcohol	75-65-0	N.D.	0.019	0.093	0.93
07361	Ethyl t-butyl ether	637-92-3	N.D.	0.0009	0.005	0.93
07361	Ethylbenzene	100-41-4	N.D.	0.0009	0.005	0.93
07361	di-Isopropyl ether	108-20-3	N.D.	0.0009	0.005	0.93
07361	Methyl Tertiary Butyl Ether	1634-04-4	0.0008	0.0005	0.005	0.93
07361	Toluene	108-88-3	N.D.	0.0009	0.005	0.93
07361	Xylene (Total)	1330-20-7	N.D.	0.0009	0.005	0.93
<b>GC</b>	<b>Volatiles</b>	<b>SW-846 8015B modified</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1.1	1.1	27.14

### General Sample Comments

State of California Lab Certification No. 2501

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

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07361	BTEX+5 Oxygenates+EDC+EDB	SW-846 8260B	1	A093151AA	11/11/2009 18:41	Chelsea B Eastep	0.93
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	200931419781	11/10/2009 18:42	Eric L Vera	n.a.
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	2	200931419781	11/10/2009 18:42	Eric L Vera	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5030A	1	200931419781	11/10/2009 18:43	Eric L Vera	n.a.
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	09317A34A	11/13/2009 14:21	Marie D John	27.14
01150	GC - Bulk Soil Prep	SW-846 5030A	1	200931419781	11/10/2009 18:41	Eric L Vera	n.a.

\*=This limit was used in the evaluation of the final result



# Analysis Report

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

Sample Description: GP-3-S-35-091104 NA Soil  
Facility# 98139 MTI# 611971 CRAW  
16304 Foothill-San Leandro T0600100303 GP-3

LLI Sample # SW 5832017  
LLI Group # 1170290  
CA

Project Name: 98139

Collected: 11/04/2009 12:20 by CB

Account Number: 11997

Submitted: 11/10/2009 09:05  
Reported: 11/20/2009 at 16:43  
Discard: 12/21/2009

Chevron c/o CRA  
Suite 110  
2000 Opportunity Drive  
Roseville CA 95678

G-335

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>GC/MS</b>	<b>Volatiles</b>	<b>SW-846 8260B</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	
07361	t-Amyl methyl ether	994-05-8	N.D.	0.001	0.005	1.05
07361	Benzene	71-43-2	N.D.	0.0005	0.005	1.05
07361	t-Butyl alcohol	75-65-0	N.D.	0.021	0.11	1.05
07361	Ethyl t-butyl ether	637-92-3	N.D.	0.001	0.005	1.05
07361	Ethylbenzene	100-41-4	N.D.	0.001	0.005	1.05
07361	di-Isopropyl ether	108-20-3	N.D.	0.001	0.005	1.05
07361	Methyl Tertiary Butyl Ether	1634-04-4	0.0007	0.0005	0.005	1.05
07361	Toluene	108-88-3	N.D.	0.001	0.005	1.05
07361	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	1.05
<b>GC</b>	<b>Volatiles</b>	<b>SW-846 8015B modified</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1.0	1.0	25.69

### General Sample Comments

State of California Lab Certification No. 2501

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

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07361	BTEX+5 Oxygenates+EDC+EDB	SW-846 8260B	1	A093151AA	11/11/2009 16:24	Chelsea B Eastep	1.05
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	200931419781	11/10/2009 18:47	Eric L Vera	n.a.
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	2	200931419781	11/10/2009 18:46	Eric L Vera	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5030A	1	200931419781	11/10/2009 18:46	Eric L Vera	n.a.
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	09317A34A	11/13/2009 14:57	Marie D John	25.69
01150	GC - Bulk Soil Prep	SW-846 5030A	1	200931419781	11/10/2009 18:45	Eric L Vera	n.a.

\*=This limit was used in the evaluation of the final result



# Analysis Report

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

**Sample Description:** GP-3-S-40-091104 NA Soil  
**Facility#** 98139 **MTI#** 611971 CRAW  
 16304 Foothill-San Leandro T0600100303 GP-3

**LLI Sample #** SW 5832018  
**LLI Group #** 1170290  
 CA

**Project Name:** 98139

Collected: 11/04/2009 12:40 by CB

Account Number: 11997

Submitted: 11/10/2009 09:05  
 Reported: 11/20/2009 at 16:43  
 Discard: 12/21/2009

Chevron c/o CRA  
 Suite 110  
 2000 Opportunity Drive  
 Roseville CA 95678

G-340

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>GC/MS Volatiles SW-846 8260B</b>			mg/kg	mg/kg	mg/kg	
07361	t-Amyl methyl ether	994-05-8	N.D.	0.001	0.005	1.04
07361	Benzene	71-43-2	N.D.	0.0005	0.005	1.04
07361	t-Butyl alcohol	75-65-0	N.D.	0.021	0.10	1.04
07361	Ethyl t-butyl ether	637-92-3	N.D.	0.001	0.005	1.04
07361	Ethylbenzene	100-41-4	N.D.	0.001	0.005	1.04
07361	di-Isopropyl ether	108-20-3	N.D.	0.001	0.005	1.04
07361	Methyl Tertiary Butyl Ether	1634-04-4	0.002	0.0005	0.005	1.04
07361	Toluene	108-88-3	N.D.	0.001	0.005	1.04
07361	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	1.04
<b>GC Volatiles SW-846 8015B modified</b>			mg/kg	mg/kg	mg/kg	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	0.9	0.9	23.65

### General Sample Comments

State of California Lab Certification No. 2501

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

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07361	BTEX+5 Oxygenates+EDC+EDB	SW-846 8260B	1	A093151AA	11/11/2009 15:15	Chelsea B Eastep	1.04
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	200931419781	11/10/2009 18:49	Eric L Vera	n.a.
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	2	200931419781	11/10/2009 18:50	Eric L Vera	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5030A	1	200931419781	11/10/2009 18:51	Eric L Vera	n.a.
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	09317A34A	11/13/2009 15:33	Marie D John	23.65
01150	GC - Bulk Soil Prep	SW-846 5030A	1	200931419781	11/10/2009 18:49	Eric L Vera	n.a.

\*=This limit was used in the evaluation of the final result



# Analysis Report

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

Sample Description: GP-3-S-45-091104 NA Soil  
Facility# 98139 MTI# 611971 CRAW  
16304 Foothill-San Leandro T0600100303 GP-3

LLI Sample # SW 5832019  
LLI Group # 1170290  
CA

Project Name: 98139

Collected: 11/04/2009 13:20 by CB

Account Number: 11997

Submitted: 11/10/2009 09:05  
Reported: 11/20/2009 at 16:43  
Discard: 12/21/2009

Chevron c/o CRA  
Suite 110  
2000 Opportunity Drive  
Roseville CA 95678

G-345

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>GC/MS</b>	<b>Volatiles</b>	<b>SW-846 8260B</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	
07361	t-Amyl methyl ether	994-05-8	N.D.	0.001	0.005	1.03
07361	Benzene	71-43-2	N.D.	0.0005	0.005	1.03
07361	t-Butyl alcohol	75-65-0	N.D.	0.021	0.10	1.03
07361	Ethyl t-butyl ether	637-92-3	N.D.	0.001	0.005	1.03
07361	Ethylbenzene	100-41-4	N.D.	0.001	0.005	1.03
07361	di-Isopropyl ether	108-20-3	N.D.	0.001	0.005	1.03
07361	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.005	1.03
07361	Toluene	108-88-3	N.D.	0.001	0.005	1.03
07361	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	1.03
<b>GC</b>	<b>Volatiles</b>	<b>SW-846 8015B modified</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1	1	24.58

### General Sample Comments

State of California Lab Certification No. 2501

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

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07361	BTEX+5 Oxygenates+EDC+EDB	SW-846 8260B	1	A093151AA	11/11/2009 15:38	Chelsea B Eastep	1.03
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	200931419781	11/10/2009 18:55	Eric L Vera	n.a.
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	2	200931419781	11/10/2009 18:54	Eric L Vera	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5030A	1	200931419781	11/10/2009 18:53	Eric L Vera	n.a.
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	09317A34A	11/13/2009 16:09	Marie D John	24.58
01150	GC - Bulk Soil Prep	SW-846 5030A	1	200931419781	11/10/2009 18:54	Eric L Vera	n.a.

\*=This limit was used in the evaluation of the final result



# Analysis Report

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

Page 1 of 1

Sample Description: GP-3-S-50-091104 NA Soil  
Facility# 98139 MTI# 611971 CRAW  
16304 Foothill-San Leandro T0600100303 GP-3

LLI Sample # SW 5832020  
LLI Group # 1170290  
CA

Project Name: 98139

Collected: 11/04/2009 13:35 by CB

Account Number: 11997

Submitted: 11/10/2009 09:05  
Reported: 11/20/2009 at 16:43  
Discard: 12/21/2009

Chevron c/o CRA  
Suite 110  
2000 Opportunity Drive  
Roseville CA 95678

G-350

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>GC/MS</b>	<b>Volatiles</b>	<b>SW-846 8260B</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	
07361	t-Amyl methyl ether	994-05-8	N.D.	0.001	0.005	0.97
07361	Benzene	71-43-2	N.D.	0.0005	0.005	0.97
07361	t-Butyl alcohol	75-65-0	N.D.	0.019	0.097	0.97
07361	Ethyl t-butyl ether	637-92-3	N.D.	0.001	0.005	0.97
07361	Ethylbenzene	100-41-4	N.D.	0.001	0.005	0.97
07361	di-Isopropyl ether	108-20-3	N.D.	0.001	0.005	0.97
07361	Methyl Tertiary Butyl Ether	1634-04-4	0.003	0.0005	0.005	0.97
07361	Toluene	108-88-3	N.D.	0.001	0.005	0.97
07361	Xylene (Total)	1330-20-7	N.D.	0.001	0.005	0.97
<b>GC</b>	<b>Volatiles</b>	<b>SW-846 8015B modified</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1.1	1.1	26.6

### General Sample Comments

State of California Lab Certification No. 2501

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

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07361	BTEX+5 Oxygenates+EDC+EDB	SW-846 8260B	1	A093151AA	11/11/2009 17:10	Chelsea B Eastep	0.97
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	200931419781	11/10/2009 18:56	Eric L Vera	n.a.
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	2	200931419781	11/10/2009 18:58	Eric L Vera	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5030A	1	200931419781	11/10/2009 19:00	Eric L Vera	n.a.
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	09317A34A	11/13/2009 16:48	Marie D John	26.6
01150	GC - Bulk Soil Prep	SW-846 5030A	1	200931419781	11/10/2009 18:59	Eric L Vera	n.a.

\*=This limit was used in the evaluation of the final result



# Analysis Report

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

Sample Description: GP-4-S-10-091105 NA Soil  
Facility# 98139 MTI# 611971 CRAW  
16304 Foothill-San Leandro T0600100303 GP-4

LLI Sample # SW 5832021  
LLI Group # 1170290  
CA

Project Name: 98139

Collected: 11/05/2009 07:05 by CB

Account Number: 11997

Submitted: 11/10/2009 09:05  
Reported: 11/20/2009 at 16:43  
Discard: 12/21/2009

Chevron c/o CRA  
Suite 110  
2000 Opportunity Drive  
Roseville CA 95678

G-410

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>GC/MS</b>	<b>Volatiles</b>	<b>SW-846 8260B</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	
07361	t-Amyl methyl ether	994-05-8	N.D.	0.049	0.24	48.92
07361	Benzene	71-43-2	0.10	0.024	0.24	48.92
07361	t-Butyl alcohol	75-65-0	N.D.	0.98	4.9	48.92
07361	Ethyl t-butyl ether	637-92-3	N.D.	0.049	0.24	48.92
07361	Ethylbenzene	100-41-4	6.7	0.049	0.24	48.92
07361	di-Isopropyl ether	108-20-3	N.D.	0.049	0.24	48.92
07361	Methyl Tertiary Butyl Ether	1634-04-4	0.63	0.024	0.24	48.92
07361	Toluene	108-88-3	N.D.	0.049	0.24	48.92
07361	Xylene (Total)	1330-20-7	13	0.49	2.4	489.24
<b>GC</b>	<b>Volatiles</b>	<b>SW-846 8015B modified</b>	<b>mg/kg</b>	<b>mg/kg</b>	<b>mg/kg</b>	
01725	TPH-GRO N. CA soil C6-C12	n.a.	710	440	440	11013.22

### General Sample Comments

State of California Lab Certification No. 2501

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

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07361	BTEX+5 Oxygenates+EDC+EDB	SW-846 8260B	1	R093151AA	11/11/2009 16:11	Nicholas R Rossi	48.92
07361	BTEX+5 Oxygenates+EDC+EDB	SW-846 8260B	1	R093151AA	11/11/2009 16:34	Nicholas R Rossi	489.24
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	200931419781	11/10/2009 19:03	Eric L Vera	n.a.
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	2	200931419781	11/10/2009 19:04	Eric L Vera	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5030A	1	200931419781	11/10/2009 19:06	Eric L Vera	n.a.
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	09317A34A	11/14/2009 00:00	Marie D John	11013.22
01150	GC - Bulk Soil Prep	SW-846 5030A	1	200931419781	11/10/2009 19:05	Eric L Vera	n.a.

\*=This limit was used in the evaluation of the final result



# Analysis Report

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

Sample Description: GP-5-S-20-091106 NA Soil  
Facility# 98139 MTI# 611971 CRAW  
16304 Foothill-San Leandro T0600100303 GP-5

LLI Sample # SW 5832022  
LLI Group # 1170290  
CA

Project Name: 98139

Collected: 11/06/2009 07:15 by CB

Account Number: 11997

Submitted: 11/10/2009 09:05  
Reported: 11/20/2009 at 16:43  
Discard: 12/21/2009

Chevron c/o CRA  
Suite 110  
2000 Opportunity Drive  
Roseville CA 95678

G-520

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>GC/MS Volatiles SW-846 8260B</b>			mg/kg	mg/kg	mg/kg	
07361	t-Amyl methyl ether	994-05-8	0.067	0.053	0.26	52.52
07361	Benzene	71-43-2	0.046	0.026	0.26	52.52
07361	t-Butyl alcohol	75-65-0	N.D.	1.1	5.3	52.52
07361	Ethyl t-butyl ether	637-92-3	N.D.	0.053	0.26	52.52
07361	Ethylbenzene	100-41-4	4.1	0.053	0.26	52.52
07361	di-Isopropyl ether	108-20-3	N.D.	0.053	0.26	52.52
07361	Methyl Tertiary Butyl Ether	1634-04-4	0.15	0.026	0.26	52.52
07361	Toluene	108-88-3	N.D.	0.053	0.26	52.52
07361	Xylene (Total)	1330-20-7	4.0	0.053	0.26	52.52
<b>GC Volatiles SW-846 8015B modified</b>			mg/kg	mg/kg	mg/kg	
01725	TPH-GRO N. CA soil C6-C12	n.a.	350	40	40	1010.1

### General Sample Comments

State of California Lab Certification No. 2501

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

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07361	BTEX+5 Oxygenates+EDC+EDB	SW-846 8260B	1	R093151AA	11/11/2009 16:56	Nicholas R Rossi	52.52
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	200931419781	11/10/2009 19:10	Eric L Vera	n.a.
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	2	200931419781	11/10/2009 19:10	Eric L Vera	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5030A	1	200931419781	11/10/2009 19:08	Eric L Vera	n.a.
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	09317A34B	11/16/2009 12:44	Carrie E Miller	1010.1
01150	GC - Bulk Soil Prep	SW-846 5030A	1	200931419781	11/10/2009 19:09	Eric L Vera	n.a.

\*=This limit was used in the evaluation of the final result

## Quality Control Summary

 Client Name: Chevron c/o CRA  
 Reported: 11/20/09 at 04:43 PM

Group Number: 1170290

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

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL**</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: A093151AA	Sample number(s): 5832011-5832012,5832015-5832020								
t-Amyl methyl ether	N.D.	0.001	0.005	mg/kg	96	98	69-124	2	30
Benzene	N.D.	0.0005	0.005	mg/kg	102	95	80-120	7	30
t-Butyl alcohol	N.D.	0.020	0.10	mg/kg	89	92	71-122	4	30
Ethyl t-butyl ether	N.D.	0.001	0.005	mg/kg	95	95	70-122	0	30
Ethylbenzene	N.D.	0.001	0.005	mg/kg	100	94	80-120	6	30
di-Isopropyl ether	N.D.	0.001	0.005	mg/kg	95	93	73-121	2	30
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.005	mg/kg	104	107	74-121	3	30
Toluene	N.D.	0.001	0.005	mg/kg	96	90	80-120	7	30
Xylene (Total)	N.D.	0.001	0.005	mg/kg	96	91	80-120	5	30
Batch number: R093151AA	Sample number(s): 5832013-5832014,5832021-5832022								
t-Amyl methyl ether	N.D.	0.050	0.25	mg/kg	89	89	69-124	1	30
Benzene	N.D.	0.025	0.25	mg/kg	90	91	80-120	1	30
t-Butyl alcohol	N.D.	1.0	5.0	mg/kg	110	111	71-122	0	30
Ethyl t-butyl ether	N.D.	0.050	0.25	mg/kg	88	88	70-122	0	30
Ethylbenzene	N.D.	0.050	0.25	mg/kg	90	90	80-120	0	30
di-Isopropyl ether	N.D.	0.050	0.25	mg/kg	87	88	73-121	0	30
Methyl Tertiary Butyl Ether	N.D.	0.025	0.25	mg/kg	91	91	74-121	1	30
Toluene	N.D.	0.050	0.25	mg/kg	90	92	80-120	2	30
Xylene (Total)	N.D.	0.050	0.25	mg/kg	91	92	80-120	1	30
Batch number: R093171AA	Sample number(s): 5832015								
Methyl Tertiary Butyl Ether	N.D.	0.025	0.25	mg/kg	91	92	74-121	1	30
Batch number: 09317A34A	Sample number(s): 5832011-5832013,5832015-5832021								
TPH-GRO N. CA soil C6-C12	N.D.	1.0	1.0	mg/kg	96	99	67-119	3	30
Batch number: 09317A34B	Sample number(s): 5832014,5832022								
TPH-GRO N. CA soil C6-C12	N.D.	1.0	1.0	mg/kg	96	99	67-119	3	30

### 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

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: A093151AA	Sample number(s): 5832011-5832012,5832015-5832020 UNSPK: 5832018								
t-Amyl methyl ether	89		59-123						
Benzene	104		55-143						
t-Butyl alcohol	116		47-153						
Ethyl t-butyl ether	87		58-124						

\*- Outside of specification

\*\* - This limit was used in the evaluation of the final result for the blank

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



## Quality Control Summary

 Client Name: Chevron c/o CRA  
 Reported: 11/20/09 at 04:43 PM

Group Number: 1170290

### 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

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Ethylbenzene	110		44-141						
di-Isopropyl ether	91		59-133						
Methyl Tertiary Butyl Ether	101		55-129						
Toluene	103		50-146						
Xylene (Total)	104		44-136						

### 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: BTEX+5 Oxygenates+EDC+EDB  
 Batch number: A093151AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
5832011	99	88	88	92
5832012	98	87	88	89
5832015	96	85	87	85
5832016	101	95	87	86
5832017	100	86	87	84
5832018	99	88	86	85
5832019	100	90	87	85
5832020	99	89	86	87
Blank	101	93	84	87
LCS	99	90	87	96
LCSD	99	92	86	95
MS	95	85	90	93
Limits:	71-114	70-109	70-123	70-111

 Analysis Name: BTEX+5 Oxygenates+EDC+EDB  
 Batch number: R093151AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
5832013	85	84	85	86
5832014	80	81	82	88
5832021	85	86	85	98
5832022	84	84	84	88
Blank	85	89	85	83
LCS	98	99	95	97
LCSD	99	99	97	97
Limits:	71-114	70-109	70-123	70-111

 Analysis Name: 8260 Master Scan (soil)  
 Batch number: R093171AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
Blank	89	93	88	87
LCS	100	100	99	98

\*- Outside of specification

\*\*-This limit was used in the evaluation of the final result for the blank

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

## Quality Control Summary

Client Name: Chevron c/o CRA  
Reported: 11/20/09 at 04:43 PM

Group Number: 1170290

### Surrogate Quality Control

LCSD	100	100	97	97
Limits:	71-114	70-109	70-123	70-111

Analysis Name: TPH-GRO N. CA soil C6-C12  
Batch number: 09317A34A  
Trifluorotoluene-F

5832011	60*
5832012	78
5832013	82
5832015	76
5832016	72
5832017	71
5832018	72
5832019	77
5832020	75
5832021	248*
Blank	90
LCS	86
LCSD	91

Limits: 61-122

Analysis Name: TPH-GRO N. CA soil C6-C12  
Batch number: 09317A34B  
Trifluorotoluene-F

5832014	108
5832022	141*
Blank	96
LCS	86
LCSD	91

Limits: 61-122

\*- Outside of specification

\*\* - This limit was used in the evaluation of the final result for the blank

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

# Chevron California Region Analysis Request/Chain of Custody



For Lancaster Laboratories use only 248584  
 Acct. #: 11997 Sample #: 5832011-22 SCR#: \_\_\_\_\_

MTI: 61197

Group# 1170290

Facility #: 9-8139 SAN LEANDRO  
 Site Address: 16304 HILL BLVD. SAN LEANDRO, CA  
 Chevron PM: R. SPEED Lead Consultant: CRA  
 Consultant/Office: RANCHO CORDOVA, CA  
 Consultant Prj. Mgr.: J. KIENA  
 Consultant Phone #: 916 889 8900 Fax #: 916 889 8999  
 Sampler: C. BENEDICT  
 Service Order #: \_\_\_\_\_  Non SAR: \_\_\_\_\_

### Analyses Requested

#### Preservation Codes

BTEX + MTBE 8260 <input checked="" type="checkbox"/> 8021 <input type="checkbox"/>	TPH 8015 MOD GRO	TPH 8015 MOD DRO <input type="checkbox"/> Silica Gel Cleanup	8260 full scan	Oxygenates	Lead 7420 <input type="checkbox"/> 7421 <input type="checkbox"/>	D.P.E., E.T.B.E., T.A.M.E.T.O.R. <sup>8260s</sup>					

#### Preservative Codes

H = HCl      T = Thiosulfate  
 N = HNO<sub>3</sub>    B = NaOH  
 S = H<sub>2</sub>SO<sub>4</sub>   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
GP-3-10	Soil		10	09 11 04	948			1	
GP-3-15	Soil		15	09 11 04	950			1	
GP-3-17			17		1013			1	
GP-3-20			20		1015			1	
GP-3-25			25		1145			1	
GP-3-30			30		1200			1	
GP-3-35			35		1220			1	
GP-3-40			40		1240			1	
GP-3-45			45		1320			1	
GP-3-50			50		1335			1	
GP-4-10			10	09 11 05	705			1	
GP-5-20			20	09 11 06	715			1	

Comments / Remarks

**Turnaround Time Requested (TAT) (please circle)**

24 hour      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: <u>C. Benedict</u>	Date: <u>11/9/01</u>	Time: <u>1330</u>	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by Commercial Carrier: UPS <u>FedEx</u> Other _____	Received by: <u>Mary Geln</u>		Date: <u>11/09/01</u>	Time: <u>905</u>	
Temperature Upon Receipt: <u>4.0</u> °C	Custody Seals Intact? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				

## Lancaster Laboratories Explanation of Symbols and Abbreviations

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

<b>N.D.</b>	none detected	<b>BMQL</b>	Below Minimum Quantitation Level
<b>TNTC</b>	Too Numerous To Count	<b>MPN</b>	Most Probable Number
<b>IU</b>	International Units	<b>CP Units</b>	cobalt-chloroplatinate units
<b>umhos/cm</b>	micromhos/cm	<b>NTU</b>	nephelometric turbidity units
<b>C</b>	degrees Celsius	<b>F</b>	degrees Fahrenheit
<b>Cal</b>	(diet) calories	<b>lb.</b>	pound(s)
<b>meq</b>	milliequivalents	<b>kg</b>	kilogram(s)
<b>g</b>	gram(s)	<b>mg</b>	milligram(s)
<b>ug</b>	microgram(s)	<b>l</b>	liter(s)
<b>ml</b>	milliliter(s)	<b>ul</b>	microliter(s)
<b>m3</b>	cubic meter(s)	<b>fib &gt;5 um/ml</b>	fibers greater than 5 microns in length per ml
<b>&lt;</b>	less than – The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
<b>&gt;</b>	greater than		
<b>ppm</b>	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.		
<b>ppb</b>	parts per billion		
<b>Dry weight basis</b>	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

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

### Inorganic Qualifiers

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

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

## ANALYTICAL RESULTS

Prepared for:

Chevron c/o CRA  
Suite 110  
2000 Opportunity Drive  
Roseville CA 95678

916-677-3407

Prepared by:

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

November 20, 2009

Project: 98139

Samples arrived at the laboratory on Tuesday, November 10, 2009. The PO# for this group is 98139 and the release number is MTI. The group number for this submittal is 1170291.

<u>Client Sample Description</u>	<u>Lancaster Labs (LLI) #</u>
GP-3-W-15-091104 Grab Water	5832023
GP-4-W-47-091105 Grab Water	5832024
GP-4-W-32-091105 Grab Water	5832025
GP-4-W-65-091105 Grab Water	5832026
GP-5-W-35-091106 Grab Water	5832027
GP-5-W-46-091106 Grab Water	5832028
GP-5-W-63-091106 Grab Water	5832029

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

ELECTRONIC COPY TO  
ELECTRONIC COPY TO

Chevron c/o CRA  
Chevron c/o CRA

Attn: CRA EDD

Attn: James Kiernan

Questions? Contact your Client Services Representative  
Angela M Miller at (717) 656-2300

Respectfully Submitted,



Christine Dulaney  
Senior Specialist



# Analysis Report

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

**Sample Description:** GP-3-W-15-091104 Grab Water  
Facility# 98139 MTI# 611971 CRAW  
16304 Foothill-San Leandro T0600100303 GP-3

LLI Sample # WW 5832023  
LLI Group # 1170291  
CA

**Project Name:** 98139

Collected: 11/04/2009 10:50 by CB

Account Number: 11997

Submitted: 11/10/2009 09:05  
Reported: 11/20/2009 at 11:24  
Discard: 12/21/2009

Chevron c/o CRA  
Suite 110  
2000 Opportunity Drive  
Roseville CA 95678

FO015

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>GC/MS Volatiles SW-846 8260B</b>			ug/l	ug/l	ug/l	
06056	t-Amyl methyl ether	994-05-8	75	0.5	1	1
06056	Benzene	71-43-2	3	0.5	1	1
06056	t-Butyl alcohol	75-65-0	190	2	5	1
06056	Ethyl t-butyl ether	637-92-3	N.D.	0.5	1	1
06056	Ethylbenzene	100-41-4	11	0.5	1	1
06056	di-Isopropyl ether	108-20-3	N.D.	0.5	1	1
06056	Methyl Tertiary Butyl Ether	1634-04-4	490	0.5	1	1
06056	Toluene	108-88-3	N.D.	0.5	1	1
06056	Xylene (Total)	1330-20-7	3	0.5	1	1
<b>GC Volatiles SW-846 8015B</b>			ug/l	ug/l	ug/l	
01728	TPH-GRO N. CA water C6-C12	n.a.	650	50	100	1

### General Sample Comments

State of California Lab Certification No. 2501  
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 Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D093164AA	11/12/2009 21:43	Florida A Cimino	1
06056	BTEX+5 Oxygenates by 8260B	SW-846 8260B	1	D093164AA	11/12/2009 21:43	Florida A Cimino	1
01146	GC VOA Water Prep	SW-846 5030B	1	09316A20A	11/12/2009 13:02	Matthew S Woods	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	09316A20A	11/12/2009 13:02	Matthew S Woods	1

\*=This limit was used in the evaluation of the final result



# Analysis Report

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

**Sample Description:** GP-4-W-47-091105 Grab Water  
Facility# 98139 MTI# 611971 CRAW  
16304 Foothill-San Leandro T0600100303 GP-4

LLI Sample # WW 5832024  
LLI Group # 1170291  
CA

**Project Name:** 98139

Collected: 11/05/2009 13:30 by CB

Account Number: 11997

Submitted: 11/10/2009 09:05  
Reported: 11/20/2009 at 11:24  
Discard: 12/21/2009

Chevron c/o CRA  
Suite 110  
2000 Opportunity Drive  
Roseville CA 95678

FO047

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>GC/MS</b>	<b>Volatiles</b>	<b>SW-846 8260B</b>	<b>ug/l</b>	<b>ug/l</b>	<b>ug/l</b>	
06056	t-Amyl methyl ether	994-05-8	1	0.5	1	1
06056	Benzene	71-43-2	0.6	0.5	1	1
06056	t-Butyl alcohol	75-65-0	N.D.	2	5	1
06056	Ethyl t-butyl ether	637-92-3	N.D.	0.5	1	1
06056	Ethylbenzene	100-41-4	0.6	0.5	1	1
06056	di-Isopropyl ether	108-20-3	N.D.	0.5	1	1
06056	Methyl Tertiary Butyl Ether	1634-04-4	13	0.5	1	1
06056	Toluene	108-88-3	N.D.	0.5	1	1
06056	Xylene (Total)	1330-20-7	0.6	0.5	1	1

Preservation requirements were not met. The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt. The pH of this sample was pH = 3.

GC Volatiles	SW-846 8015B	ug/l	ug/l	ug/l	
01728	TPH-GRO N. CA water C6-C12 n.a.	130	50	100	1

Preservation requirements were not met. The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt. The pH of this sample was pH = 4.

### General Sample Comments

State of California Lab Certification No. 2501  
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 Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D093164AA	11/12/2009 19:23	Florida A Cimino	1
06056	BTEX+5 Oxygenates by 8260B	SW-846 8260B	1	D093164AA	11/12/2009 19:23	Florida A Cimino	1
01146	GC VOA Water Prep	SW-846 5030B	1	09316A20A	11/12/2009 20:39	Matthew S Woods	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	09316A20A	11/12/2009 20:39	Matthew S Woods	1

\*=This limit was used in the evaluation of the final result





# Analysis Report

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

**Sample Description:** GP-4-W-32-091105 Grab Water  
Facility# 98139 MTI# 611971 CRAW  
16304 Foothill-San Leandro T0600100303 GP-4

LLI Sample # WW 5832025  
LLI Group # 1170291  
CA

**Project Name:** 98139

Collected: 11/05/2009 09:00 by CB

Account Number: 11997

Submitted: 11/10/2009 09:05  
Reported: 11/20/2009 at 11:24  
Discard: 12/21/2009

Chevron c/o CRA  
Suite 110  
2000 Opportunity Drive  
Roseville CA 95678

FO032

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>GC/MS</b>	<b>Volatiles</b>	<b>SW-846 8260B</b>	<b>ug/l</b>	<b>ug/l</b>	<b>ug/l</b>	
06056	t-Amyl methyl ether	994-05-8	120	0.5	1	1
06056	Benzene	71-43-2	0.8	0.5	1	1
06056	t-Butyl alcohol	75-65-0	5	2	5	1
06056	Ethyl t-butyl ether	637-92-3	N.D.	0.5	1	1
06056	Ethylbenzene	100-41-4	1	0.5	1	1
06056	di-Isopropyl ether	108-20-3	N.D.	0.5	1	1
06056	Methyl Tertiary Butyl Ether	1634-04-4	920	0.5	1	1
06056	Toluene	108-88-3	N.D.	0.5	1	1
06056	Xylene (Total)	1330-20-7	1	0.5	1	1
<b>GC Volatiles</b>	<b>SW-846 8015B</b>	<b>ug/l</b>	<b>ug/l</b>	<b>ug/l</b>		
01728	TPH-GRO N. CA water C6-C12	n.a.	180	50	100	1

### General Sample Comments

State of California Lab Certification No. 2501  
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 Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D093164AA	11/12/2009 22:30	Florida A Cimino	1
06056	BTEX+5 Oxygenates by 8260B	SW-846 8260B	1	D093164AA	11/12/2009 22:30	Florida A Cimino	1
01146	GC VOA Water Prep	SW-846 5030B	1	09320A20A	11/17/2009 15:48	Tyler O Griffin	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	09320A20A	11/17/2009 15:48	Tyler O Griffin	1

\*=This limit was used in the evaluation of the final result



# Analysis Report

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

**Sample Description:** GP-4-W-65-091105 Grab Water  
Facility# 98139 MTI# 611971 CRAW  
16304 Foothill-San Leandro T0600100303 GP-4

LLI Sample # WW 5832026  
LLI Group # 1170291  
CA

**Project Name:** 98139

Collected: 11/05/2009 15:50 by CB

Account Number: 11997

Submitted: 11/10/2009 09:05  
Reported: 11/20/2009 at 11:24  
Discard: 12/21/2009

Chevron c/o CRA  
Suite 110  
2000 Opportunity Drive  
Roseville CA 95678

FO065

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>GC/MS Volatiles SW-846 8260B</b>			ug/l	ug/l	ug/l	
06056	t-Amyl methyl ether	994-05-8	N.D.	0.5	1	1
06056	Benzene	71-43-2	3	0.5	1	1
06056	t-Butyl alcohol	75-65-0	N.D.	2	5	1
06056	Ethyl t-butyl ether	637-92-3	N.D.	0.5	1	1
06056	Ethylbenzene	100-41-4	6	0.5	1	1
06056	di-Isopropyl ether	108-20-3	N.D.	0.5	1	1
06056	Methyl Tertiary Butyl Ether	1634-04-4	10	0.5	1	1
06056	Toluene	108-88-3	N.D.	0.5	1	1
06056	Xylene (Total)	1330-20-7	9	0.5	1	1

Preservation requirements were not met. The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt. The pH of this sample was pH = 4.

GC Volatiles	SW-846 8015B	ug/l	ug/l	ug/l	
01728	TPH-GRO N. CA water C6-C12 n.a.	55	50	100	1

Preservation requirements were not met. The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt. The pH of this sample was pH = 6.

### General Sample Comments

State of California Lab Certification No. 2501  
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 Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D093164AA	11/12/2009 23:16	Florida A Cimino	1
06056	BTEX+5 Oxygenates by 8260B	SW-846 8260B	1	D093164AA	11/12/2009 23:16	Florida A Cimino	1
01146	GC VOA Water Prep	SW-846 5030B	1	09316A20A	11/12/2009 21:22	Matthew S Woods	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	09316A20A	11/12/2009 21:22	Matthew S Woods	1

\*=This limit was used in the evaluation of the final result



# Analysis Report

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

**Sample Description:** GP-5-W-35-091106 Grab Water  
Facility# 98139 MTI# 611971 CRAW  
16304 Foothill-San Leandro T0600100303 GP-5

LLI Sample # WW 5832027  
LLI Group # 1170291  
CA

**Project Name:** 98139

Collected: 11/06/2009 09:30 by CB

Account Number: 11997

Submitted: 11/10/2009 09:05  
Reported: 11/20/2009 at 11:24  
Discard: 12/21/2009

Chevron c/o CRA  
Suite 110  
2000 Opportunity Drive  
Roseville CA 95678

FO035

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>GC/MS</b>	<b>Volatiles</b>	<b>SW-846 8260B</b>	<b>ug/l</b>	<b>ug/l</b>	<b>ug/l</b>	
06056	t-Amyl methyl ether	994-05-8	54	0.5	1	1
06056	Benzene	71-43-2	0.5	0.5	1	1
06056	t-Butyl alcohol	75-65-0	7	2	5	1
06056	Ethyl t-butyl ether	637-92-3	N.D.	0.5	1	1
06056	Ethylbenzene	100-41-4	0.9	0.5	1	1
06056	di-Isopropyl ether	108-20-3	N.D.	0.5	1	1
06056	Methyl Tertiary Butyl Ether	1634-04-4	460	0.5	1	1
06056	Toluene	108-88-3	N.D.	0.5	1	1
06056	Xylene (Total)	1330-20-7	0.5	0.5	1	1

Preservation requirements were not met. The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt. The pH of this sample was pH = 4.

GC Volatiles	SW-846 8015B	ug/l	ug/l	ug/l	
01728	TPH-GRO N. CA water C6-C12 n.a.	100	50	100	1

Preservation requirements were not met. The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt. The pH of this sample was pH = 4.

### General Sample Comments

State of California Lab Certification No. 2501  
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 Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D093164AA	11/12/2009 23:39	Florida A Cimino	1
06056	BTEX+5 Oxygenates by 8260B	SW-846 8260B	1	D093164AA	11/12/2009 23:39	Florida A Cimino	1
01146	GC VOA Water Prep	SW-846 5030B	1	09316D20A	11/13/2009 13:12	Matthew S Woods	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	09316D20A	11/13/2009 13:12	Matthew S Woods	1

\*=This limit was used in the evaluation of the final result



# Analysis Report

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

**Sample Description:** GP-5-W-46-091106 Grab Water  
Facility# 98139 MTI# 611971 CRAW  
16304 Foothill-San Leandro T0600100303 GP-5

LLI Sample # WW 5832028  
LLI Group # 1170291  
CA

**Project Name:** 98139

Collected: 11/06/2009 10:40 by CB

Account Number: 11997

Submitted: 11/10/2009 09:05  
Reported: 11/20/2009 at 11:24  
Discard: 12/21/2009

Chevron c/o CRA  
Suite 110  
2000 Opportunity Drive  
Roseville CA 95678

FO046

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>GC/MS</b>	<b>Volatiles</b>	<b>SW-846 8260B</b>	<b>ug/l</b>	<b>ug/l</b>	<b>ug/l</b>	
06056	t-Amyl methyl ether	994-05-8	N.D.	0.5	1	1
06056	Benzene	71-43-2	N.D.	0.5	1	1
06056	t-Butyl alcohol	75-65-0	N.D.	2	5	1
06056	Ethyl t-butyl ether	637-92-3	N.D.	0.5	1	1
06056	Ethylbenzene	100-41-4	1	0.5	1	1
06056	di-Isopropyl ether	108-20-3	N.D.	0.5	1	1
06056	Methyl Tertiary Butyl Ether	1634-04-4	2	0.5	1	1
06056	Toluene	108-88-3	N.D.	0.5	1	1
06056	Xylene (Total)	1330-20-7	N.D.	0.5	1	1

Preservation requirements were not met. The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt. The pH of this sample was pH = 4.

GC Volatiles	SW-846 8015B	ug/l	ug/l	ug/l
01728 TPH-GRO N. CA water C6-C12	n.a.	N.D.	50	100

### General Sample Comments

State of California Lab Certification No. 2501  
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 Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D093164AA	11/13/2009 00:02	Florida A Cimino	1
06056	BTEX+5 Oxygenates by 8260B	SW-846 8260B	1	D093164AA	11/13/2009 00:02	Florida A Cimino	1
01146	GC VOA Water Prep	SW-846 5030B	1	09316D20A	11/13/2009 17:12	Carrie E Miller	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	09316D20A	11/13/2009 17:12	Carrie E Miller	1

\*=This limit was used in the evaluation of the final result



# Analysis Report

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

Sample Description: GP-5-W-63-091106 Grab Water  
Facility# 98139 MTI# 611971 CRAW  
16304 Foothill-San Leandro T0600100303 GP-5

LLI Sample # WW 5832029  
LLI Group # 1170291  
CA

Project Name: 98139

Collected: 11/06/2009 12:50 by CB

Account Number: 11997

Submitted: 11/10/2009 09:05  
Reported: 11/20/2009 at 11:24  
Discard: 12/21/2009

Chevron c/o CRA  
Suite 110  
2000 Opportunity Drive  
Roseville CA 95678

FO063

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
<b>GC/MS</b>	<b>Volatiles</b>	<b>SW-846 8260B</b>	<b>ug/l</b>	<b>ug/l</b>	<b>ug/l</b>	
06056	t-Amyl methyl ether	994-05-8	N.D.	0.5	1	1
06056	Benzene	71-43-2	N.D.	0.5	1	1
06056	t-Butyl alcohol	75-65-0	N.D.	2	5	1
06056	Ethyl t-butyl ether	637-92-3	N.D.	0.5	1	1
06056	Ethylbenzene	100-41-4	N.D.	0.5	1	1
06056	di-Isopropyl ether	108-20-3	N.D.	0.5	1	1
06056	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
06056	Toluene	108-88-3	N.D.	0.5	1	1
06056	Xylene (Total)	1330-20-7	N.D.	0.5	1	1

Preservation requirements were not met. The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt. The pH of this sample was pH = 4.

GC Volatiles	SW-846 8015B	ug/l	ug/l	ug/l	
01728	TPH-GRO N. CA water C6-C12 n.a.	N.D.	50	100	1

Preservation requirements were not met. The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt. The pH of this sample was pH = 6.

### General Sample Comments

State of California Lab Certification No. 2501  
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 Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D093164AA	11/13/2009 00:25	Florida A Cimino	1
06056	BTEX+5 Oxygenates by 8260B	SW-846 8260B	1	D093164AA	11/13/2009 00:25	Florida A Cimino	1
01146	GC VOA Water Prep	SW-846 5030B	1	09316D20A	11/13/2009 17:34	Matthew S Woods	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	09316D20A	11/13/2009 17:34	Matthew S Woods	1

\*=This limit was used in the evaluation of the final result

## Quality Control Summary

 Client Name: Chevron c/o CRA  
 Reported: 11/20/09 at 11:24 AM

Group Number: 1170291

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

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL**</u>	<u>Blank LOQ</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: D093164AA	Sample number(s): 5832023-5832029								
t-Amyl methyl ether	N.D.	0.5	1	ug/l	97		77-120		
Benzene	N.D.	0.5	1	ug/l	100		79-120		
t-Butyl alcohol	N.D.	2.	5	ug/l	96		73-120		
Ethyl t-butyl ether	N.D.	0.5	1	ug/l	95		76-120		
Ethylbenzene	N.D.	0.5	1	ug/l	98		79-120		
di-Isopropyl ether	N.D.	0.5	1	ug/l	95		71-124		
Methyl Tertiary Butyl Ether	N.D.	0.5	1	ug/l	94		76-120		
Toluene	N.D.	0.5	1	ug/l	104		79-120		
Xylene (Total)	N.D.	0.5	1	ug/l	103		80-120		
Batch number: 09316A20A	Sample number(s): 5832023-5832024,5832026								
TPH-GRO N. CA water C6-C12	N.D.	50.	100	ug/l	118	118	75-135	0	30
Batch number: 09316D20A	Sample number(s): 5832027-5832029								
TPH-GRO N. CA water C6-C12	N.D.	50.	100	ug/l	118	118	75-135	0	30
Batch number: 09320A20A	Sample number(s): 5832025								
TPH-GRO N. CA water C6-C12	N.D.	50.	100	ug/l	127	127	75-135	0	30

### 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

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: D093164AA	Sample number(s): 5832023-5832029 UNSPK: 5832024								
t-Amyl methyl ether	89	89	75-122	1	30				
Benzene	96	95	80-126	1	30				
t-Butyl alcohol	92	89	67-119	3	30				
Ethyl t-butyl ether	90	89	74-122	1	30				
Ethylbenzene	97	96	71-134	1	30				
di-Isopropyl ether	91	90	70-129	1	30				
Methyl Tertiary Butyl Ether	68*	76	72-126	5	30				
Toluene	100	99	80-125	1	30				
Xylene (Total)	101	100	79-125	1	30				
Batch number: 09316A20A	Sample number(s): 5832023-5832024,5832026 UNSPK: P831781								
TPH-GRO N. CA water C6-C12	127		63-154						
Batch number: 09316D20A	Sample number(s): 5832027-5832029 UNSPK: P831952								
TPH-GRO N. CA water C6-C12	130		63-154						

\*- Outside of specification

\*\* - This limit was used in the evaluation of the final result for the blank

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

## Quality Control Summary

 Client Name: Chevron c/o CRA  
 Reported: 11/20/09 at 11:24 AM

Group Number: 1170291

### 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

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Batch number: 09320A20A TPH-GRO N. CA water C6-C12								
			Sample number(s): 5832025 74	UNSPK: P834977 63-154				

### 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: BTEX+5 Oxygenates by 8260B  
 Batch number: D093164AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
5832023	94	90	96	98
5832024	95	92	95	95
5832025	93	90	95	93
5832026	96	93	96	95
5832027	93	89	94	94
5832028	97	92	95	92
5832029	96	92	96	93
Blank	96	92	93	92
LCS	94	94	95	99
MS	96	90	95	98
MSD	95	94	95	99
Limits:	80-116	77-113	80-113	78-113

 Analysis Name: TPH-GRO N. CA water C6-C12  
 Batch number: 09316A20A  
 Trifluorotoluene-F

5832023	77
5832024	65
5832026	69
Blank	65
LCS	87
LCSD	96
MS	105

Limits: 63-135

 Analysis Name: TPH-GRO N. CA water C6-C12  
 Batch number: 09316D20A  
 Trifluorotoluene-F

5832027	103
5832028	105
5832029	103
Blank	103
LCS	121

\*- Outside of specification

\*\*-This limit was used in the evaluation of the final result for the blank

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

## Quality Control Summary

Client Name: Chevron c/o CRA  
Reported: 11/20/09 at 11:24 AM

Group Number: 1170291

### Surrogate Quality Control

LCSD 120  
MS 120

---

Limits: 63-135

Analysis Name: TPH-GRO N. CA water C6-C12  
Batch number: 09320A20A  
Trifluorotoluene-F

---

5832025 105  
Blank 104  
LCS 117  
LCSD 118  
MS 118

---

Limits: 63-135

\*- Outside of specification

\*\* - This limit was used in the evaluation of the final result for the blank

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



# Chevron California Region Analysis Request/Chain of Custody



Acct. #: 11997

For Lancaster Laboratories use only

Sample #: 5832023-29

SCR#:

**248585**

MTI: 611971

Group# 1170291

Facility #: 9-8139  
 Site Address: 16304 FOOTHILL BLVD.  
 Chevron PM: R. SPEER Lead Consultant: CRA  
 Consultant/Office: RANCHO CORDOVA  
 Consultant Prj. Mgr.: J. KIERNAN  
 Consultant Phone #: 916 889-8900 Fax #: 916 889 8999  
 Sampler: C. BENEDICT  
 Service Order #: \_\_\_\_\_  Non SAR: \_\_\_\_\_

### Analyses Requested

#### Preservation Codes

<input type="checkbox"/> BTEX + MTBE 8260	<input checked="" type="checkbox"/> 8021										
<input type="checkbox"/> TPH 8015 MOD GRO											
<input type="checkbox"/> TPH 8015 MOD DRO	<input type="checkbox"/> Silica Gel Cleanup										
<input type="checkbox"/> 8260 full scan											
<input type="checkbox"/> Oxygenates											
<input type="checkbox"/> Lead 7420	<input type="checkbox"/> 7421										
<u>DIPETETB, TMB, TBA, FUDS</u>											

**Preservative Codes**

H = HCl      T = Thiosulfate  
 N = HNO<sub>3</sub>    B = NaOH  
 S = H<sub>2</sub>SO<sub>4</sub>   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	TPH 8015 MOD GRO	TPH 8015 MOD DRO	8260 full scan	Oxygenates	Lead 7420	7421	Other
GP-3-15	WATER		15	09 11 04	1050		X		6	X	X						X
GP-4-47			47	09 11 05	1330		X		6	X	X						X
GP-4-32			32	09 11 05	0900		X		6	X	X						X
GP-4-65			65	09 11 05	1530		X		6	X	X						X
GP-5-35			35	09 11 06	930		X		6	X	X						X
GP-5-46			46	09 11 06	1040		X		6	X	X						X
GP-5-63			63	09 11 06	1250		X		6	X	X						X

**Comments / Remarks**

**Turnaround Time Requested (TAT) (please circle)**

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

**Data Package Options (please circle if required)**

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

Relinquished by: <u>C. Benedict</u>	Date: <u>11/5/09</u>	Time: <u>1330</u>	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by Commercial Carrier: UPS <u>FedEx</u> Other _____	Received by: <u>[Signature]</u>		Date: <u>11/10/09</u>	Time: <u>905</u>	
Temperature Upon Receipt: <u>4.0</u> C°	Custody Seals Intact?    Yes <u>No</u>				

## Lancaster Laboratories Explanation of Symbols and Abbreviations

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

<b>N.D.</b>	none detected	<b>BMQL</b>	Below Minimum Quantitation Level
<b>TNTC</b>	Too Numerous To Count	<b>MPN</b>	Most Probable Number
<b>IU</b>	International Units	<b>CP Units</b>	cobalt-chloroplatinate units
<b>umhos/cm</b>	micromhos/cm	<b>NTU</b>	nephelometric turbidity units
<b>C</b>	degrees Celsius	<b>F</b>	degrees Fahrenheit
<b>Cal</b>	(diet) calories	<b>lb.</b>	pound(s)
<b>meq</b>	milliequivalents	<b>kg</b>	kilogram(s)
<b>g</b>	gram(s)	<b>mg</b>	milligram(s)
<b>ug</b>	microgram(s)	<b>l</b>	liter(s)
<b>ml</b>	milliliter(s)	<b>ul</b>	microliter(s)
<b>m3</b>	cubic meter(s)	<b>fib &gt;5 um/ml</b>	fibers greater than 5 microns in length per ml
<b>&lt;</b>	less than – The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
<b>&gt;</b>	greater than		
<b>ppm</b>	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.		
<b>ppb</b>	parts per billion		
<b>Dry weight basis</b>	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

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

### Inorganic Qualifiers

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