FINAL REPORT

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DATA GAP INVESTIGATION AND REMEDIATION REPORT

CHEVRON SUNOL PIPELINE SUNOL, CALIFORNIA

Prepared for

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January 2013

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January 28, 2013

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

Dear Mr. Wickham:

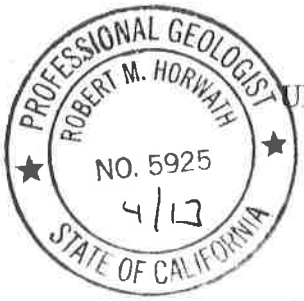
I declare, under penalty of perjury, that the information and/or recommendations contained in URS' report titled "**SLIC Case No. RO0002892, Chevron Sunol Pipeline, 2793 Calaveras Road, Sunol, CA – Data Gap Investigation and Remediation Report**" are true and correct to the best of my knowledge at the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

Submitted by:

Stephen Gwin
Chevron Pipe Line Company

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

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



URS Corporation
Approved by:

Joe Morgan III

Robert Horwath, P.G.

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ACEH	Alameda County Department of Environmental Health
ACPWA	Alameda County Public Works Agency
ASTM	American Society for Testing and Materials, International
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and total xylenes
CPL	Chevron Pipe Line Company
CSM	Conceptual Site Model
DWR	Department of Water Resources
EPA	Environmental Protection Agency
ESL	Environmental Screening Level
Gregg	Gregg Drilling & Testing, Inc.
HASP	Health and Safety Plan
LCS	laboratory control sample
LCSD	laboratory control sample duplicate
mg/kg	milligram(s) per kilogram
MS	matrix spike
MSD	matrix spike duplicate
msl	mean sea level
PID	photoionization detector
ppm	parts per million
PVC	polyvinyl chloride
QA/QC	quality assurance/quality control
RPD	relative percent difference
SFPUC	San Francisco Public Utilities Commission
Site	Chevron Pipeline Sunol site
TPH	Total petroleum hydrocarbon
TPH-GRO	total petroleum hydrocarbons quantified as gasoline range organics
URS	URS Corporation
Zone 7	Zone 7 Alameda County Flood Control and Water Conservation District

On behalf of the Chevron Pipe Line Company (CPL), URS Corporation (URS) installed four additional groundwater monitoring wells (MW-12 through MW-15) at the base of the hillside below the source area resulting from the August 14, 2005, gasoline pipeline release at the Chevron Sunol Pipeline site (Site) in Sunol, California. This data gap investigation was conducted based on a data gap identified in the Conceptual Site Model (CSM) (URS 2010) that more current analytical results for Site soils were needed and that lateral movement of contaminated groundwater along the Calaveras Fault should be delineated. Furthermore, the GORE™ module passive soil gas survey conducted in 2009 provided a snapshot of the hillside soil source and provided evidence that groundwater impacts were likely compounded by surface water infiltration through the hillside source area soils (URS 2010). Comments from the Alameda County Environmental Health (ACEH) on URS's 2012 Sunol data gaps investigation work plan submittal and a personal communication with Jerry Wickham, the ACEH case worker, fulfill the requests stated in the December 13, 2011, April 26, 2012 and September 19, 2012 ACEH comment letters to CPL (Appendix A). The investigation was conducted in accordance with *Revised Work Plan for the Sunol Site Data Gaps Investigation* (URS 2012), which was submitted to ACEH on July 13, 2012.

During the preparation of the CSM, URS identified several data gaps and recommended that the data gaps be filled before resuming soil vapor extraction (SVE) remediation activities as requested by the ACEH (URS 2012). This report describes URS's completion of the following tasks, which are based on the results of the CSM.

- Update the Job Site Safety Plan (JSSP).
- Update the existing biological survey identified in the CSM as a data gap.
- Develop a geological transect of the shallow soils along Calaveras Road based on the soil boring data collected during the installation of the following groundwater monitoring wells: MW-5, MW-6, MW-7 and MW-8. Only MW-8 is currently in service. The geological transect and drilling observations of borings MW-12 through MW-15 were used to determine the new monitoring wells' screen intervals.
- Install four shallow monitoring wells along Calaveras Road.
- Conduct a local well survey within ½-mile of the Site by reviewing the Department of Water Resources and Zone 7 files to supplement and update the CSM on the local drinking water well information.
- Develop an investigation report for the above-mentioned tasks.
- Add the new wells to the semi-annual groundwater monitoring program.
- Dispose of investigation-derived waste water and soil.
- Fulfill GeoTracker and ACEH investigation reporting requirements.
- Participate in meetings with CPL and ACEH staff.

This report describes: the advancement of four soil borings which were later installed as four groundwater monitoring wells, the geological transect, the biological survey and the local well survey as identified as data gaps in the CSM. Specifically, this report is intended to fulfill the ACEH's technical report request to submit the data gap investigation and remediation report by January 30, 2012.

This section provides a summary of the release history, previous investigation and remediation activities, as well as the regional and local geology at the Site.

2.1 RELEASE HISTORY AND INVESTIGATION EFFORT TO DATE

An unleaded gasoline release occurred on August 14, 2005 when the CPL underground pipeline (the Bay Area Pipeline) was damaged during dirt road grading activities. The location of the pipeline release is approximately 2.7 miles south of the intersection of Interstate 680 and Calaveras Road, between mileposts 2.7 and 2.8 of Calaveras Road, in Sunol Valley, Valle de San Jose Mexican land grant (La Costa Valley Quadrangle) in Alameda County, California. The release location is approximately 4 miles southeast from the city of Sunol, California (Figure 1). The pipeline extends along Calaveras Road and traverses a steep hillside above the east side of the road. The San Francisco Public Utilities Commission (SFPUC) owns the property where the release occurred and leases it to a cattle rancher. Immediately to the west of Calaveras Road at the location of the release is a tree nursery (the Valley Crest Tree Company), which also leases the property from the SFPUC.

The release location is on a steep, west-facing slope with vegetation that is predominantly oak woodland. A small stream is located approximately 150 to 200 feet north of the release location. This stream flows into the Alameda Creek floodplain and joins Alameda Creek seasonally.

Prior to the installation of MW-10 and MW-11, URS conducted six phases of subsurface investigation at the Site (URS 2005, 2006a, 2006b) and installed a total of nine groundwater monitoring wells (MW-1 through MW-9) as shown on Figure 2. Quarterly groundwater monitoring has been conducted since the first quarter of 2006. Semi-annual groundwater monitoring has been conducted since first quarter of 2011.

Two water-bearing zones are observed at the Site; the unconfined water-bearing zone (screened by wells MW-1 through MW-4, MW-8, and MW-9) and the confined sandstone water-bearing zone (formerly screened by wells MW-5 through MW-7). Based on the quarterly groundwater monitoring results, the unconfined water-bearing zone appears to be the hydrogeologic unit of concern for contaminant transport. Although groundwater movement within the nursery unconfined water-bearing zone is affected by seasonal fluctuations in precipitation, the local groundwater flow direction is in a northerly direction (URS 2007b).

Well MW-9 was installed in August 2006, approximately 160 feet northwest west of the release location, as shown on Figure 2. MW-9 was intended to define the northern extent of the contaminant plume. However, small amounts (0.02 feet) of free-phase product have been observed in MW-9 since the third quarter of 2006. Due to the complex subsurface conditions, URS collected additional subsurface data utilizing GORE™ Surveys during April and May 2007. The GORE™ Surveys were used to passively collect soil gas samples in the area north of MW-9 within the nursery and the adjacent cattle grazing land. Based on the survey results, URS identified two GORE™ Survey module locations approximately 50 feet northwest and 100 feet west of MW-9 with elevated low-level Total Petroleum Hydrocarbon (TPH) concentrations (URS 2007a).

On September 4 through 6, 2007 URS installed two additional groundwater monitoring wells (MW-10 and MW-11) to the north and northwest of monitoring wells MW-9 to assess the down gradient edge of the groundwater plume.

On November 26 through December 5, 2012, URS advanced four soil borings along Calaveras Road to assess the shallow soil to a maximum depth of 30 feet bgs. The first two soil borings (MW-12 and MW-13) were advanced along Calaveras Road, one 25 feet north and one 25 feet south of the existing well MW-8. These soil boring locations were discussed on the site tour conducted on June 13, 2012 with CPL/URS/ACEH staff. A third boring (MW-14) was advanced 50 feet north of MW-8. Lastly, soil boring MW-15 was a conditional well installed 50 feet south of MW-8, and based on the results of MW-12 containing TPH concentrations above the ESL for deep soil. The four soil borings were completed as monitoring wells, with screen intervals based on field observations, soil lithology, and the geologic cross-section to assess the shallow groundwater zone cross-gradient of monitoring well MW-8 (Figure 2). The results of the data gap investigation are described in the following sections.

2.2 REGIONAL GEOLOGY AND HYDROGEOLOGY

The pipeline release Site is located on a steep hillside above the east side of Calaveras Road. Bedrock is present on the hillside at shallow depths and is exposed in numerous outcrops upslope. The bedrock geology of the hillside consists of Miocene-age marine sandstone and/or siltstone of the Briones Formation, the bedding of which dips steeply to the east as part of the western limb of a syncline. The axis of the syncline is located upslope a few hundred feet east of Calaveras Road and trends northwest paralleling the ridge line. Farther up the hillside east of the synclinal axis, the bedding reverses dip direction toward the west. According to the California Division of Mines and Geology, the Calaveras Fault, which is located approximately 300 feet west of Calaveras Road, lies near the bottom of the hillside along the east edge of an alluvial plain that makes up the floor of Sunol Valley (California Division of Mines and Geology 1966; Dibblee 1980). However, URS soil investigation data indicates that a fault zone is located at the base of the hillside on the eastern side of Calaveras Road and is assumed to be a part of the fault zone. Immediately to the west of Calaveras Road is the nursery, which is located on what appears to be a terrace. The Alameda Creek floodplain is located about 500 feet to the west of the nursery and is about 35 feet lower in elevation.

2.3 LOCAL GEOLOGY AND HYDROGEOLOGY

2.3.1 Local Geology

Local lithology on the hillside above Calaveras Road consists of sandy silt to silty sand colluvium extending to depths ranging from approximately 3 to 32 feet below ground surface (bgs). The silty sand colluvium is underlain by gravelly fine sand and fine sandy gravel to total depths ranging from approximately 10 to 40 feet bgs. Beneath the sand and gravel layer (observed in the borings that reached the greatest depth below ground surface) a thin silty/clayey weathered zone was encountered just before refusal on what appeared to be the sandstone/siltstone bedrock. Sandstone bedrock overlain by a gravel bed is exposed in the dirt road cut at the pipeline release Site.

Local lithology along Calaveras Road and in the nursery indicates the base of the hillside consists of sandy to clayey silt and silty sand to a depth of about 17 to 35 feet bgs, underlain by sandy to silty gravel to a depth of about 29 to 43 feet bgs. Highly weathered sandy siltstone

bedrock (with the consistency of sandy clay) is encountered at depths ranging from 29 to 47 feet bgs, underlain by progressively less weathered sandy siltstone, clayey siltstone, and silty claystone.

A weathered and sheared clay layer was encountered that appears to be fault gouge in boring AR-2 (URS 2005). At approximately 105 feet bgs, hard, dark ultramafic igneous rock, which appeared to be basalt or gabbro (possibly of the Franciscan Formation), was encountered at the total explored depth of 108 feet bgs. It is possible that the clay layer could be fault gouge marking the contact with the Calaveras Fault. The depth to the alluvium/bedrock contact does not increase with distance west from the hillside, unlike what the angle of the slope suggests.

2.3.2 Unconfined Water-Bearing Zone

Groundwater elevation data was collected during the December monthly groundwater gauging event on December 7, 2012. The groundwater elevations for monitoring wells MW-1 through MW-4 and MW-9 through MW-11 were 292.00, 292.31, 294.68, 293.46, 291.28, 290.10, and 292.89 feet above average mean sea level (msl), respectively. The groundwater elevation for MW-8, which is screened in an apparent hillside groundwater recharge source for the nursery's unconfined water-bearing zone, was 313.81 feet above msl.

Based on historical water level data from wells MW-1 through MW-4, and MW-9 through MW-11, the local groundwater flow direction within the nursery's unconfined water-bearing has historically been in a north-northeast direction. The seasonal groundwater recharge from the hillside appears to flow west into the unconfined nursery water-bearing zone on a limited basis.

2.3.3 Confined Sandstone Water-Bearing Zone

There were three confined sandstone water-bearing wells at the Site (MW-5 through MW-7). The confined sandstone water-bearing zone wells were located along the eastern shoulder of Calaveras Road and are no longer a part of the groundwater monitoring program. After four quarters of non-detect analytical results, ACEH agreed, in a letter dated February 1, 2008, that further groundwater monitoring of the confined sandstone water-bearing zone was unnecessary. The wells were abandoned according to Alameda County Zone 7 Water Agency (Zone 7) standards on June 23, 2008.

In response to the CSM's identified data gaps and with ACEH's concurrence for further evaluation of soil and groundwater to the north and south of MW-8 along the Calaveras Fault at the Site, URS advanced a total of four soil borings and completed the four borings as groundwater wells (MW-12 through MW-15) from November 26 through December 5, 2012.

3.1 PERMITS AND PRE-DRILLING PROCEDURES

Before initiating field activities, URS obtained drilling permits from the Zone 7 and a roadway encroachment permit from Alameda County Public Works Agency (ACPWA). Copies of these permits are provided in Appendix B. URS notified Underground Service Alert 48 hours before initiating field activities. On November 20, 2012, Cruz Brothers Locators, Inc., a private utility locator from Scotts Valley, California, used a metal detector and ground penetrating radar equipment to clear all boring locations for the presence of underground utilities.

URS updated the JSSP to describe the potential hazards associated with the proposed field activities (advancing soil borings, soil and groundwater sampling, monitoring well installation, well development) and traffic control as the field activities were conducted with the Calaveras Road Right of Way. The JSSP also provided safe work procedures to mitigate the potential work hazards. A copy of the JSSP was available on Site at all times. The URS Site supervisor held tailgate safety meetings each morning to discuss the relevant aspects of the JSSP for the day's scheduled work. Job safety analyses were developed for specific work tasks and were discussed during the daily tailgate safety meetings.

URS developed a geological transect using the boring logs for MW-5 through MW-8. The geological transect was utilized to discuss possible screen intervals of the potential wells. The geological transect was updated after the advancement of borings MW-12 through MW-15 to include the new lithological data, and assisted with the decision of screen intervals of each well. The finalized geological transect is included as Figure 3.

A URS biologist visited the Site to update the existing biological assessment, which was included as an appendix in URS's 2005 *Subsurface Investigation Report*. The results from the biological survey are discussed in Section 6.

URS contacted California Department of Water Resources (DWR) and Zone 7 to identify supply wells within a half mile radius of the Site. Additional information regarding the local well survey results is discussed in Section 7.

3.2 BORINGS AND SAMPLE COLLECTION

URS subcontracted Gregg Drilling & Testing, Inc. (Gregg) of Martinez, California (C57# 485165) to advance soil borings MW-12 through MW-15 on the east side of Calaveras Road and convert the borings to monitoring wells on November 26 through December 5, 2012.

Due to URS and CPL safety standards, each boring was hand augered to 8 feet bgs to ensure no underground utilities were located beneath the drilling locations. On November 26 through December 3, 2012, URS utilized direct-push technology with a Rhino™ track-mounted rig to advance soil borings MW-12 through MW-15. Continuous soil cores were obtained at MW-12 through MW-15 using a 2-inch diameter, clean continuous core acetate lined sampler driven into undisturbed sediments. Groundwater was not encountered during drilling at any of the four

boring locations. Based on the initial analytical data from MW-12, the conditional well (MW-15) was installed 50 feet south of MW-8.

The work plan established that each soil boring would be advanced to approximately 25 feet bgs or to weathered bedrock. However, first encountered water was not observed in the soil borings at 25 feet bgs and it was determined in the field based on lithology to advance each boring an additional 5 feet bgs or until refusal. Soil borings MW-12 and MW-14 were advanced to 30 feet bgs. MW-13 and MW-15 were advanced to 25.5 and 28 feet bgs, respectively, due to refusal in dense weathered bedrock. Upon completion of the borings, a monitoring well was installed at each boring location on December 3 through December 5, 2012. Monitoring wells installed during this phase of field activities will be discussed further below (Section 3.3).

A URS geologist observed the boring activities and collected soil samples for lithologic characterization and laboratory analysis. Soil cores were logged using the Unified Soil Classification System (American Society for Testing and Materials, International [ASTM] D2488). Soil samples were collected from approximately 5-foot intervals or based on field observations for laboratory and headspace analysis. Soil was placed in a plastic Ziploc® bag, sealed, composited by hand, and then set aside to allow hydrocarbons to volatilize from the soil. After ten to fifteen minutes, a portable photoionization detector (PID) measured volatile hydrocarbon vapor concentrations in the Ziploc® bag's headspace, extracting the vapor through a slit in the Ziploc® seal. PID measurements were used along with the field observations, odors, stratigraphy, and ground water depth to select soil samples for analysis. The PID readings were noted on the boring logs along with the lithologic information (Appendix C). Elevated PID readings and visual staining were observed in borings MW-12 and MW-13 between depths of 24 to 26 feet bgs and 22 to 26 feet bgs, respectively, with a maximum PID concentration of 1,484 parts per million (ppm) in boring MW-12 at 24.5 feet bgs. No elevated PID readings were noted and no visual or olfactory impacts were observed in MW-14 and MW-15.

Soil samples were analyzed for total petroleum hydrocarbons as gasoline range organics (TPH-GRO) (by Environmental Protection Agency [EPA] Method 8015M), and benzene, toluene, ethylbenzene, and total xylenes (BTEX) (by EPA Method 8260B) analysis. Soil samples were collected in Terra Core™ samplers and placed into laboratory-provided vials with no preservative and laboratory-provided pre-filled vials with methanol preservative, as required per respective EPA analytical methods.

URS placed all soil samples immediately in an ice-filled cooler and transported them under chain-of-custody procedures to Lancaster Laboratories, Inc., of Lancaster, Pennsylvania, a California Department of Health Services certified laboratory (California Certification No. 2116). The chain-of-custody forms and the complete laboratory analytical results are provided in Appendix D.

Investigation-derived waste, including soil cuttings and decontamination rinsate water, was stored on Site in properly labeled Department of Transportation approved 55-gallon drums until they could be characterized and disposed of off-Site.

3.3 MONITORING WELL INSTALLATION

URS converted soil boring locations MW-12 through MW-15 to groundwater monitoring wells using hollow-stem augers. Monitoring well depths and screen lengths were based on field

observation, PID readings, lithology, and historical groundwater levels in MW-8. The monitoring wells were constructed with 4-inch diameter, flush-threaded, Schedule 40 polyvinyl chloride (PVC) blank casings and 0.010-inch slot PVC well screens. PVC bottom caps extend approximately 0.3-feet below the well screen. The wells were completed with #2/16 sand filter packs placed within the annulus of each well from the bottom of the casing to approximately 1 foot above the top of the well screen. The remaining annulus was sealed with two feet of hydrated bentonite and neat Portland cement and bentonite grout slurry tremied to within approximately 6 inches of ground surface. All wells were completed with a flushed well vault box completions that were up to three inches above ground to protect against stormwater runoff with sloping concrete pads and locking watertight well caps. Copies of the soil boring logs and the well construction details are provided in Appendix C. The well completion details for all 15 groundwater monitoring wells at the Site (MW-1 through MW-15) are summarized in Table 1.

Historical groundwater levels in monitoring well MW-8 ranged between approximately 18.4 to 22.6 feet bgs, and weathered bedrock was observed at approximately 24.5 feet bgs. The two monitoring wells to the north of MW-8 (MW-13 and MW-14) were both constructed with slotted screened intervals from approximately 16 to 26 feet bgs. The well screens were constructed based on visual impacts in MW-13. Weathered bedrock was observed in MW-13 and MW-14 at 20 and 27 feet bgs, respectively. URS chose to screen within the weathered bedrock lithology based on the visual impacts observed within the weathered bedrock in MW-13 between 20 and 25 feet bgs and historical groundwater levels of MW-8.

The two monitoring wells to the south of MW-8 (MW-12 and MW-15) were constructed with slotted screened intervals from approximately 17 to 27 feet bgs and 14 to 24 feet bgs, respectively. Weathered bedrock was observed in direct-push borings MW-12 and MW-15 at 28.5 and 19 feet bgs, respectively. The well screen for MW-12 was to be constructed from 18.5 feet bgs to weathered bedrock (28.5 feet bgs), however, the hollow-stem augers encountered refusal at 27 feet bgs. The well screen of MW-12 was constructed based on visual impacts and PID readings in MW-12 from 24 to 26 feet bgs, and refusal at 27 feet bgs. The well screen of MW-15 was based on the shallow weathered bedrock contact and the historical groundwater levels of MW-8.

No groundwater was encountered in monitoring wells MW-12 through MW-15 at the time of completion. The wells were gauged a second time on December 7, 2012 and insufficient water was present to develop the wells. MW-12 and MW-14 contained 1.1 feet and 0.47 feet, respectively, of water in the well sump which may have accumulated during well construction. The wells will continue to be gauged during monthly gauging events and quarterly groundwater monitoring activities. URS will develop the monitoring wells when sufficient water is present in all new monitoring wells (MW-12 through MW-15).

3.4 DELAYS AND VARIANCES

Field activities were delayed on November 27, 2012 due to the kill switches on the drill rig being inoperable. Per URS health and safety standards, the drill rig was removed from the Site and as no other drilling rig was available, the field activity was postponed to the following day.

Field activities were delayed on November 28 and 30, 2012 due to inclement weather. On-Site traffic control included a lane closure on the two lane road. Heavy rains and possibility of lightning made the Site unsafe and stop-work could not be utilized in severe weather until the

traffic control set-up was broken down. Due to this delay during a stop-work situation, the field activities were postponed on severe weather days.

Due to weather and the resulting saturated surface soil conditions, a water buffalo was not utilized during this project to wet the local vegetation due to the fire hazard. If conditions were to change, a Hudson sprayer was available on-Site and would have been utilized as needed.

The encroachment permit included working times of 9 AM through 3 PM. Due to the limited time period allowed per day, direct-push technology was the best option in order to log and sample each soil boring without leaving an exposed and open hole overnight. URS received approval from Zone 7 to leave open borings overnight while also protecting against stormwater intrusion. Any open borings at the end of the work day were plugged with a wooden plug or covered with a steel trench plate and the edges of the plug or the trench plate was then surrounded by bentonite chips to create a seal at the surface. The following work day, the bentonite seal would be removed by pry bar, and the trench plate or wooden plug removed.

Soil samples were collected utilizing the Terra Core™ sampling methods and containers instead of using acetate liners or jars in order to preserve volatiles in the sample and log the complete boring.

Groundwater was not encountered during drill activities or after monitoring well installation, therefore, URS could not develop or collect samples from monitoring wells MW-12 through MW-15. MW-12 through MW-15 will be gauged on a monthly basis and the need for development will be reevaluated based on future measurements.

This section presents the lithology from soil borings MW-12 through MW-15 and analytical results from the soil samples collected as part of the data gap investigation. A summary of the soil analytical results is presented in Table 2 and the complete laboratory analytical reports are provided as Appendix D.

4.1 LITHOLOGY

A URS geologist logged soil borings MW-12 through MW-15. General lithology in the borings is described below, and the boring logs are presented in Appendix C.

The lithology of MW-12 consists of silt with sand from ground surface to 10 feet bgs. Underlying the silt with sand and extending to 29 feet bgs is silty sand, well-graded sand with silt, and poorly graded sand. Underlying the sand layer and extending to bottom of the boring at 30 feet bgs is weathered sandstone.

The lithology of MW-13 consists of silt with sand to sandy silt extending from ground surface to 20 feet bgs. Underlying the silt with sand to sandy silt layers to refusal at 25.5 feet bgs is weathered sandstone.

The lithology of MW-14 consists of silt with sand from ground surface to 10 feet bgs. Underlying the silt with sand layer and extending to 15 feet bgs is silty sand with gravel. Underlying the silty sand with gravel layer and extending to 26.5 feet bgs is sandy silt with gravel. Underlying the sandy silt with gravel layer and extending to the bottom of the boring at 30 feet bgs is weathered sandstone.

The lithology of MW-15 consists of silt with sand extending from ground surface to 19 feet bgs. Underlying the silt with sand to sandy silt layers to refusal at 28 feet bgs is weathered sandstone.

Groundwater was not encountered in soil borings MW-12 through MW-15 during the soil boring drilling activities.

As requested by ACEH, a geological transect was generated prior to drilling activities. After the investigation, the transect was updated as geologic cross section A-A' and presented as Figure 3. The geological cross-section depicts variability in the boring logs, which could be due to several factors, including: historic stream channels, downward movement of soil from the eastern hillside, or tectonic movement correlated with the active Calaveras Fault. Observed staining and elevated PID readings were present in MW-12 in the silty sand unit and in MW-13 in the weathered bedrock unit. The degree of weathering in the shallow sandstone is variable across the site, and influences groundwater flow. The visual staining in MW-13 in the weathered sandstone unit represents fluctuations in the groundwater smear zone. The soil observed in borings MW-14 and MW-15 are unlikely to be preferential groundwater pathways due to the low permeability of soils and the lack of evidence of groundwater fluctuations.

4.2 SOIL ANALYTICAL RESULTS

Six soil samples were collected from boring MW-12. Only one sample from MW-12 contained concentrations of TPH-GRO and ethylbenzene above the laboratory reporting limits. Sample MW-12-24.5-25 had concentrations of TPH-GRO at 1,100 milligram per kilogram (mg/kg) and ethylbenzene at 0.6 mg/kg at 24.5 feet bgs. TPH-GRO concentration in MW-12 at 24.5 feet bgs exceeded environmental screening levels (ESLs) (Regional Water Control Board [RWQCB],

2008) for deep soils (greater than 3 meters) where groundwater is a potential drinking resource (ESL for TPH-GRO is 83 mg/kg). No other soil samples from MW-12 had concentrations of TPH-GRO or BTEX above laboratory reporting limits.

Six soil samples were collected from boring MW-13. Two soil samples from MW-13 contained concentrations of TPH-GRO and BTEX above the laboratory reporting limits. Sample MW-13-23-23.5 had concentrations of TPH-GRO at 120 mg/kg, benzene at 0.081 mg/kg, ethylbenzene at 0.62 mg/kg, and total xylenes at 3.4 mg/kg at 23 feet bgs. Sample MW-13-25-25.5 had concentrations of BTEX at 0.012 mg/kg, 0.025 mg/kg, 0.019 mg/kg, and 0.1 mg/kg, respectively. TPH-GRO, benzene, and total xylenes concentrations in MW-13 at 23 feet bgs exceeded ESLs for deep soils (greater than 3 meters) where groundwater is a potential drinking resource (ESL for benzene is 0.044 mg/kg and for total xylenes is 2.3 mg/kg). No other soil samples from MW-13 had concentrations of TPH-GRO or BTEX above laboratory reporting limits.

Six soil samples were collected from boring MW-14. None of the soil samples from MW-14 contained concentrations of TPH-GRO or BTEX above laboratory reporting limits.

Six soil samples were collected from boring MW-15. None of the soil samples from MW-15 contained concentrations of TPH-GRO or BTEX above laboratory reporting limits.

TPH-GRO and BTEX detected in soil are horizontally delineated to the north and south of MW-8 by monitoring wells MW-14 and MW-15. TPH-GRO and BTEX are vertically delineated based on soil samples from monitoring wells MW-12 through MW-15. A summary of the soil analytical results is presented in Table 2 and the complete laboratory analytical reports are provided as Appendix D.

5.1 SUMMARY OF QA/QC REVIEW PARAMETERS

The quality assurance/quality control (QA/QC) program includes using standard sample collection procedures in the field and established analytical methodologies in the laboratory. Laboratory and field QC sample results were evaluated to assess the quality of the individual sample results and overall method performance. Analytical performance was evaluated on a "batch QC" basis by evaluating the QC sample results for groups of samples that were prepared and analyzed together. The data evaluation performed included review of:

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

5.1.1 Method Holding Times

Analytical methods have prescribed holding times. The method holding time is defined as the maximum amount of time after collection that a sample may be held prior to extraction and/or analysis. Sample integrity becomes questionable for samples extracted and/or analyzed outside of the prescribed holding times due to degradation and/or volatilization of the sample. The QA/QC review identifies results with exceeded method holding times. No analytical method holding times were exceeded during the groundwater sample analysis during this investigation.

5.1.2 Method Blanks

Method blanks are prepared in the laboratory using deionized, distilled (Reagent Grade Type II) water. Method blanks are extracted and/or analyzed following the same procedures as an environmental sample. Analysis of the method blank indicates potential sources of contamination from laboratory procedures (e.g. contaminated reagents, improperly cleaned laboratory equipment) or persistent contamination due to the presence of certain compounds in the ambient laboratory environment. The QA/QC review identifies method blanks with detections of target analytes and evaluates the effect of the detections on associated sample results. No detections above the laboratory reporting limit were reported in the analyzed method blanks**.**

5.1.1 Trip Blanks, Field Blanks, and Equipment Blanks

Trip blanks are samples of deionized, distilled (Reagent Grade Type II) water that are prepared in the laboratory, taken to the field, retained on Site throughout sample collection, returned to the laboratory, and analyzed with the environmental samples. Field blanks are samples that are prepared in the field by collecting deionized, distilled (Reagent Grade Type II) into sample containers while field samples are being collected. Equipment blanks are samples that are prepared in the field by running deionized, distilled (Reagent Grade Type II) water through decontaminated sampling equipment. The QA/QC review identifies trip blanks with detections of target analytes and evaluates the effect of the detections on associated sample results. Two trip

blanks, two field blanks, and two equipment blanks were collected during this sampling event. No detections above the laboratory reporting limit were reported in the analyzed trip blanks, field blanks, and equipment blanks.

5.1.2 Matrix Spikes and Laboratory Control Samples

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

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

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

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

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

The QA/QC review identifies spike recoveries outside laboratory control limits and evaluates the effect of these recoveries on the associated sample results. The reported MS/MSD and LCS/LCSD sample recoveries were all within laboratory QC limits.

5.1.3 Laboratory Duplicate Analyses

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

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

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

The RPD is compared to laboratory-established control limits to evaluate analytical precision. The QA/QC review identifies RPDs outside laboratory control limits and evaluates the effect of

these recoveries on the associated sample results. All evaluated RPDs were within laboratory QC limits.

5.1.4 Field Duplicate Analyses

Field duplicate samples are collected in the field and analyzed to evaluate the heterogeneity of the matrices. One soil field duplicate was collected during this sampling event. All evaluated RPDs were within QC limits.

5.1.5 Surrogate Recoveries

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

- High trifluorotolune-F surrogate recovery was reported in batch 12324A16B. The TPH-GRO results in sample MW-12-24.5-25 was qualified as estimated and flagged with a J.

5.2 EXPLANATION OF ANALYTICAL DATA QUALIFIERS

The analytical data were reviewed and qualified following USEPA guidelines for organic data review (USEPA, 1999). A “J” qualifier indicates that the analyte was positively identified, but that the associated numerical value is an approximate concentration of the analyte in the sample. A “UJ” qualifier indicates that the analyte was not detected above the reported sample quantitation limit (i.e., the laboratory reporting limit), however, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample. An “R” qualifier indicates that the sample results were rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria, and therefore, the presence or absence of the analyte could not be verified.

5.3 SUMMARY OF QA/QC REVIEW FINDINGS

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

All reported results for the laboratory method blanks were non-detect (less than the laboratory reporting limit), indicating no evidence of contamination from laboratory instrumentation. All reported results for the trip blanks, equipment blanks, and field blanks were non-detect (less than the laboratory reporting limit), indicating no evidence of cross-contamination during sampling or contamination during shipping of the laboratory samples. The field duplicate verified that the sample matrix was homogeneous and the results repeatable.

All reported laboratory control sample (LCS), matrix control sample (MS) and surrogate spike recoveries were within laboratory QC limits, with the exception of the following surrogate spike recoveries, which required qualification:

- High trifluorotolune-F surrogate recovery was reported in batch 12324A16B. The TPH-GRO results in sample MW-12-24.5-25 was qualified as estimated and flagged with a J.

Chain-of-custody documentation is complete and consistent. Samples were preserved as required per method specifications. All samples were analyzed within method specified holding times. Based on the data quality evaluation, no systematic problems were detected and the overall data objectives for sample contamination, precision, accuracy, and sample integrity were met. These analytical data are of acceptable quality and may be used for their intended purposes.

On December 4, 2012, a URS biologist performed a biological Site assessment update of the hillside and surrounding area at the Site. The purpose of the biological survey was to assess and identify potential outstanding ecological issues related to the fuel release. The biologist conducted the survey by walking a meandering transect on foot that covered the various Site features, including: the hillside above and below the pipeline; the seasonal creek northwest of the hillside; Calaveras road edges west of the spill; the Valley Crest Tree Company property; and the downstream reach of the creek where the stream sample is collected during the semi-annual groundwater monitoring.

During the survey the biologist noted all species of wildlife detected by sight, sound or sign (i.e. scat or tracks). Vegetation was noted, but a comprehensive plant survey was not conducted. The immediate upstream and downstream reaches of the seasonal creek were closely inspected as well. No visible signs of vegetation chemical burning, as first reported in the initial biological Site assessment, were visible on annual or perennial vegetation, including tree foliage. In particular, the live oak (*Quercus agrifolia*) trees lining Calaveras road or the downstream reach of the creek where it meanders into a California sycamore (*Platanus racemosa*) woodland did not appear diseased or distressed. No fuel was visible on the surface of standing water in the seasonal tributary creek. No dead or wounded wildlife were detected. Additional information is included in the Biological Survey Tech Memo in Appendix E.

URS conducted a local well survey by contacting DWR–Central District in Sacramento via Well Completion Report Release Agreement- Environmental Cleanup Study Form, cosigned by URS and ACEH. The DWR identified six wells within the Site vicinity. Upon further review, only two wells were determined to be within the ½-mile search radius. The two wells are vapor extraction wells owned by SFPUC. The wells range in depth from 24 to 26 feet bgs and are located approximately 0.18 miles west and 0.35 miles southwest (up gradient) of the Site. Based on the dimensions of the hydrocarbon plume, and the locations and distances to these wells, it is not likely that these wells could be impacted by the hydrocarbon plume at the Site. Well survey data is presented in Table F-1 and locations are depicted on Figure F-1 (Appendix F).

URS also contacted Zone 7 to identify wells within a half mile radius of the Site. Zone 7 identified no water supply wells within ½-mile of the Site vicinity. The Zone 7 well survey map is included in Appendix F as Figure F-2. The wells shown within the ½-mile radius on Figure F-2 include the groundwater monitoring and soil vapor extraction wells for the CPL Sunol Site.

The following findings have been made based on current Site conditions and on the results of the data gap investigation:

- Groundwater was not present in any of the newly installed monitoring wells (MW-12 through MW-15). Historically, water was not present during the installation of other wells at this Site (most recently, MW-10 and MW-11). Monitoring wells MW-12 through MW-15 could not be developed or sampled during this investigation. Additional groundwater data will be collected during monthly gauging events and will be used to further interpret shallow groundwater behavior along the east side of Calaveras Road.
- Two of the four monitoring wells installed, MW-12 and MW-13, had impacts of TPH-GRO and/or BTEX. These results correlated with observed visual staining and elevated PID readings that were present in MW-12 and MW-13 during installation at approximately 24 to 26 feet bgs and 21 to 25 feet bgs. However, TPH-GRO and BTEX are horizontally delineated north to south by MW-14 and MW-15 and monitoring wells MW-12 through MW-15 are vertically delineated.
- Based on the current groundwater monitoring well network and the most recent groundwater monitoring event, the hydrocarbon plume is delineated to the north by MW-10, to the west by MW-3, MW-4 and MW-11, and to the south by MW-2. Once there is sufficient water in the new wells, URS will evaluate the delineation to the east of Calaveras Road.
- No biological resources appear to be at risk from the previous spill at the Site.
- No supply wells are located within a ½ mile radius of the Site and therefore, no supply wells appear to be at risk from the previous spill and contaminated groundwater at the Site.

Based on the findings of the data gap investigation activities and the CSM (URS, 2010), URS has made or is currently implementing the following recommendations:

- Continue monthly gauging to further assess the effect of seasonal groundwater fluctuations on groundwater flow direction and contaminant transport within the unconfined water-bearing zone. When monitoring wells MW-12 through MW-15 have sufficient water, the wells will be developed and sampled on a quarterly basis for one year. The rest of the Site monitoring wells will continue to be sampled on a semi-annual basis.
- URS does not recommend further assessment of the Site and that all identified data gaps have been filled successfully by the investigation reported herein.
- Based on current groundwater conditions, URS finds the data encouraging for low-threat Site closure. URS plans to develop and submit low-threat case closure petition to ACEH during 2013.

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

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

RWQCB, 2008. *Screening for Environmental Concerns at Sites with Contaminated Groundwater and Soil*. Regional Water Quality Control Board, San Francisco Bay Region. November. (Referred to as ESLs in text)

URS Corporation. 2005. *Subsurface Investigation Report, Chevron Pipeline Release, Sunol, California*. December. (Referred to as Subsurface Investigation Report in text)

URS Corporation. 2006a. *Additional Subsurface Investigation Report, Chevron Sunol Pipeline, Sunol California.* May.

URS Corporation. 2006b. *Additional Groundwater Monitoring Well Installation and Third Quarter 2006 Groundwater Monitoring Report, Chevron Sunol Pipeline, Sunol California*. December.

URS Corporation. 2007a. *Work Plan for Additional Monitoring Well Installation, Chevron Sunol Pipeline, Sunol California.* July.

URS Corporation. 2007b. *Second Quarter 2007 Groundwater and Soil Vapor Extraction System Monitoring Report. August.*

URS Corporation. 2010. *Conceptual Site Model.* October. (Referred to as CSM in text)

URS Corporation. 2012. *Work Plan for Data Gap Investigation and Remediation.* July.

U.S. Environmental Protection Agency (USEPA). 1999. USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. October.

Tables

TABLE 1
Monitoring Well Construction Details
Data Gap Investigation and Remediation Report
Chevron Sunol Pipeline

Well ID	Date Completed	Easting	Northing	Ground Surface Elevation (feet msl)	Top of Casing Elevation (feet msl)	Screen Top (feet bgs)	Screen Bottom (feet bgs)	Total Depth (feet bgs)	Well Diameter
MW-1	10/20/2005	6168139.39	2025761.69	328.49	328.04	29.3	39.3	40.0	4" PVC
MW-2	10/21/2005	6168115.96	2025712.04	324.85	324.15	23.3	38.3	39.0	4" PVC
MW-3	10/21/2005	6168083.90	2025767.15	326.05	325.65	21.3	36.3	37.0	4" PVC
MW-4	1/31/2006	6168112.65	2025821.72	329.97	329.67	30.7	40.7	41.0	4" PVC
MW-5	*1/27/2006*	*6168225.98*	*2025764.36*	*335.14*	*334.81*	*39.5*	*49.5*	*49.8*	*4" PVC*
MW-6	*1/27/2006*	*6168213.24*	*2025711.81*	*332.61*	*332.38*	*34.7*	*49.7*	*50.0*	*4" PVC*
MW-7	*1/27/2006*	*6168231.84*	*2025799.52*	*336.46*	*336.22*	*34.7*	*49.7*	*50.0*	*4" PVC*
MW-8	8/15/2006	6168227.45	2025772.92	335.23	333.93	14.5	24.5	25.0	2" PVC
MW-9	8/16/2006	6168158.53	2025840.07	333.49	333.07	36.0	46.0	46.5	2" PVC
MW-10	9/5/2007	6168146.88	2025919.55	336.55	335.89	40.3	55.3	55.7	2" PVC
MW-11	9/6/2007	6168077.24	2025876.37	330.29	329.89	37.0	47.0	47.3	2" PVC
MW-12	12/4/2012	6168225.17	2025747.46	334.90	334.58	16.7	26.7	27.0	4" PVC
MW-13	12/5/2012	6168231.49	2025796.87	336.79	336.79	15.7	25.7	26.0	4" PVC
MW-14	12/3/2012	6168231.40	2025824.44	338.15	337.94	16.0	26.0	26.4	4" PVC
MW-15	12/4/2012	6168219.93	2025723.45	333.38	333.43	14.0	24.0	24.4	4" PVC

Notes:
Northing and Easting coordinates based on the California Coordinate System Zone 3 NAD83 Datum.
msl - Elevation values displayed in feet above average mean sea level surveyed to NAVD88 datum
bgs - Below ground surface.
MW-1 through MW-3 surveyed on October 31, 2005.
MW-4 through MW-7 surveyed on February 14, 2006.
MW-8 and MW-9 surveyed on November 10, 2006.
MW-10 and MW-11 surveyed on September 13, 2007.
MW-5 through MW-7 were abandoned on June 23, 2008.
MW-12 through MW-15 surveyed on December 7, 2012.

TABLE 2
Summary of Soil Analytical Results Gasoline Compounds
Data Gap Investigation and Remediation Report
Chevron Sunol Pipeline

Sample ID	Date	Sample Depth (fbgs)	TPH-GRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)
Final ESL			*83*	*0.044*	*2.9*	*2.3*	*2.3*
MW-12-5-5.5	11/27/2012	5-5.5	<1.4	<0.0006	<0.001	<0.001	<0.001
MW-12-10-10.5	11/27/2012	10-10.5	<1.3	<0.0006	<0.001	<0.001	<0.001
MW-12-15-15.5	11/27/2012	15-15.5	<1.3	<0.0006	<0.001	<0.001	<0.001
MW-12-20-20.5	11/27/2012	20-20.5	<4.5	<0.0006	<0.001	<0.001	<0.001
MW-12-24.5-25	11/27/2012	24.5-25	**1,100 J**	<0.023	<0.046	0.6	<0.046
MW-12-29.5-30	11/27/2012	29.5-30	<1	<0.0005	<0.001	<0.001	<0.001
MW-13-5-5.5	11/26/2012	5-5.5	<1.0	<0.0006	<0.001	<0.001	<0.001
MW-13-10-10.5	11/29/2012	10-10.5	<1.0	<0.0006	<0.001	<0.001	<0.001
MW-13-15-15.5	11/29/2012	15-15.5	<1.1	<0.0006	<0.001	<0.001	<0.001
MW-13-20-20.5	11/29/2012	20-20.5	<1.0	<0.0006	<0.001	<0.001	<0.001
MW-13-23-23.5	11/29/2012	23-23.5	**120**	**0.081**	<0.062	0.62	**3.4**
MW-13-25-25.5	11/29/2012	25-25.5	<1	0.012	0.025	0.019	0.1
MW-14-5-5.5	11/29/2012	5-5.5	<1.2	<0.0006	<0.001	<0.001	<0.001
MW-14-10-10.5	11/29/2012	10-10.5	<1.1	<0.0006	<0.001	<0.001	<0.001
MW-14-15-15.5	11/29/2012	15-15.5	<1.3	<0.0006	<0.001	<0.001	<0.001
MW-14-20-20.5	11/29/2012	20-20.5	<1.1	<0.0005	<0.001	<0.001	<0.001
MW-14-25-25.5	11/29/2012	25-25.5	<1	<0.0005	<0.001	<0.001	<0.001
MW-14-29.5-30	11/29/2012	29.5-30	<1.1	<0.0006	<0.001	<0.001	<0.001
MW-15-5-5.5	11/29/2012	5-5.5	<1	<0.0005	<0.001	<0.001	<0.001
MW-15-10-10.5	11/29/2012	10-10.5	<1	<0.0006	<0.001	<0.001	<0.001
MW-15-15-15.5	11/29/2012	15-15.5	<0.9	<0.0005	<0.001	<0.001	<0.001
MW-15-20-20.5	11/29/2012	20-20.5	<1.1	<0.0006	<0.001	<0.001	<0.001
MW-X-20-20.5	11/29/2012	20-20.5	<1.1	<0.0006	<0.001	<0.001	<0.001
MW-15-27.5-28	11/29/2012	27.5-28	<1.1	<0.0005	<0.001	<0.001	<0.001

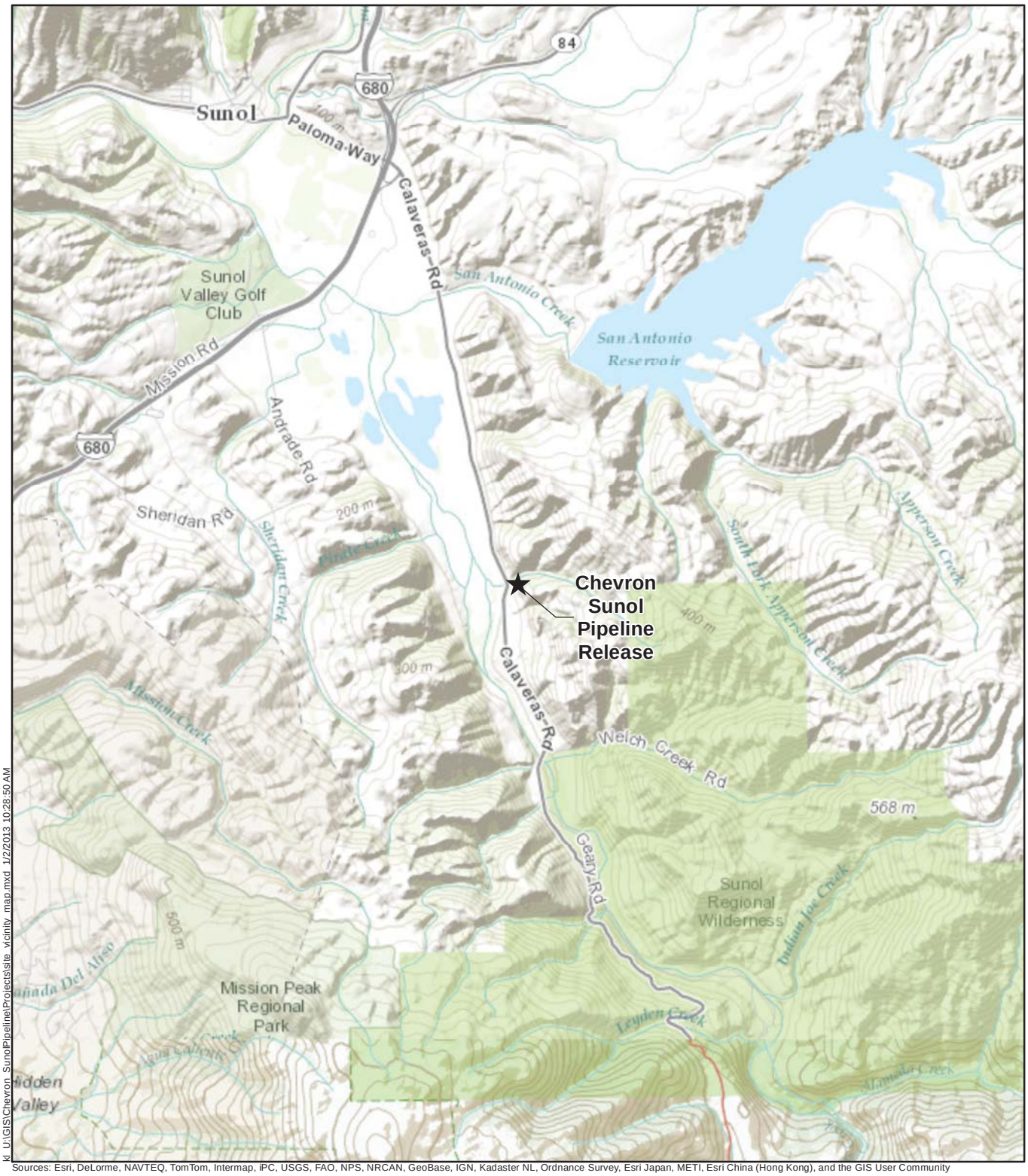
fbgs = feet below ground surface
TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA Method 8015B.
Benzene, toluene, ethylbenzene, and xylenes analyzed by EPA Method 8260B.

Bold = Result above ESLs
<x = Not detected above laboratory reporting limit x.

ESL = Environmental Screening Level: Final screening level of shallow soils (<3m bgs) where groundwater is a current or potential drinking water source as presented in Table A-1 of Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim Final November 2007 (Revised May 2008) prepared by the San Francisco Regional Water Quality Control Board (RWQCB).

A “J” qualifier indicates based on Quality Assurance and Quality Control (QA/QC) of the data by either Lancaster Labs or URS indicates that the analyte was detected above the reported sample quantitation limit (i.e., the laboratory reporting limit), however, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Figures



Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, iPC, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), and the GIS User Community

kl U:\GIS\Chevron_Sunol\Pipeline\Projects\site_vicinity_map.mxd 1/2/2013 10:28:50 AM

0 3,000 6,000 FEET

SITE VICINITY MAP

January 2013 — Chevron Sunol Pipeline
26817187 — Sunol, California

URS

FIGURE 1

NORTH

0 40 80

SCALE IN FEET

CURRENT STREAM SAMPLE LOCATION

VERY SMALL STREAM

MW-10

PROPERTY LINE/FENCE

CALAVERAS ROAD

SW-CREEK (FORMER SURFACE WATER SAMPLING LOCATION)

UPPER DIRT ROAD

LOWER DIRT ROAD

PIPELINE

MW-11

MW-9

MW-4

MW-3

MW-1

MW-2

A

A'

MW-14

MW-7

MW-13

MW-8

MW-5

MW-12

MW-15

MW-6

SVE-1D

SVE-2S

SVE-8

SVE-3S

SVE-7

SVE-4D

SVE-6

SVE-5

SVE-9

RELEASE LOCATION

HILL SLOPE

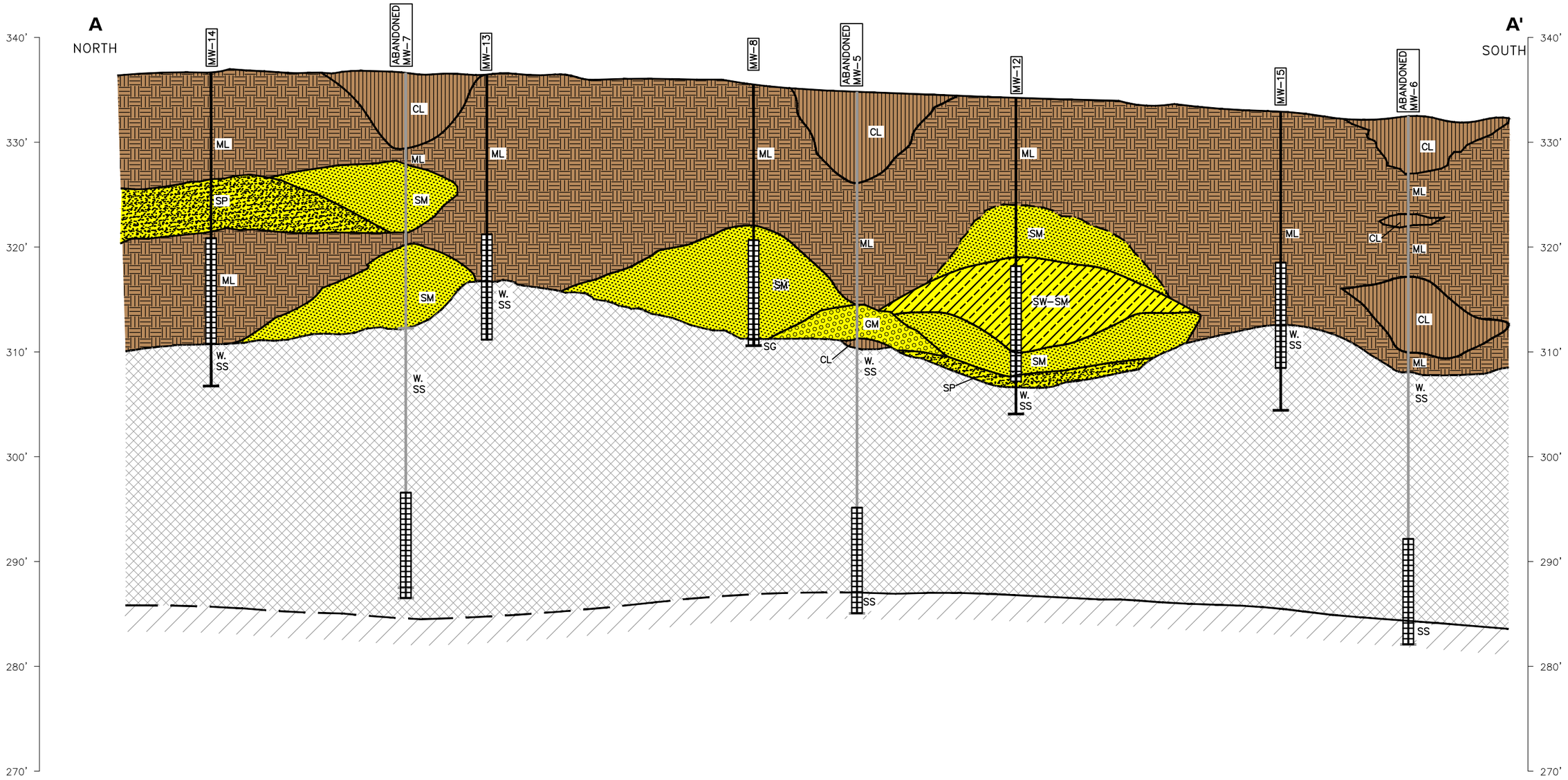
HILL SLOPE AND DENSE VEGETATION

LEGEND:

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

URS	CHEVRON PIPELINE COMPANY Project No. 26818071	SITE MAP AND CROSS SECTION LOCATION CHEVRON SUNOL PIPELINE	Figure 2

Jan 11, 2013 - 10:44am
T:\SFPUC Sunol Pipeline\Figures\TRANSECT\FIGURE 2.dwg



LEGEND:

- MW-14 — WELL DESIGNATION
- GROUND SURFACE
- STRATIGRAPHIC BOUNDARY
- ML — TYPICAL SOIL CLASSIFICATION
- SCREENED INTERVAL
- BOTTOM OF BORING

- CL — GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
- ML — SILT WITH SAND, SANDY SILTS, SANDY SILTS WITH GRAVEL, CLAY
- SM — SILTY SANDS, SAND–SILT MIXTURES
- SP — POORLY GRADED SANDS
- SW–SM — WELL GRADED SAND WITH SILT
- GM — SILTY GRAVEL, SILTY GRAVEL W/ SAND
- W. SS — WEATHERED SANDSTONE
- SS — SANDSTONE
- INFERRED CONTACT
- LOW PERMEABILITY
- MODERATE TO HIGH PERMEABILITY

0 10 20
SCALE IN FEET

URS

CHEVRON PIPELINE COMPANY

Project No. 26818071

GEOLOGIC CROSS SECTION A–A'
DATA GAP INVESTIGATION & REMEDIATION
CHEVRON SUNOL PIPELINE RELEASE
SUNOL, CA

Figure 3

Jan 18, 2013 - 9:52am
T:\SFPUC Sunol Pipeline\Figures\TRANSECT\FIGURE 3.dwg

Appendix A
ACEH Correspondence

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

December 13, 2011

Mr. Stephen Gwin (*Sent via E-mail to: gwst@chevron.com*)
Chevron Pipe Line Company
4800 Fournace Place
Bellaire, TX 77401-2324

Subject: Work Plan Review for SLIC Case No. RO0002892 and GeoTracker Global ID SL0600100443, Chevron Sunol Pipeline, 2793 Calaveras Road, Sunol, CA 94586

Dear Mr. Gwin:

Alameda County Environmental Health (ACEH) staff has reviewed the case file for the above-referenced site including the recently submitted document entitled, "*2011 Investigation Workplan, SLIC Case RO0002892, Chevron Pipeline Company, Sunol Spill, 2793 Calaveras Road, Sunol, CA,"* dated December 1, 2011 (Work Plan). The Work Plan, which was prepared on behalf of Chevron Pipe Line Company by URS Corporation, proposes an updated biological survey and installation of two monitoring wells. The Work Plan is based in part upon data gaps identified in a report entitled, "*Conceptual Site Model, SLIC Case RO0002892, Chevron Pipeline Company, Sunol Spill, 2793 Calaveras Road, Sunol, CA,"* dated October 28, 2010 (CSM).

We request that you submit a Revised Work Plan that addresses the technical comments below. Specific items that require revision are identified below.

TECHNICAL COMMENTS

1. **Pumping Test and Cleanup Goals.** The performance of a pumping test for the purpose of providing data to indicate that groundwater in the area of the site does not have a drinking water beneficial use does not appear to provide significant benefit for the project. In addition, a short-term pumping test using a monitoring well has limited technical value to assess aquifer capacity. As we have pointed out previously, low-risk criteria for closure of petroleum case may be applied to the site. Low-risk fuel leak case closure does not require that cleanup goals be achieved at the time of closure but will be achieved prior to the likely use of the groundwater for its designated beneficial use. However, the application of low-risk criteria requires that site characterization and source removal are complete. We recommend that you focus on achieving these two objectives to meet the requirements for low-risk fuel case closure.

2. **Proposed Well Installations.** ACEH previously concurred with the conclusion of the 2010 SCM that the installation of additional shallow wells is needed along the eastern side of Calaveras Road to monitor contaminant migration from the hillside source area. The Work Plan proposes installation of monitoring wells 50 feet north and south of existing well MW-8. However, the Work Plan indicates that monitoring wells will not be installed if evidence of contamination is observed in soil samples during advancement of the soil boring. Instead, the Work Plan proposes installation of wells further from well MW-8 and only outside any areas with evidence of contamination. This proposal is not acceptable because it does not include collection of data to monitor contaminant migration from the

hillside source area. We request that the Work Plan be revised to include one of the two following options:

- Advance a transect of soil borings along the eastern side of Calaveras Road with continuous soil sampling in each boring to define the stratigraphy. Use the stratigraphic information to collect depth-discrete grab groundwater samples and delineate the extent of groundwater contamination. Installation of one monitoring well north and south of MW-8 is to be based on the results of the grab groundwater sampling.
- Install monitoring wells 50 feet north and 50 feet south of MW-8. If evidence of soil contamination is observed in the boring for either monitoring well, install an additional well 100 feet north or south of MW-8.

3. **Depth of Hillside Source Area Impacts.** The October 28, 2011 CSM indicates that the depths and concentrations of the remaining impacts in the hillside are not known and identified the depth of hillside source area impacts as a data gap. ACEH concurred that the vertical extent of contamination in the hillside area is a data gap that should be addressed. In particular, evaluating the distribution of the source mass and pathway for contaminants to reach the gravel layer intersected by well MW-8 at the base of the hillside may warrant further efforts. However, no plans to assess the vertical extent of soil impacts on the hillside were presented in the Work Plan. Please include plans in the Revised Work Plan requested below to address this data gap.

4. **Resuming Site Remediation.** On July 23, 2009, Chevron Pipe Line Company made a decision to discontinue soil vapor extraction (SVE) at the site. ACEH did not concur with termination of the remediation since operation of the SVE system continued to remove contaminant mass in the source area. A passive soil vapor survey conducted in 2009 showed higher concentrations of TPH and BTEX at several soil vapor sampling locations on the hillside below the pipeline release. These findings indicate that petroleum hydrocarbons remain in shallow soil on the hillside and provide target areas for completion of source area treatment.

5. **Water Well Survey Information.** The Work Plan and the October 28, 2011 CSM refer to a water well search conducted in 2009 for a 14-mile section of the pipeline in stating that no water supply wells are within two miles of the site. In correspondence dated December 9, 2010, ACEH previously requested that you provide the supporting documentation for this conclusion. Please present this information in the Revised Work Plan requested below. If you are not able to provide complete supporting documentation, you are required to conduct a detailed well survey to locate water supply wells within ½ mile of the site by obtaining well information from both the Zone 7 Water Agency and the State of California Department of Water Resources, at a minimum. Submittal of maps showing the location of all wells identified in your study, and the use of tables to report the data collected as part of your survey are required. Please provide a table that includes the well designation, location, total depth, diameter, screen interval, date of well installation, current status, historic use, and owner of the wells. In addition, please provide well logs and completion records for wells downgradient from the site that are potential receptors. Please present your results in the Revised Work Plan requested below.

TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Jerry Wickham), according to the following schedule:

- **March 3, 2012** – Revised Work Plan
- **May 17, 2012** – Groundwater Monitoring Report for First Quarter 2012
- **November 15, 2012** – Groundwater Monitoring Report for Third Quarter 2011

If you have any questions, please call me at (510) 567-6791 or send me an electronic mail message at jerry.wickham@acgov.org. Case files can be reviewed online at the following website: http://www.acgov.org/aceh/index.htm.

Sincerely,

Jerry Wickham, California PG 3766, CEG 1177, and CHG 297
Senior Hazardous Materials Specialist

Attachment: Responsible Party(ies) Legal Requirements/Obligations
Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Cheryl Dizon (QIC 8021), Zone 7 Water Agency, 100 North Canyons Pkwy, Livermore, CA 94551 (*Sent via E-mail to: cdizon@zone7water.com*)

Joe Morgan III, URS Corporation, 1333 Broadway, Suite 800, Oakland, CA 94612 (*Sent via E-mail to: joe_morgan@urscorp.com*)

Jacob Henry, URS Corporation, 1333 Broadway, Suite 800, Oakland, CA 94612 (*Sent via E-mail to: jacob_henry@urscorp.com*)

Joe Naras, San Francisco Public Utilities Commission, Natural Resources Division
1657 Rollins Road, Burlingame, CA 94010

Craig Freeman, San Francisco Public Utilities Commission, Environmental and Regulatory Compliance Division, 1145 Market Street, Suite 500, San Francisco, CA 94103 (*Sent via E-mail to: CFreeman@sfwater.org*)

Donna Drogos, ACEH (*Sent via E-mail to: donna.drogos@acgov.org*)
Jerry Wickham, ACEH (*Sent via E-mail to: jerry.wickham@acgov.org*)
GeoTracker, eFile

Attachment 1

Responsible Party(ies) Legal Requirements / Obligations

REPORT REQUESTS

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.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal/).

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.

Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC)	**REVISION DATE:** July 20, 2010
	ISSUE DATE: July 5, 2005
	PREVIOUS REVISIONS: October 31, 2005; December 16, 2005; March 27, 2009; July 8, 2010
SECTION: Miscellaneous Administrative Topics & Procedures	**SUBJECT:** Electronic Report Upload (ftp) Instructions

The Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities.

REQUIREMENTS

- **Please do not submit reports as attachments to electronic mail.**
- Entire report including cover letter must be submitted to the ftp site as **a single portable document format (PDF) with no password protection**.
- It is **preferable** that reports be converted to PDF format from their original format, (e.g., Microsoft Word) rather than scanned.
- **Signature pages and perjury statements must be included and have either original or electronic signature.**
- **Do not password protect the document**. Once indexed and inserted into the correct electronic case file, the document will be secured in compliance with the County's current security standards and a password. **Documents with password protection will not be accepted**.
- Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer monitor.
- Reports must be named and saved using the following naming convention:

  RO#_Report Name_Year-Month-Date (e.g., RO#5555_WorkPlan_2005-06-14)

Submission Instructions

1) Obtain User Name and Password
   a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
      i) Send an e-mail to deh.loptoxic@acgov.org
   b) In the subject line of your request, be sure to include **"ftp PASSWORD REQUEST"** and in the body of your request, include the **Contact Information, Site Addresses**, and the **Case Numbers (RO# available in Geotracker) you will be posting for**.

2) Upload Files to the ftp Site
   a) Using Internet Explorer (IE4+), go to ftp://alcoftp1.acgov.org
      (i) Note: Netscape, Safari, and Firefox browsers will not open the FTP site as they are NOT being supported at this time.
   b) Click on Page located on the Command bar on upper right side of window, and then scroll down to Open FTP Site in Windows Explorer.
   c) Enter your User Name and Password. (Note: Both are Case Sensitive.)
   d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
   e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.

3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
   a) Send email to deh.loptoxic@acgov.org notify us that you have placed a report on our ftp site.
   b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
   c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO#, use the street address instead.
   d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

April 26, 2012

Mr. Stephen Gwin (*Sent via E-mail to: gwst@chevron.com*)
Chevron Pipe Line Company
4800 Fournace Place
Bellaire, TX 77401-2324

Subject: Work Plan Review for SLIC Case No. RO0002892 and GeoTracker Global ID SL0600100443, Chevron Sunol Pipeline, 2793 Calaveras Road, Sunol, CA 94586

Dear Mr. Gwin:

Alameda County Environmental Health (ACEH) staff has reviewed the case file for the above-referenced site including the recently submitted document entitled, "*Revised Workplan for the Sunol Site Data Gaps Investigation and Bio-Stimulation Remediation , SLIC Case RO0002892, Chevron Pipeline Company, Sunol Spill, 2793 Calaveras Road, Sunol, CA,"* dated March 9, 2012 (Work Plan). The Work Plan, which was prepared on behalf of Chevron Pipe Line Company by URS Corporation, proposes an updated biological survey, installation of two or more monitoring wells, and a 12-month program for injection of hydrogen peroxide.

The Work Plan is based in some part upon data gaps identified in a report entitled, "*Conceptual Site Model, SLIC Case RO0002892, Chevron Pipeline Company, Sunol Spill, 2793 Calaveras Road, Sunol, CA,"* dated October 28, 2010 (CSM). However, as discussed in the technical comments below, the Work Plan does not address several items identified in the CSM. The Work Plan also does not address technical comments in previous ACEH correspondence dated December 13, 2011, contains technical inaccuracies, and does not provide a valid evaluation of remedial alternatives. Most significantly, the Work Plan proposes in-situ remediation aimed at dissolved phase contamination without understanding the source and migration pathway for groundwater contamination while ignoring known shallow contamination. For these reasons and others discussed in the technical comments below, the Work Plan is rejected as technically inadequate.

Given the deficiencies in the proposed remedial approach, ACEH is requesting that any proposed future remedial approach be presented in a Corrective Action Plan (CAP) that meets the criteria provided in technical comment 10 below. Prior to preparation of a CAP, we request that you prepare a Revised Work Plan that addresses the technical comments below to complete site characterization. Technical comments 1 through 3 provide specific items that are to be included in the Revised Work Plan. Please submit the Revised Work Plan **no later than June 25, 2012**.

TECHNICAL COMMENTS

1. **Depth of Hillside Source Area Impacts.** The October 28, 2011 CSM indicates that the depths and concentrations of the remaining impacts in the hillside are not known and identified the depth of hillside source area impacts as a data gap. ACEH concurred that the vertical extent of contamination in the hillside area is a data gap that should be addressed. In particular, evaluating the distribution of the source mass and pathway for contaminants to reach the gravel layer intersected by well MW-8 at the base of the hillside warrants further efforts. However, no plans to assess the vertical extent of

soil impacts on the hillside were presented in the Work Plan. Instead, the Work Plan proposes installation of an injection well at the top of the hill without information on the depth of contamination. Please include plans in the Revised Work Plan requested below to address this data gap. This comment was included in previous ACEH correspondence but was not addressed.

2. **Proposed Well Installations.** We request that the Work Plan be revised to include the following:
    - Advance a transect of soil borings along the eastern side of Calaveras Road with continuous soil sampling in each boring to define the stratigraphy. Use the stratigraphic information to collect depth-discrete grab groundwater samples and delineate the extent of groundwater contamination.
    - Use soil and groundwater data from the transect to select locations for groundwater monitoring wells. At a minimum one monitoring well is to be installed to the north and one to the south of MW-8.

3. **Water Well Survey Information.** ACEH presented a technical comment that requested water well survey information in our December 13, 2011 correspondence. That technical comment was not addressed in the Work Plan. The October 28, 2010 CSM refers to a water well search conducted in 2009 for a 14-mile section of the pipeline in stating that no water supply wells are within two miles of the site. In correspondence dated December 9, 2010, ACEH previously requested that you provide the supporting documentation for this conclusion. Please present this information in the Revised Work Plan requested below. If you are not able to provide complete supporting documentation, you are required to conduct a detailed well survey to locate water supply wells within ½ mile of the site by obtaining well information from both the Zone 7 Water Agency and the State of California Department of Water Resources, at a minimum. Submittal of maps showing the location of all wells identified in your study, and the use of tables to report the data collected as part of your survey are required. Please provide a table that includes the well designation, location, total depth, diameter, screen interval, date of well installation, current status, historic use, and owner of the wells. In addition, please provide well logs and completion records for wells downgradient from the site that are potential receptors. Please present your results in the Revised Work Plan requested below.

4. **Objective for Proposed Remediation.** The Work Plan proposes hydrogen peroxide injection into one small-diameter SVE well, one injection well on the hillside, and the three monitoring wells where elevated concentrations of petroleum hydrocarbons have been observed. Following injections into the impacted wells, the groundwater concentrations would be monitored and closure requested if the groundwater concentrations are reduced to acceptable levels. Please note that the three monitoring wells proposed for use as injection wells are 90 to 100 feet apart. There appears to be little to no likelihood that the proposed injections would be effective at treating contamination over this distance between the wells, which leads to the conclusion that the apparent objective of the proposed remediation is treating groundwater in the area of impacted monitoring wells and not attempting to actually treat contamination at the site. Using the only viable monitoring wells for treatment wells cannot be considered a valid approach. A valid remedial approach would propose a technically defensible method for monitoring and evaluating the effectiveness of the remediation. On this basis and the additional technical comments below, the proposed remedial approach is rejected. Future evaluations of a remedial approach must be submitted in a CAP that meets the requirements described in technical comment 10 below.

5. **Basis and Objective for Work Plan.** The first paragraph of the Work Plan indicates the Work Plan is based on the results of the CSM, comments from ACEH, and recommendations from a URS evaluation of remedial options. However, the Work Plan does not address the outdated soil analytical data and the unknown depth of the hillside source area, which were identified as data gaps in the CSM. In addition, the Work Plan does not appear to incorporate the results of the 2009 passive soil vapor survey in the hillside area, which indicate shallow contamination on the hillside. The Work Plan also does not address the technical comments regarding well installation, depth of hillside source impacts, and water well survey information in our December 13, 2011 correspondence:

6. **Anaerobic Conditions.** The Work Plan states that groundwater at the site is anaerobic based on "very low dissolved oxygen concentrations." We have reviewed dissolved oxygen (DO) data from previous groundwater monitoring events including the most recent sampling event on 8/22/2011 shown below and find that the DO levels are within a normal range and are not "very low."

	MW-1	MW-3	MW-8	MW-9	MW-10	MW-11
DO on 8/28/2011 (mg/L)	2.34	2.15	1.18	2.32	0.00	2.89

Groundwater is typically considered anaerobic when DO concentrations are less than 0.5 mg/L. Only well MW-10, which is outside the plume, has a DO concentration less than 1 mg/L. Although there is a high degree of variability in DO data between sampling events, the data do not support a statement that site conditions are anaerobic. Moreover, the wells that are within the dissolved phase plume do not appear to have consistently lower DO readings than wells outside the plume. Site data do not support the recommendation to conduct hydrogen peroxide injections to increase DO concentrations.

7. **Decreasing Sulfate.** The Work Plan states that anaerobic biodegradation of groundwater is occurring, shown by the decreasing sulfate concentrations in groundwater. We have reviewed the sulfate data and did not observe the stated trend. Shown below is a comparison of sulfate data from the first and most recent groundwater monitoring event for which sulfate data are available.

	MW-1	MW-2	MW-3	MW-8	MW-9
Sulfate on 6/8/2006 (mg/L)	48.3	47.5	45.1	NM	NM
Sulfate on 11/15/2006 (mg/L)	108	126J	NM	78.6	29.5
Sulfate on 3/29/2011 (mg/L)	49.4	53.8	46.3	84.1	63

There does not appear to be a trend of decreasing sulfate concentrations as stated in the Work Plan. In addition, the wells that are within the dissolved phase plume do not appear to have lower sulfate concentrations than wells outside the plume.

8. **Cost Effectiveness of Remedial Options.** The Work Plan concludes that the expected recovery rates of gasoline compounds makes SVE not cost effective. In future evaluations of cost effectiveness in a CAP, we request that you evaluate each alternative for cost effectiveness. We suggest that you compare the cost per unit mass removed by SVE versus the cost per unit mass removed by hydrogen peroxide based on the stoichiometry of the expected reactions.

9. **GeoTracker.** A review of the case file and the State's Geotracker database indicates that the site is not in compliance with the State Water Resource Control Board (SWRCB) Electronic Report Regulations (Chapter 30, Division 3 of Title 23 & Division 3 of Title 27, CCR). No documents appear to have been uploaded to GeoTracker since 2010. Pursuant to California Code of Regulations, Title 23, Division 3, Chapter 16, Article 12, Sections 2729 and 2729.1, all analytical data, including monitoring well samples, submitted in a report to a regulatory agency as part of the UST or LUST program, must be transmitted electronically to the SWRCB GeoTracker system via the internet. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs, including SLIC programs. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites was required in GeoTracker. At present, missing data and documents include, but may not be limited to analytical date in EDF format, boring logs, location data, maps, and reports. Please see Attachment 1 for limited additional details, and the state GeoTracker website for full details. Please upload all required submittals to GeoTracker by the date specified below.

10. **Corrective Action Plan.** We request that you prepare a Draft Corrective Action Plan (Draft CAP) that meets the provisions of section 2725 of the UST regulations (CCR, Title 23, Chapter 16, section 2600, et seq.) and includes the following minimum information:

    - Summary of site characterization data.
    - Receptor information including likely future land use scenarios, adjacent land use and sensitive receptors, and potential groundwater receptors.
    - Evaluation of a minimum of three active remedial alternatives including discussion of feasibility, cost effectiveness, estimated time to reach cleanup goals, and limitations for each remedial alternative.
    - Detailed description of proposed remediation including confirmation sampling and monitoring during implementation.
    - Post-remediation monitoring.
    - Schedule for implementation of cleanup.

    Public participation is a requirement for the Corrective Action Plan process. Therefore, we request that you submit a Draft CAP for ACEH review. Upon ACEH approval of a Draft CAP, ACEH will notify potentially affected members of the public who live or own property in the surrounding area of the proposed remediation described in the Draft CAP. Public comments on the proposed remediation will be accepted for a 30-day period.

TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Jerry Wickham), according to the following schedule:

- **May 17, 2012** – Groundwater Monitoring Report for First Quarter 2012
- **May 26, 2012** – Compliance with GeoTracker Requirements
- **June 25, 2012** – Revised Work Plan
- **November 15, 2012** – Groundwater Monitoring Report for Third Quarter 2011

If you have any questions, please call me at (510) 567-6791 or send me an electronic mail message at jerry.wickham@acgov.org. Case files can be reviewed online at the following website: http://www.acgov.org/aceh/index.htm.

Sincerely,

Jerry Wickham, California PG 3766, CEG 1177, and CHG 297
Senior Hazardous Materials Specialist

Attachment: Responsible Party(ies) Legal Requirements/Obligations

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Colleen Winey (QIC 8021), Zone 7 Water Agency, 100 North Canyons Pkwy, Livermore, CA 94551 (*Sent via E-mail to: cwiney@zone7water.com*)

Joe Morgan III, URS Corporation, 1333 Broadway, Suite 800, Oakland, CA 94612 (*Sent via E-mail to: joe_morgan@urscorp.com*)

Joe Naras, San Francisco Public Utilities Commission, Natural Resources Division
1657 Rollins Road, Burlingame, CA 94010

Craig Freeman, San Francisco Public Utilities Commission, Environmental and Regulatory Compliance Division, 1145 Market Street, Suite 500, San Francisco, CA 94103 (*Sent via E-mail to: CFreeman@sfwater.org*)

Donna Drogos, ACEH (*Sent via E-mail to: donna.drogos@acgov.org*)
Jerry Wickham, ACEH (*Sent via E-mail to: jerry.wickham@acgov.org*)

GeoTracker, eFile

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REPORT REQUESTS

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Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC)	**REVISION DATE:** July 20, 2010
	ISSUE DATE: July 5, 2005
	PREVIOUS REVISIONS: October 31, 2005; December 16, 2005; March 27, 2009; July 8, 2010
SECTION: Miscellaneous Administrative Topics & Procedures	**SUBJECT:** Electronic Report Upload (ftp) Instructions

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  RO#_Report Name_Year-Month-Date (e.g., RO#5555_WorkPlan_2005-06-14)

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   a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
      i) Send an e-mail to deh.loptoxic@acgov.org
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   e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.

3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
   a) Send email to deh.loptoxic@acgov.org notify us that you have placed a report on our ftp site.
   b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
   c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO#, use the street address instead.
   d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

September 19, 2012

Mr. Stephen Gwin (*Sent via E-mail to: gwst@chevron.com*)
Chevron Pipe Line Company
4800 Fournace Place
Bellaire, TX 77401-2324

Subject: Conditional Work Plan Approval for SLIC Case No. RO0002892 and GeoTracker Global ID SL0600100443, Chevron Sunol Pipeline, 2793 Calaveras Road, Sunol, CA 94586

Dear Mr. Gwin:

Alameda County Environmental Health (ACEH) staff has reviewed the case file for the above-referenced site including the document entitled, "*Revised Workplan for the Sunol Site Data Gaps Investigation, SLIC Case RO0002892, Chevron Pipeline Company, Sunol Spill, 2793 Calaveras Road, Sunol, CA,"* dated July 12, 2012 (Work Plan). The Work Plan, which was prepared on behalf of Chevron Pipe Line Company by URS Corporation, proposes an updated biological survey, a well survey, and installation of monitoring wells. The Work Plan has been revised partially in response to comments from ACEH in correspondence dated April 12, 2012.

The proposed scope of work is conditionally approved and may be implemented provided that the technical comments below are addressed and incorporated during the proposed investigation. Submittal of a revised Work Plan is not required unless an alternate scope of work outside that described in the Work Plan and technical comments below is proposed. We request that you address the following technical comments, perform the proposed work, and send us the reports described below.

TECHNICAL COMMENTS

1. **Proposed Well Installations.** The Work Plan proposes the installation of two groundwater monitoring wells with contingent installation of two additional monitoring wells if petroleum hydrocarbons are detected in groundwater samples from the first two wells. Review of the boring logs for the wells previously installed along Calaveras Road (MW-4 though MW-7) indicates that elevated PID readings were observed during the installation of well MW-7. Since there is already evidence of impacts at the proposed well location adjacent to former well MW-7, the well approximately 25 feet north of former well MW-7 is to be installed during the initial phase of well installation and not as a contingency. Review of the boring log for well MW-6 indicates that less impacted soils were encountered during installation of former well MW-6. Therefore, the proposed installation of the well furthest to the south near former well MW-6 as a contingency based upon the detection of petroleum hydrocarbons in the well approximately 25 feet south of MW-8 is acceptable. In summary, installation of the three proposed northernmost wells is mandatory and installation of the southernmost well can be contingent upon sampling results from the nearest well.

2. **Low Threat Closure Policy.** ACEH does not concur with the discussion in the Regulatory Requirements and Issues section of the Work Plan regarding the application of the Low Threat Closure Policy. This site is in a rural area that does not meet the general criteria for consideration under the low threat closure policy.

TECHNICAL REPORT REQUEST

Please upload technical reports to the ACEH ftp site (Attention: Jerry Wickham), and to the State Water Resources Control Board's GeoTracker website according to the following schedule and file-naming convention:

- **January 14, 2013** – Site Investigation Report
  File to be named: SWI_R_yyyy-mm-dd RO2892

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 ST system, and require your compliance with this request.

If you have any questions, please call me at (510) 567-6791 or send me an electronic mail message at jerry.wickham@acgov.org. Case files can be reviewed online at the following website: http://www.acgov.org/aceh/index.htm.

Sincerely,

Jerry Wickham, California PG 3766, CEG 1177, and CHG 297
Senior Hazardous Materials Specialist

Attachment: Responsible Party(ies) Legal Requirements/Obligations
Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Colleen Winey (QIC 8021), Zone 7 Water Agency, 100 North Canyons Pkwy, Livermore, CA 94551 (*Sent via E-mail to: cwiney@zone7water.com*)

Joe Morgan III, URS Corporation, 1333 Broadway, Suite 800, Oakland, CA 94612 (*Sent via E-mail to: joe_morgan@urscorp.com*)

Joe Naras, San Francisco Public Utilities Commission, Natural Resources Division
1657 Rollins Road, Burlingame, CA 94010

Craig Freeman, San Francisco Public Utilities Commission, Environmental and Regulatory Compliance Division, 1145 Market Street, Suite 500, San Francisco, CA 94103 (*Sent via E-mail to: CFreeman@sfwater.org*)

Donna Drogos, ACEH (*Sent via E-mail to: donna.drogos@acgov.org*)
Jerry Wickham, ACEH (*Sent via E-mail to: jerry.wickham@acgov.org*)

GeoTracker, eFile

Attachment 1

Responsible Party(ies) Legal Requirements/Obligations

REPORT/DATA REQUESTS

These reports/data are being requested pursuant to Division 7 of the California Water Code (Water Quality), Chapter 6.7 of Division 20 of the California Health and Safety Code (Underground Storage of Hazardous Substances), and Chapter 16 of Division 3 of Title 23 of the California Code of Regulations (Underground Storage Tank Regulations).

ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (Local Oversight Program [LOP] for unauthorized releases from petroleum Underground Storage Tanks [USTs], and Site Cleanup Program [SCP] for unauthorized releases of non-petroleum hazardous substances) require submission of reports in electronic format pursuant to Chapter 3 of Division 7, Sections 13195 and 13197.5 of the California Water Code, and Chapter 30, Articles 1 and 2, Sections 3890 to 3895 of Division 3 of Title 23 of the California Code of Regulations (23 CCR). Instructions for submission of electronic documents to the ACEH FTP site are provided on the attached "Electronic Report Upload Instructions."

Submission of reports to the ACEH FTP site is in addition to requirements for electronic submittal of information (ESI) to the State Water Resources Control Board's (SWRCB) Geotracker website. In April 2001, the SWRCB adopted 23 CCR, Division 3, Chapter 16, Article 12, Sections 2729 and 2729.1 (Electronic Submission of Laboratory Data for UST Reports). Article 12 required electronic submittal of analytical laboratory data submitted in a report to a regulatory agency (effective September 1, 2001), and surveyed locations (latitude, longitude and elevation) of groundwater monitoring wells (effective January 1, 2002) in Electronic Deliverable Format (EDF) to Geotracker. Article 12 was subsequently repealed in 2004 and replaced with Article 30 (Electronic Submittal of Information) which expanded the ESI requirements to include electronic submittal of any report or data required by a regulatory agency from a cleanup site. The expanded ESI submittal requirements for petroleum UST sites subject to the requirements of 23 CCR, Division, 3, Chapter 16, Article 11, became effective December 16, 2004. All other electronic submittals required pursuant to Chapter 30 became effective January 1, 2005. Please visit the SWRCB website for more information on these requirements. (http://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal/)

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, 7835, 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, late 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.

Alameda County Environmental Cleanup Oversight Programs (LOP and SCP)	**REVISION DATE:** July 25, 2012
	ISSUE DATE: July 5, 2005
	PREVIOUS REVISIONS: October 31, 2005; December 16, 2005; March 27, 2009; July 8, 2010
SECTION: Miscellaneous Administrative Topics & Procedures	**SUBJECT:** Electronic Report Upload (ftp) Instructions

The Alameda County Environmental Cleanup Oversight Programs (petroleum UST and SCP) require submission of all reports in electronic form to the county's FTP site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities.

REQUIREMENTS

- **Please do not submit reports as attachments to electronic mail.**
- Entire report including cover letter must be submitted to the ftp site as **a single Portable Document Format (PDF) with no password protection**.
- It is **preferable** that reports be converted to PDF format from their original format, (e.g., Microsoft Word) rather than scanned.
- **Signature pages and perjury statements must be included and have either original or electronic signature.**
- **Do not password protect the document**. Once indexed and inserted into the correct electronic case file, the document will be secured in compliance with the County's current security standards and a password. **Documents with password protection will not be accepted**.
- Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer monitor.
- Reports must be named and saved using the following naming convention:

  RO#_Report Name_Year-Month-Date (e.g., RO#5555_WorkPlan_2005-06-14)

Submission Instructions

1) Obtain User Name and Password
   a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
      i) Send an e-mail to .loptoxic@acgov.org
   b) In the subject line of your request, be sure to include **"ftp PASSWORD REQUEST"** and in the body of your request, include the **Contact Information, Site Addresses**, and the **Case Numbers (RO# available in Geotracker) you will be posting for**.

2) Upload Files to the ftp Site
   a) Using Internet Explorer (IE4+), go to ://alcoftp1.acgov.org
      (i) Note: Netscape, Safari, and Firefox browsers will not open the FTP site as they are NOT being supported at this time.
   b) Click on Page located on the Command bar on upper right side of window, and then scroll down to Open FTP Site in Windows Explorer.
   c) Enter your User Name and Password. (Note: Both are Case Sensitive.)
   d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
   e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.

3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
   a) Send email to .loptoxic@acgov.org notify us that you have placed a report on our ftp site.
   b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
   c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO#, use the street address instead.
   d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.

Appendix B
Permits

ZONE 7 WATER AGENCY

100 NORTH CANYONS PARKWAY, LIVERMORE, CALIFORNIA 94551 VOICE (925) 454-5000 FAX (925) 245-9306
E-MAIL whong@zone7water.com

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT Mile Post 2.7 Calaveras Road, Sunol CA – SFPUC Property

37° 33'02"N, 121° 51'20"W
Coordinates Source ______ ft. Accuracy ______ ft.
LAT: ______ ft. LONG: ______ ft.
APN ______

CLIENT
Name Chevron Pipeline Company (Attn Steve Bisio)
Address 4800 Fournace Pl. Phone ______
City Bellaire, Texas Zip 77401

APPLICANT
Name URS CORP, Attn: Christine Pilechowski
Email christine.pilechowski@urs.com
Address 1333 Broadway St #800 Phone 510-874-3047
City Oakland, Zip 94612

TYPE OF PROJECT:
- Well Construction ___
- Well Destruction ___
- Cathodic Protection ___
- Geotechnical Investigation ___
- Contamination Investigation X
- Other ______

PROPOSED WELL USE:
- Domestic ___
- Municipal ___
- Industrial ___
- Dewatering ___
- Irrigation ___
- Remediation ___
- Groundwater Monitoring X
- Other ______

DRILLING METHOD:
- Mud Rotary ___
- Air Rotary ___
- Hollow Stem Auger X
- Cable Tool ___
- Direct Push ___
- Other ______

DRILLING COMPANY Gregg Drilling

DRILLER'S LICENSE NO. 485165

WELL SPECIFICATIONS:
Drill Hole Diameter 8 in. Maximum
Casing Diameter 4 in. Depth 25' ft.
Surface Seal Depth 0-15 ft. Number 4

SOIL BORINGS:
Number of Borings ______ Maximum
Hole Diameter ______ in. Depth ______ ft.

ESTIMATED STARTING DATE Nov 26, 2012
ESTIMATED COMPLETION DATE Nov. 30, 2012

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [signature] Date 10-18-12

ATTACH SITE PLAN OR SKETCH

FOR OFFICE USE

PERMIT NUMBER 2012131
WELL NUMBER 4S/1E-27N23 to 4S/1E-27N26
APN 096-0080-009-00

PERMIT CONDITIONS
(Circled Permit Requirements Apply)

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to your proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original **Department of Water Resources Water Well Drillers Report (DWR Form 188), signed by the driller**.
3. Permit is void if project not begun within 90 days of approval date.
4. **Notify Zone 7 at least 24 hours before the start of work.**

B. WATER SUPPLY WELLS
1. Minimum surface seal diameter is four inches greater than the well casing diameter.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.
3. Grout placed by tremie.
4. An access port at least 0.5 inches in diameter is required on the wellhead for water level measurements.
5. A sample port is required on the discharge pipe near the wellhead.

(C.) GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal diameter is four inches greater than the well or piezometer casing diameter.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.
3. Grout placed by tremie.

D. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

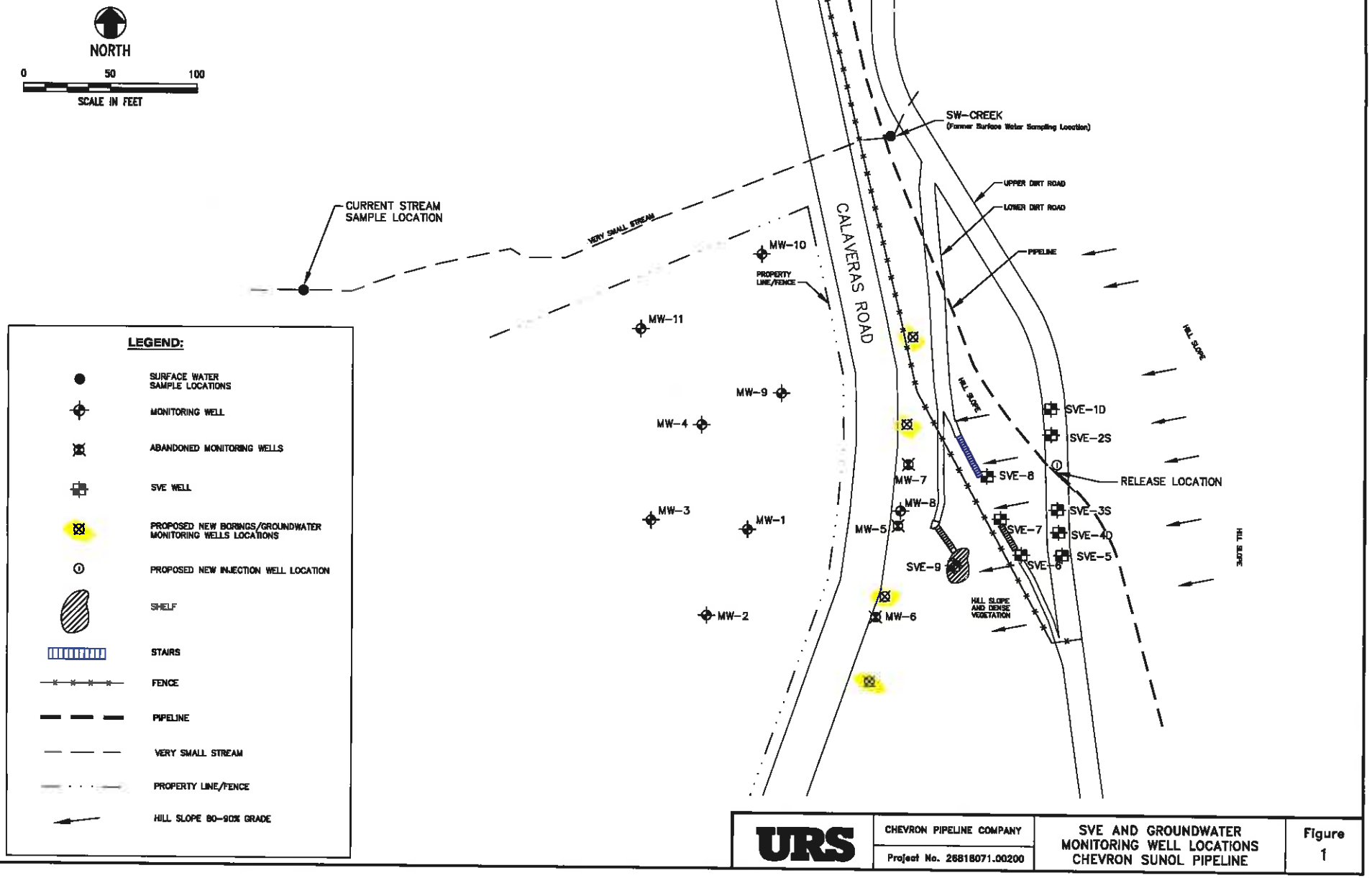
E. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

F. WELL DESTRUCTION. See attached.

(G.) SPECIAL CONDITIONS. Submit to Zone 7 within 60 days after completion of permitted work the well installation report **including all soil and water laboratory analysis results**.

Approved [signature] Wyman Hong Date 11/13/12

Revised: January 4, 2010



URS	CHEVRON PIPELINE COMPANY	SVE AND GROUNDWATER MONITORING WELL LOCATIONS CHEVRON SUNOL PIPELINE	Figure 1
	Project No. 26818071.00200		

Mar 06, 2012 – 3:27pm
X:\X_env_wasta\Chevron Pipeline Company\Sunol Spill - Current\Site Figures\Current CAD\FIGURE 1.dwg

Work Order Number:* 80001	Permit Number: R12 LD 12355
*This WO is ____ / is not ✓ open for charges.	Permit Issuance Date: 11-16-12
	Permit Expiration Date: 11-15-13

COUNTY OF ALAMEDA PUBLIC WORKS AGENCY
ROADWAY ENCROACHMENT PERMIT

This Permit is issued in accordance with Chapter 12.08 of the Alameda County General Ordinance Code

Name & Address of Property Owner:
San Francisco Public Utility Commision
505 Paloma Way, PO Box 550
Sunol, CA 94586
Phone Number:

Name & Address of Contractor:
URS Corporation Attn: Christine Pilachowski
1333 Broadway, Suite 800
Oakland, CA 94612
Phone Number: 510-874-3017

Job Site Address:
Milepost 27 on Calaveras Road, Alameda County

(This statement to be completed by the Agency)
This permit is issued to the owner ☐ / contractor ☑; if "owner" is checked, he/she is ☐ / is not ☐ exempt from the requirement that work in the roadway be performed by a licensed contractor.

The Applicant intends to perform the following work scope:

Soil and groundwater investigation along Calavera Road with lane closure and traffic control.

Licensed Contractor Declaration:
I hereby affirm, under penalty of perjury, that I hold the following contractor's license, which is in full force and effect, under the applicable provisions of the State Business and Professions Code.
License Class and No. A-Haz/Corp - 560739
Contractor's Signature:

Worker's Compensation Insurance Declaration:
I hereby affirm, under penalty of perjury, that I will, during the performance of any and all work authorized by this permit, satisfy the requirements of the State Labor Code with regard to Worker's Compensation Insurance, as declared below:
___ I will maintain a certificate of consent to self-insure.
X I will maintain the following insurance policy:
Carrier's Name and Policy No.:
Chartis - # 021417576
___ I will not employ any person in any manner so as to become subject to the worker's compensation laws of the State.
Owner's/Contractor's Signature:

THIS PERMIT DOES NOT AUTHORIZE THE CLOSURE OR BLOCKAGE OF ANY ROADWAY TRAVEL LANE, EXCEPT DURING THE HOURS OF 9:00 AM THROUGH 3:30 PM ON NON-HOLIDAY WEEKDAYS.

All work and/or access shall be performed in accordance with the requirements of Chapter 12.08 and, unless otherwise specified below, shall be fully compliant with each of the terms and conditions of the attached General Provisions:

CALL THIS NUMBER FOR INSPECTIONS: 510 6705450

Bond Information:

BY: _____, Alameda County

Insp. Fee ✓ or Deposit ___: $ 99.00
$ 225.00

Work Completed (Date):_____

Inspector:

I certify that the information that I have entered into this permit application is correct, and I agree to comply with all of the terms and conditions and other requirements of the issued Permit.

_____ Signature of Applicant

_____ Date

THIS PERMIT IS INCOMPLETE WITHOUT THE ATTACHED GENERAL PROVISIONS

LAND DEVELOPMENT
ALAMEDA COUNTY PUBLIC WORKS AGENCY
399 Elmhurst Street, Hayward, CA 94544

(510) 670-5868

RECEIPT NO. **LD-** 12355

Date: 11|16|12

Amount $ 324.00

Received From: URS CORPORATION

Cash/Credit

Address: 1333 BROADWAY # 800

Warrant or Check No. 36541

OAKLAND CA 94612

Bank No. 11-35|1210

MEMO: R12 MP 27 CALAVERAS RD

Phone

REVIEW	270401 - 420410 - 50900	$ 99.00
INSPECTION	270401 - 469990 - 50800	$ 225.00

SERVICE CHARGE OF $25 FOR FIRST CHECK RETURNED AND $35 FOR EACH SUBSEQUENT CHECK RETURNED. SECTION 1719, CIVIL CODE EFF. 1-1-97

DIRECTOR OF PUBLIC WORKS

By:

WHITE - Auditor CANARY - Engineer PINK - File GOLDENROD - Payee

266-300

Appendix C
Boring Logs and Well Construction Details

Project: Chevron Sunol Spill
Project Location: Sunol, CA
Project Number: 26817187.0405

Log of Boring MW-12

Sheet 1 of 1

Date(s) Drilled	**11/26/12 & 12/4/12**	Logged By	**Christine Pilachowski**	Checked By	**Robert Horwath, P.G.**
Drilling Method	**HA, DPT & HSA**	Drilling Contractor	**Gregg Drilling & Testing, Inc.**	Total Depth of Borehole	**30.0 feet**
Drill Rig Type	**Rhino Marl 5T**	Sampler Type	**Acetate Sleeve**	Surface Elevation	**334.90**
Groundwater Level(s)	**Not Encountered**	Hammer Weight and Drop	**N/A**	Top of PVC Elevation	**334.584**
Diameter of Hole (inches)	**2/10** Diameter of Well (inches) **4**	Type of Well Casing	**Schedule 40 PVC**	Screen Perforation	**0.010"**
Type of Sand Pack	**#2-16**	Type and Depth of Seal(s)	**Bentonite (13-15 ft.), Grout (1-13 ft.), Cement (0-1 ft.)**		
Comments	**Hand cleared to 8 feet below ground surface.**				

Elevation, feet	Depth, feet	SAMPLES Type	SAMPLES Number	PID	Percent Recovery	Graphic Log	MATERIAL DESCRIPTION	Well Completion Log	REMARKS
	0						**SILT WITH SAND (ML)**: dark yellowish brown (10YR 3/4), soft, moist, 75% silt, 10% fine to medium grained sand, 10% fine grained gravel and 5% clay, low plasticity, subrounded gravels, roots and wood debris.		0'-14' bgs: neat cement/bentonite grout
330	5		MW-12-5-5.5	0			5' bgs: grades to grayish brown (10YR 5/2) and increased sand (15%).		0'-16' bgs: 4" sch. 40 PVC blank well casing
325	10		MW-12-10-10.5	0.3	80		**SILTY SAND (SM)**: pale yellow (5Y 7/3), firm, dry, 65% fine to coarse grained sand, 30% silt, 5 % fine to coarse grained gravel, nonplastic.		
320	15		MW-12-15-15.5	0	80		**WELL GRADED SAND WITH SILT (SW-SM)**: olive (5Y 5/4), loose, dry, 80% fine to coarse grained sand, 10% silt, 10% fine grained gravel, nonplastic.		14'-16' bgs: hydrated bentonite chips
315	20		MW-12-20-20.5	0.1	100		18' bgs: roots.		16'-27' bgs: #2-16 sand 17'-27' bgs: 4" sch. 40 PVC, 0.010" slotted screen casing
310	25		MW-12-24.5-25	1484	100		**SILTY SAND (SM)**: greenish gray (GLEY1 5/10GY), firm, moist, 75% fine to medium grained sand, 20% silt, 5% fine grained gravel, nonplastic.		
				1291	100		**POORLY GRADED SAND (SP)**: olive (5Y 5/3), moist, 85% fine to medium grained sand, 10% silt, 5% fine grained gravel, nonplastic.		27'-30' bgs: bentonite chips and slough
305	30			17.9	100		**WEATHERED SANDSTONE (SS)**: grey (5Y 6/1), dense, moist, 80% fine to medium grained sand, 20% silt, nonplastic.		
300	35						Note: End of DPT boring at 30' bgs. Refusal of HSA boring at 27' bgs.		

URS

Project: Chevron Sunol Spill
Project Location: Sunol, CA
Project Number: 26817187.0405

Log of Boring MW-13

Sheet 1 of 1

Date(s) Drilled	**11/26/12 & 12/5/12**	Logged By	**Christine Pilachowski**	Checked By	**Robert Horwath, P.G.**
Drilling Method	**HA, DPT & HSA**	Drilling Contractor	**Gregg Drilling & Testing, Inc.**	Total Depth of Borehole	**25.5 feet**
Drill Rig Type	**Rhino Marl 5T**	Sampler Type	**Acetate Sleeve**	Surface Elevation	**336.80**
Groundwater Level(s)	**Not Encountered**	Hammer Weight and Drop	**N/A**	Top of PVC Elevation	**336.791**
Diameter of Hole (inches)	**2/10** Diameter of Well (inches) **4**	Type of Well Casing	**Schedule 40 PVC**	Screen Perforation	**0.010"**
Type of Sand Pack	**#2-16**	Type and Depth of Seal(s)	**Bentonite (13-15 ft.), Grout (1-13 ft.), Cement (0-1 ft.)**		
Comments	**Hand cleared to 8 feet below ground surface.**				

Elevation, feet	Depth, feet	SAMPLES Type	SAMPLES Number	PID	Percent Recovery	Graphic Log	MATERIAL DESCRIPTION	Well Completion Log	REMARKS
335	0						**SILT WITH SAND (ML)**: dark brown (7.5YR 3/2), soft, moist, 75% silt, 10% fine to medium grained sand, 10% fine grained gravel, 5% clay, low plasticity, organic debris.		0'-13' bgs: neat cement/bentonite grout 0'-16' bgs: 4" sch. 40 PVC blank well casing
330	5		MW-13-5-5.5	0			6' bgs: cobbles up to 6" in length.		
325	10		MW-13-10-10.5	0.1	80		**SANDY SILT (ML)**: dark brown (7.5YR 3/2), very firm, dry, 60% silt, 30% fine to medium grained sand, 10% fine to coarse gravel, low plasticity, cobbles up to 3" in length, roots & wood debris, caliche veins. 13' bgs: grades to brown (10YR 4/3).		13'-15' bgs: hydrated bentonite chips
320	15		MW-13-15-15.5	0.1	80		18' bgs: grades to light olive brown (2.5Y 5/3).		15'-26' bgs: #2-16 sand 16'-26' bgs: 4" sch. 40 PVC, 0.010" slotted screen casing
315	20		MW-13-20-20.5	0.2 0.4 7	100		**WEATHERED SANDSTONE (SS)**: olive (5Y 5/3), dense, dry, 85% fine to medium grained sand, 10% silt, 5% fine grained gravel, non plastic, visual contamination. 21.5-25' bgs: grades to greenish gray (GLEY 5/5GY).		
310	25		MW-13-23-23.5 MW-13-25-25.5	108.8 2.0	100		25' bgs: grades to light olive brown (2.5Y 5/4), very dense. Note: Refusal at 25.5' bgs.		
305	30								
	35								

URS

Project: Chevron Sunol Spill
Project Location: Sunol, CA
Project Number: 26817187.0405

Log of Boring MW-14

Sheet 1 of 1

Date(s) Drilled	**11/29/12 & 12/3/12**	Logged By	**Christine Pilachowski**	Checked By	**Robert Horwath, P.G.**
Drilling Method	**HA, DPT & HSA**	Drilling Contractor	**Gregg Drilling & Testing, Inc.**	Total Depth of Borehole	**30.0 feet**
Drill Rig Type	**Rhino Marl 5T**	Sampler Type	**Acetate Sleeve**	Surface Elevation	**338.15**
Groundwater Level(s)	**Not Encountered**	Hammer Weight and Drop	**N/A**	Top of PVC Elevation	**337.935**
Diameter of Hole (inches)	**2/10** Diameter of Well (inches) **4**	Type of Well Casing	**Schedule 40 PVC**	Screen Perforation	**0.010"**
Type of Sand Pack	**#2-16**	Type and Depth of Seal(s)	**Bentonite (13-15 ft.), Grout (1-13 ft.), Cement (0-1 ft.)**		
Comments	**Hand cleared to 8 feet below ground surface.**				

Elevation, feet	Depth, feet	SAMPLES Type	SAMPLES Number	PID	Percent Recovery	Graphic Log	MATERIAL DESCRIPTION	Well Completion Log	REMARKS
	0						**SILT WITH SAND (ML)**: dark brown (7.5YR 3/4), soft, moist,75% silt, 10% fine to medium grained sand, 10% fine to coarse grained gravel, 5% clay, low plasticity, large cobbles up to 4" in length, organics, wood and root debris.		0'-13' bgs: neat cement/bentonite grout
335									0'-16' bgs: 4" sch. 40 PVC blank well casing
	5		MW-14-5-5.5	0.1	75				
330									
	10		MW-14-10-10.5	0.1	75		**SILTY SAND WITH GRAVEL (SP)**: very dark grayish brown (10YR 3/2), loose, dry, 60% fine to coarse grained sand, 25% fine to coarse grained gravel, 15% silt, nonplastic, weathered cobbles up to 1-2" in length, burnt organic debris and leaves (unburnt).		
325									13'-15' bgs: hydrated bentonite chips
	15		MW-14-15-15.5	0.1	100		**SANDY SILT WITH GRAVEL (ML)**: brown (10YR 4/3), firm, moist, 55% silt, 30% fine to medium grained sand, 10% fine to coarse grained gravel, 5% clay, low plasticity, weathered gravels and cobbles, caliche veins.		15'-26' bgs: #2-16 sand
320									16'-26' bgs: 4" sch. 40 PVC, 0.010" slotted screen casing
	20		MW-14-20-20.5	0.1	100		20' bgs: grades to dark grayish brown (10YR 4/2).		
315									
	25		MW-14-25-25.5	0.1					
310							**WEATHERED SANDSTONE (SS)**: light olive brown (2.5Y 5/3), dense, dry, 85% medium grained sand, 15% fine to coarse grained gravel, nonplastic.		26'-30' bgs: bentonite chips and slough
	30		MW-14-29.5-30	0.1	100				
305							Note: End of boring at 30' bgs.		
	35								

URS

Project: Chevron Sunol Spill
Project Location: Sunol, CA
Project Number: 26817187.0405

Log of Boring MW-15

Sheet 1 of 1

Date(s) Drilled	**11/29/12 & 12/4/13**	Logged By	**Christine Pilachowski**	Checked By	**Robert Horwath, P.G.**
Drilling Method	**HA, DPT & HSA**	Drilling Contractor	**Gregg Drilling & Testing, Inc.**	Total Depth of Borehole	**28.0 feet**
Drill Rig Type	**Rhino Marl 5T**	Sampler Type	**Acetate Sleeve**	Surface Elevation	**333.40**
Groundwater Level(s)	**Not Encountered**	Hammer Weight and Drop	**N/A**	Top of PVC Elevation	**333.429**
Diameter of Hole (inches)	**2/10**	Diameter of Well (inches)	**4**	Type of Well Casing	**Schedule 40 PVC**	Screen Perforation	**0.010"**
Type of Sand Pack	**#2-16**	Type and Depth of Seal(s)	**Bentonite (13-15 ft.), Grout (1-13 ft.), Cement (0-1 ft.)**		
Comments	**Hand cleared to 8 feet below ground surface.**				

Elevation, feet	Depth, feet	SAMPLES Type	SAMPLES Number	PID	Percent Recovery	Graphic Log	MATERIAL DESCRIPTION	Well Completion Log	REMARKS
	0						**SILT WITH SAND (ML)**: very dark grayish brown (2.5Y 3/2), soft, moist, 75% silt, 10% sand, 10% gravel, 5% clay, low plasticity, roots, rocks up to 6" in length.		0'-11' bgs: neat cement/bentonite grout
330									
	5		MW-15-5-5.5	0.1			5' bgs: grades to brown (10YR 4/3). 7' bgs: caliche veins.		
325									
	10		MW-15-10-10.5	0.2			**SILT WITH SAND (ML)**: brown (10YR 4/3), firm, dry, 75% silt, 10% fine to medium grained sand, 10% fine to coarse grained gravel, 5% clay, low plasticity.		11'-13' bgs: hydrated bentonite chips 13'-24' bgs: #2-16 sand 14'-24' bgs: 4" sch. 40 PVC, 0.010" slotted screen casing
320									
	15		MW-15-15-15.5	0.2					
315									
	20		MW-15-20-20.5	0.2			**WEATHERED SANDSTONE (SS)**: light olive brown (2.5Y 5/4), very dense, dry, 85% fine to medium grained sand, 15% silt, nonplastic.		
310									
	25								24'-28' bgs: bentonite chips and slough
			MW-15-27.5-28	0.2			27' bgs: dense		
305									
	30						Note: Refusal at 28' bgs.		
300									
	35								

URS

Appendix D
Laboratory Analytical Results Appendix

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

November 28, 2012

Project: Sunol, CA

Submittal Date: 11/27/2012
Group Number: 1351571
PO Number: 0015075159
Release Number: GWIN
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
MW-12-5-5.5 Grab Soil	6871789
MW-12-10-10.5 Grab Soil	6871790
MW-12-15-15.5 Grab Soil	6871791
MW-12-20-20.5 Grab Soil	6871792
MW-12-24.5-25 Grab Soil	6871793
MW-12-29.5-30 Grab Soil	6871794

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

ELECTRONIC COPY TO	URS	Attn: Joe Morgan
ELECTRONIC COPY TO	URS	Attn: Rachel Naccarati

Respectfully Submitted,

Jill M. Parker
Senior Specialist

(717) 556-7262

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Analysis Report

Sample Description: MW-12-5-5.5 Grab Soil
NA URSO
Sunol Pipeline SL0600100443 MW-12

LLI Sample # SW 6871789
LLI Group # 1351571
Account # 11875

Project Name: Sunol, CA

Collected: 11/26/2012 10:38 by JQ

Submitted: 11/27/2012 09:50
Reported: 11/28/2012 16:45

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

12555

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0006	1.11
10237	Ethylbenzene	100-41-4	N.D.	0.001	1.11
10237	Toluene	108-88-3	N.D.	0.001	1.11
10237	Xylene (Total)	1330-20-7	N.D.	0.001	1.11
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1.4	31.65
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	10.3	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

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
10237	BTEX 8260 Soil	SW-846 8260B	1	B123322AA	11/28/2012 05:09	Stephanie A Selis	1.11
06176	GC/MS - LL Water Prep	SW-846 5035A	1	201233229508	11/27/2012 12:44	Larry E Bevins	1
06176	GC/MS - LL Water Prep	SW-846 5035A	2	201233229508	11/27/2012 12:44	Larry E Bevins	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201233229508	11/26/2012 10:38	Client Supplied	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	12324A16B	11/27/2012 21:01	Marie D John	31.65
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201233229508	11/26/2012 10:38	Client Supplied	n.a.
00111	Moisture	SM20 2540 G	1	12332820005B	11/27/2012 15:54	Lisa J Cooke	1

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Analysis Report

Sample Description: MW-12-10-10.5 Grab Soil
NA URSO
Sunol Pipeline SL0600100443 MW-12

LLI Sample # SW 6871790
LLI Group # 1351571
Account # 11875

Project Name: Sunol, CA

Collected: 11/26/2012 10:50 by JQ

Submitted: 11/27/2012 09:50
Reported: 11/28/2012 16:45

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

1210-

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0006	1
10237	Ethylbenzene	100-41-4	N.D.	0.001	1
10237	Toluene	108-88-3	N.D.	0.001	1
10237	Xylene (Total)	1330-20-7	N.D.	0.001	1
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1.3	28.15
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	11.6	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

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
10237	BTEX 8260 Soil	SW-846 8260B	1	B123322AA	11/28/2012 05:32	Stephanie A Selis	1
06176	GC/MS - LL Water Prep	SW-846 5035A	1	201233229508	11/27/2012 12:44	Larry E Bevins	1
06176	GC/MS - LL Water Prep	SW-846 5035A	2	201233229508	11/27/2012 12:44	Larry E Bevins	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201233229508	11/26/2012 10:50	Client Supplied	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	12324A16B	11/27/2012 21:39	Marie D John	28.15
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201233229508	11/26/2012 10:50	Client Supplied	n.a.
00111	Moisture	SM20 2540 G	1	12332820005B	11/27/2012 15:54	Lisa J Cooke	1

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Analysis Report

Sample Description: MW-12-15-15.5 Grab Soil
NA URSO
Sunol Pipeline SL0600100443 MW-12

LLI Sample # SW 6871791
LLI Group # 1351571
Account # 11875

Project Name: Sunol, CA

Collected: 11/26/2012 11:08 by JQ

Submitted: 11/27/2012 09:50
Reported: 11/28/2012 16:45

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

12-15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0006	0.99
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.99
10237	Toluene	108-88-3	N.D.	0.001	0.99
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.99
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1.3	27.65
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	12.1	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

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
10237	BTEX 8260 Soil	SW-846 8260B	1	B123322AA	11/28/2012 05:54	Stephanie A Selis	0.99
06176	GC/MS - LL Water Prep	SW-846 5035A	1	201233229508	11/27/2012 12:43	Larry E Bevins	1
06176	GC/MS - LL Water Prep	SW-846 5035A	2	201233229508	11/27/2012 12:43	Larry E Bevins	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201233229508	11/26/2012 11:08	Client Supplied	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	12324A16B	11/27/2012 22:17	Marie D John	27.65
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201233229508	11/26/2012 11:08	Client Supplied	n.a.
00111	Moisture	SM20 2540 G	1	12332820005B	11/27/2012 15:54	Lisa J Cooke	1

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Analysis Report

Sample Description: MW-12-20-20.5 Grab Soil
NA URSO
Sunol Pipeline SL0600100443 MW-12

LLI Sample # SW 6871792
LLI Group # 1351571
Account # 11875

Project Name: Sunol, CA

Collected: 11/26/2012 11:20 by JQ

Submitted: 11/27/2012 09:50
Reported: 11/28/2012 16:45

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

12-20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0006	0.98
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.98
10237	Toluene	108-88-3	N.D.	0.001	0.98
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.98
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	4.5	96.53
	Reporting limits were raised due to sample foaming.				
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	13.5	0.50	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.				

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
10237	BTEX 8260 Soil	SW-846 8260B	1	B123322AA	11/28/2012 06:17	Stephanie A Selis	0.98
06176	GC/MS - LL Water Prep	SW-846 5035A	1	201233229508	11/27/2012 12:44	Larry E Bevins	1
06176	GC/MS - LL Water Prep	SW-846 5035A	2	201233229508	11/27/2012 12:43	Larry E Bevins	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201233229508	11/26/2012 11:20	Client Supplied	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	12324A16B	11/27/2012 23:32	Marie D John	96.53
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201233229508	11/26/2012 11:20	Client Supplied	n.a.
00111	Moisture	SM20 2540 G	1	12332820005B	11/27/2012 15:54	Lisa J Cooke	1

Sample Description: MW-12-24.5-25 Grab Soil
NA URSO
Sunol Pipeline SL0600100443 MW-12

LLI Sample # SW 6871793
LLI Group # 1351571
Account # 11875

Project Name: Sunol, CA

Collected: 11/26/2012 11:38 by JQ

Submitted: 11/27/2012 09:50
Reported: 11/28/2012 16:45

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

12-24

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.023	38.52
10237	Ethylbenzene	100-41-4	0.60	0.046	38.52
10237	Toluene	108-88-3	N.D.	0.046	38.52
10237	Xylene (Total)	1330-20-7	N.D.	0.046	38.52
	Reporting limits were raised due to interference from the sample matrix.				
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	1,100	80	1675.04
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	16.4	0.50	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.				

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
10237	BTEX 8260 Soil	SW-846 8260B	1	Q123331AA	11/28/2012 13:21	Lauren C Temple	38.52
06176	GC/MS - LL Water Prep	SW-846 5035A	1	201233229508	11/27/2012 12:43	Larry E Bevins	1
06176	GC/MS - LL Water Prep	SW-846 5035A	2	201233229508	11/27/2012 12:44	Larry E Bevins	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201233229508	11/26/2012 11:38	Client Supplied	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	12324A16B	11/28/2012 10:50	Marie D John	1675.04
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201233229508	11/26/2012 11:38	Client Supplied	n.a.
00111	Moisture	SM20 2540 G	1	12332820005B	11/27/2012 15:54	Lisa J Cooke	1

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Analysis Report

Sample Description: MW-12-29.5-30 Grab Soil
NA URSO
Sunol Pipeline SL0600100443 MW-12

LLI Sample # SW 6871794
LLI Group # 1351571
Account # 11875

Project Name: Sunol, CA

Collected: 11/26/2012 13:07 by JQ

Submitted: 11/27/2012 09:50
Reported: 11/28/2012 16:45

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

12-29

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0005	0.88
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.88
10237	Toluene	108-88-3	N.D.	0.001	0.88
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.88
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1	21.74
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	12.7	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

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
10237	BTEX 8260 Soil	SW-846 8260B	1	B123322AA	11/28/2012 06:40	Stephanie A Selis	0.88
06176	GC/MS - LL Water Prep	SW-846 5035A	1	201233229508	11/27/2012 12:43	Larry E Bevins	1
06176	GC/MS - LL Water Prep	SW-846 5035A	2	201233229508	11/27/2012 12:43	Larry E Bevins	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201233229508	11/26/2012 13:07	Client Supplied	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	12324A16B	11/27/2012 22:54	Marie D John	21.74
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201233229508	11/26/2012 13:07	Client Supplied	n.a.
00111	Moisture	SM20 2540 G	1	12332820005B	11/27/2012 15:54	Lisa J Cooke	1

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Quality Control Summary

Client Name: Chevron Pipeline Co. Group Number: 1351571
Reported: 11/28/12 at 04:45 PM

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

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

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: B123322AA	Sample number(s): 6871789-6871792,6871794							
Benzene	N.D.	0.0005	mg/kg	100	101	80-120	1	30
Ethylbenzene	N.D.	0.001	mg/kg	103	103	80-120	1	30
Toluene	N.D.	0.001	mg/kg	102	100	80-120	1	30
Xylene (Total)	N.D.	0.001	mg/kg	102	102	80-120	0	30
Batch number: Q123331AA	Sample number(s): 6871793							
Benzene	N.D.	0.025	mg/kg	96	99	80-120	3	30
Ethylbenzene	N.D.	0.050	mg/kg	92	92	80-120	1	30
Toluene	N.D.	0.050	mg/kg	94	95	80-120	1	30
Xylene (Total)	N.D.	0.050	mg/kg	94	96	80-120	1	30
Batch number: 12324A16B	Sample number(s): 6871789-6871794							
TPH-GRO N. CA soil C6-C12	N.D.	1.0	mg/kg	95	93	67-119	2	30
Batch number: 12332820005B	Sample number(s): 6871789-6871794							
Moisture				100		99-101		

Sample Matrix Quality Control

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

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 12332820005B	Sample number(s): 6871789-6871794					BKG: P867302			
Moisture						23.1	23.0	0	13

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: 8260 Ext. Soil Master w/GRO
Batch number: B123322AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
6871789	104	102	99	90

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

Quality Control Summary

Client Name: Chevron Pipeline Co. Group Number: 1351571
Reported: 11/28/12 at 04:45 PM

Surrogate Quality Control

6871790	104	97	99	89
6871791	108	103	97	91
6871792	103	100	101	86
6871794	107	99	98	89
Blank	106	104	100	88
LCS	103	99	104	102
LCSD	102	103	103	102
Limits:	50-141	54-135	52-141	50-131

Analysis Name: 8260 Ext. Soil Master w/GRO
Batch number: Q123331AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
6871793	110	114	112	107
Blank	106	117	107	102
LCS	106	111	106	104
LCSD	110	116	111	110
Limits:	50-141	54-135	52-141	50-131

Analysis Name: TPH-GRO N. CA soil C6-C12
Batch number: 12324A16B

	Trifluorotoluene-F
6871789	83
6871790	81
6871791	84
6871792	87
6871793	362*
6871794	76
Blank	83
LCS	86
LCSD	84
Limits:	61-122

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

Chevron Generic Analysis Request/Chain of Custody

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Acct. # 11875 Group # 135571 Sample # 6971789-94

For Lancaster Laboratories use only

Instructions on reverse side correspond with circled numbers.

1 Client Information

Facility # Sunol Spill MP2.7 WBS

Site Address Calaveras Road, Sunol, CA

Chevron PM ~~Mike Moore~~ Steve Gwin Lead Consultant URS

Consultant/Office URS Oakland

Consultant Project Mgr. Joe Morgan

Consultant Phone # 510-874-3201

Sampler JQ & CP

2 Sample Identification

Sample Identification	Collected Date	Collected Time	3 Grab	Composite	4 Matrix: Soil	Water: Sediment	Water: Ground	Water: Potable	Water: Surface	Water: NPDES	Oil	Air	Total Number of Containers	5 Analyses Requested: BTEX ~~MTBE~~	8021	8260	Naphth	8260 full scan	Oxygenates	TPHG 8015	Silica Gel Cleanup	TPHD	Lead	Total	Diss.	Method	VPH/EPH Method
MW-12-5-5.5	11-26-12	1038	X		X								5	X						X							
MW-12-10-10.5	11-26-12	1050	X		X								5	X						X							
MW-12-15-15.5	11-26-12	1108	X		X								5	X						X							
MW-12-20-20.5	11-26-12	1120	X		X								5	X						X							
MW-12-24.5-25	11-26-12	1138	X		X								5	X						X							
MW-12-29.5-30	11-26-12	1207	X		X								5	X						X							

SCR #: _____

- ☐ Results in Dry Weight
- ☐ J value reporting needed
- ☐ Must meet lowest detection limits possible for 8260 compounds
- ☐ 8021 MTBE Confirmation
- ☐ Confirm MTBE + Naphthalene
- ☐ Confirm highest hit by 8260
- ☐ Confirm all hits by 8260
- ☐ Run _____ oxy's on highest hit
- ☐ Run _____ oxy's on all hits

6 Remarks

7 Turnaround Time Requested (TAT) (please circle)

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

8 Data Package Options (please circle if required)

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

Chevron/URS SFD

Relinquished by	Date	Time	Received by	Date	Time
Jeremy Reich / URS	11-26-12	16:30			

Relinquished by Commerical Carrier: UPS ____ FedEx X Other ____

Temperature Upon Receipt 3.8 °C

Received by _____ Date 11-27-12 Time 0950

Custody Seals Intact? Yes No

9

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Explanation of Symbols and Abbreviations

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

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

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

> greater than

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

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

ppb parts per billion

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

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

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

Inorganic Qualifiers

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

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

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

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

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

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

December 04, 2012

Project: Sunol, CA

Submittal Date: 11/27/2012
Group Number: 1351576
PO Number: 0015075159
Release Number: GWIN
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
TB1-112612 NA Water	6871809
EB1-112612 NA Water	6871810
EB2-112612 NA Water	6871811
FB-112612 NA Water	6871812
MW-13-5-5.5 Grab Soil	6871813

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

ELECTRONIC COPY TO	URS	Attn: Joe Morgan
ELECTRONIC COPY TO	URS	Attn: Rachel Naccarati

Respectfully Submitted,

Jill M. Parker
Senior Specialist

(717) 556-7262

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Analysis Report

Sample Description: TB1-112612 NA Water
NA URSO
Sunol Pipeline SL0600100443 TB1

LLI Sample # WW 6871809
LLI Group # 1351576
Account # 11875

Project Name: Sunol, CA

Collected: 11/26/2012

Submitted: 11/27/2012 09:50
Reported: 12/04/2012 18:12

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

-TB1-

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

General Sample Comments

State of California Lab Certification No. 2501

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10943	BTEX 8260B Water	SW-846 8260B	1	P123352AA	11/30/2012 12:58	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P123352AA	11/30/2012 12:58	Emily R Styer	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	12333B20A	11/29/2012 13:43	Laura M Krieger	1
01146	GC VOA Water Prep	SW-846 5030B	1	12333B20A	11/29/2012 13:43	Laura M Krieger	1

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Analysis Report

Sample Description: EB1-112612 NA Water
NA URSO
Sunol Pipeline SL0600100443 EB1

LLI Sample # WW 6871810
LLI Group # 1351576
Account # 11875

Project Name: Sunol, CA

Collected: 11/26/2012 13:37 by JQ

Submitted: 11/27/2012 09:50
Reported: 12/04/2012 18:12

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

-EB1-

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

General Sample Comments

State of California Lab Certification No. 2501

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10943	BTEX 8260B Water	SW-846 8260B	1	P123352AA	11/30/2012 13:26	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P123352AA	11/30/2012 13:26	Emily R Styer	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	12333B20A	11/29/2012 14:05	Laura M Krieger	1
01146	GC VOA Water Prep	SW-846 5030B	1	12333B20A	11/29/2012 14:05	Laura M Krieger	1

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Analysis Report

Sample Description: EB2-112612 NA Water
NA URSO
Sunol Pipeline SL0600100443 EB2

LLI Sample # WW 6871811
LLI Group # 1351576
Account # 11875

Project Name: Sunol, CA

Collected: 11/26/2012 14:03 by JQ

Submitted: 11/27/2012 09:50
Reported: 12/04/2012 18:12

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

-EB2-

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10943	Benzene	71-43-2	N.D.	0.5	1
10943	Ethylbenzene	100-41-4	N.D.	0.5	1
10943	Toluene	108-88-3	N.D.	0.5	1
10943	Xylene (Total)	1330-20-7	0.8	0.5	1
GC Volatiles	**SW-846 8015B**		**ug/l**	**ug/l**	
01728	TPH-GRO N. CA water C6-C12	n.a.	N.D.	50	1

General Sample Comments

State of California Lab Certification No. 2501

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10943	BTEX 8260B Water	SW-846 8260B	1	P123352AA	11/30/2012 13:54	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P123352AA	11/30/2012 13:54	Emily R Styer	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	12333B20A	11/29/2012 14:27	Laura M Krieger	1
01146	GC VOA Water Prep	SW-846 5030B	1	12333B20A	11/29/2012 14:27	Laura M Krieger	1

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Analysis Report

Sample Description: FB-112612 NA Water
NA URSO
Sunol Pipeline SL0600100443 FB

LLI Sample # WW 6871812
LLI Group # 1351576
Account # 11875

Project Name: Sunol, CA

Collected: 11/26/2012 11:35 by JQ

Submitted: 11/27/2012 09:50
Reported: 12/04/2012 18:12

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

--FB-

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

General Sample Comments

State of California Lab Certification No. 2501

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10943	BTEX 8260B Water	SW-846 8260B	1	P123352AA	11/30/2012 14:21	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P123352AA	11/30/2012 14:21	Emily R Styer	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	12333B20A	11/29/2012 14:49	Laura M Krieger	1
01146	GC VOA Water Prep	SW-846 5030B	1	12333B20A	11/29/2012 14:49	Laura M Krieger	1

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Analysis Report

Sample Description: MW-13-5-5.5 Grab Soil
NA URSO
Sunol Pipeline SL0600100443 MW-13

LLI Sample # SW 6871813
LLI Group # 1351576
Account # 11875

Project Name: Sunol, CA

Collected: 11/26/2012 13:38 by JQ

Submitted: 11/27/2012 09:50
Reported: 12/04/2012 18:12

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

13555

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0006	1.14
10237	Ethylbenzene	100-41-4	N.D.	0.001	1.14
10237	Toluene	108-88-3	N.D.	0.001	1.14
10237	Xylene (Total)	1330-20-7	N.D.	0.001	1.14
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1.0	22.89
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	11.8	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

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
10237	BTEX 8260 Soil	SW-846 8260B	1	B123341AA	11/29/2012 20:28	Chelsea B Stong	1.14
06176	GC/MS - LL Water Prep	SW-846 5035A	1	201233229508	11/27/2012 12:44	Larry E Bevins	1
06176	GC/MS - LL Water Prep	SW-846 5035A	2	201233229508	11/27/2012 12:44	Larry E Bevins	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201233229508	11/26/2012 13:38	Client Supplied	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	12324A16B	11/28/2012 00:09	Marie D John	22.89
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201233229508	11/26/2012 13:38	Client Supplied	n.a.
00111	Moisture	SM20 2540 G	1	12333820007B	11/28/2012 20:59	Scott W Freisher	1

Quality Control Summary

Client Name: Chevron Pipeline Co. Group Number: 1351576
Reported: 12/04/12 at 06:12 PM

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

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

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: B123341AA	Sample number(s): 6871813							
Benzene	N.D.	0.0005	mg/kg	104		80-120		
Ethylbenzene	N.D.	0.001	mg/kg	105		80-120		
Toluene	N.D.	0.001	mg/kg	103		80-120		
Xylene (Total)	N.D.	0.001	mg/kg	103		80-120		
Batch number: P123352AA	Sample number(s): 6871809-6871812							
Benzene	N.D.	0.5	ug/l	88	88	77-121	0	30
Ethylbenzene	N.D.	0.5	ug/l	89	88	79-120	1	30
Toluene	N.D.	0.5	ug/l	91	90	79-120	1	30
Xylene (Total)	N.D.	0.5	ug/l	92	91	77-120	1	30
Batch number: 12324A16B	Sample number(s): 6871813							
TPH-GRO N. CA soil C6-C12	N.D.	1.0	mg/kg	95	93	67-119	2	30
Batch number: 12333B20A	Sample number(s): 6871809-6871812							
TPH-GRO N. CA water C6-C12	N.D.	50.	ug/l	102	104	75-135	2	30
Batch number: 12333820007B	Sample number(s): 6871813							
Moisture				100		99-101		

Sample Matrix Quality Control

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

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: B123341AA	Sample number(s): 6871813 UNSPK: P871900								
Benzene	108	102	55-143	2	30				
Ethylbenzene	105	96	44-141	5	30				
Toluene	105	97	50-146	4	30				
Xylene (Total)	102	94	44-136	5	30				
Batch number: 12333820007B	Sample number(s): 6871813 BKG: P872480								
Moisture						38.6	37.8	2	13

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

Quality Control Summary

Client Name: Chevron Pipeline Co. Group Number: 1351576
Reported: 12/04/12 at 06:12 PM

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: 8260 Ext. Soil Master w/GRO
Batch number: B123341AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
6871813	119	108	101	78
Blank	108	107	98	94
LCS	103	103	103	104
MS	101	104	103	103
MSD	104	103	101	103
Limits:	50-141	54-135	52-141	50-131

Analysis Name: UST VOCs by 8260B - Water
Batch number: P123352AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
6871809	99	98	99	97
6871810	99	99	99	97
6871811	100	101	99	97
6871812	99	100	98	97
Blank	99	100	98	97
LCS	98	100	99	98
LCSD	99	100	99	97
Limits:	80-116	77-113	80-113	78-113

Analysis Name: TPH-GRO N. CA soil C6-C12
Batch number: 12324A16B

	Trifluorotoluene-F
6871813	78
Blank	83
LCS	86
LCSD	84
Limits:	61-122

Analysis Name: TPH-GRO N. CA water C6-C12
Batch number: 12333B20A

	Trifluorotoluene-F
6871809	86
6871810	88
6871811	85
6871812	87
Blank	84
LCS	107
LCSD	112
Limits:	63-135

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

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Quality Control Summary

Client Name: Chevron Pipeline Co. Group Number: 1351576
Reported: 12/04/12 at 06:12 PM

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

Environmental Analysis Request/Chain of Custody

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Acct. # 11875 For Eurofins Lancaster Laboratories use only Group # 1351576 Sample # 6871809-13
Instructions on reverse side correspond with circled numbers.

COC # 319974

Page 1 of 1

1 Client Information

Client: Chevron PL
Acct. #:
Project Name/#: Sunol Spill MP2.7
PWSID #:
Project Manager: Joe Morgan/URS Oakland
P.O. #: 26817159.0715
Sampler: JQ & CP
Quote #:
Name of state where samples were collected: California

2 Sample Identification | **Collected** Date | Time | **3** Grab | Composite | **4 Matrix** Sediment | Soil | Ground Water | Potable Water | Surface Water | NPDES | Other: | Total # of Containers | **5 Analysis Requested** Preservation Codes: TPH 8015M | BTEX 8260

Sample Identification	Date	Time	Grab	Composite	Soil	Water	Total # of Containers	TPH 8015M	BTEX 8260
~~Trip Blank~~									
TB-112612	—	—				X	2	X	X
EB1-112612	11-26-12	1337				X	6	X	X
EB2-112612	11-26-12	1403				X	6	X	X
FB-112612	11-26-12	1135				X	6	X	X
MW-13-5-5.5	11-26-12	1338	X		X		5	X	X

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

6 Remarks

For Lab Use Only
FSC:
SCR#:

7 Turnaround Time (TAT) Requested (please circle)
Standard ~~Rush~~
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)

Date results are needed: ~~24 hr~~ (11-28-12)

E-mail address: Joe.Morgan@URS.com

8 Data Package Options (circle if required)
Chevron/URS std
Type I (Validation/non-CLP) Type VI (Raw Data Only)
Type III (Reduced non-CLP) TX TRRP-13
Type IV (CLP SOW) MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
Jeremy Quick Jeremy Quick/URS	11-26-12	16:30			
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by	Date	Time	Received by	Date	Time
			Kristin Leigh	11-27-12	0950

9

EDD Required? Yes No
If yes, format:
Site-Specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:
UPS _____ FedEx X Other _____
Temperature upon receipt 3.8 °C

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The white copy should accompany samples to Eurofins Lancaster Laboratories. The yellow copy should be retained by the client.
Issued by Dept. 40 Management
7044.02

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Explanation of Symbols and Abbreviations

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

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

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

> greater than

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

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

ppb parts per billion

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

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

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

Inorganic Qualifiers

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

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

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

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

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

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

December 11, 2012

Project: Sunol, CA

Submittal Date: 11/30/2012
Group Number: 1352828
PO Number: 0015075159
Release Number: GWIN
State of Sample Origin: CA

Client Sample Description	Lancaster Labs (LLI) #
MW-14-5-5.5 Grab Soil	6878022
MW-14-10-10.5 Grab Soil	6878023
MW-14-15-15.5 Grab Soil	6878024
MW-14-20-20.5 Grab Soil	6878025
MW-14-25-25.5 Grab Soil	6878026
MW-14-29.5-30 Grab Soil	6878027
MW-13-10-10.5 Grab Soil	6878028
MW-13-15-15.5 Grab Soil	6878029
MW-13-20-20.5 Grab Soil	6878030
MW-13-23-23.5 Grab Soil	6878031
MW-13-25-25.5 Grab Soil	6878032
FB-112912 NA Water	6878033
MW-15-5-5.5 Grab Soil	6878034
MW-15-10-10.5 Grab Soil	6878035
MW-15-15-15.5 Grab Soil	6878036
MW-15-20-20.5 Grab Soil	6878037
MW-15-27.5-28 Grab Soil	6878038
MW-X-20-20.5 Grab Soil	6878039
TB2-112912 NA Water	6878040

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

ELECTRONIC COPY TO	URS	Attn: Joe Morgan
ELECTRONIC COPY TO	URS	Attn: Rachel Naccarati
ELECTRONIC	URS Corporation	Attn: Christine Pilachowski

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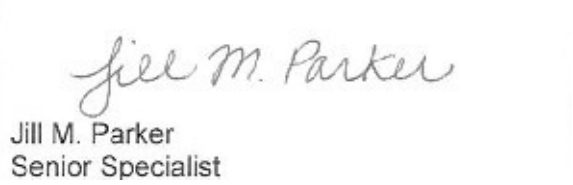
COPY TO

Respectfully Submitted,



Jill M. Parker
Senior Specialist

(717) 556-7262

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Analysis Report

Sample Description: MW-14-5-5.5 Grab Soil
NA URSO
Sunol Pipeline SL0600100443 MW-14

LLI Sample # SW 6878022
LLI Group # 1352828
Account # 11875

Project Name: Sunol, CA

Collected: 11/29/2012 10:36 by JQ

Submitted: 11/30/2012 09:30
Reported: 12/11/2012 17:35

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

S1405

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0006	1.08
10237	Ethylbenzene	100-41-4	N.D.	0.001	1.08
10237	Toluene	108-88-3	N.D.	0.001	1.08
10237	Xylene (Total)	1330-20-7	N.D.	0.001	1.08
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1.2	27.41
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	11.5	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

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
10237	BTEX 8260 Soil	SW-846 8260B	1	B123391AA	12/04/2012 14:03	Emily R Styer	1.08
06176	GC/MS - LL Water Prep	SW-846 5035A	1	201233529550	11/30/2012 20:35	Mitchell R Washel	1
06176	GC/MS - LL Water Prep	SW-846 5035A	2	201233529550	11/30/2012 20:35	Mitchell R Washel	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201233529550	11/29/2012 10:36	Client Supplied	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	12338A34A	12/03/2012 21:43	Laura M Krieger	27.41
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201233529550	11/29/2012 10:36	Client Supplied	n.a.
00111	Moisture	SM20 2540 G	1	12339820003A	12/04/2012 18:48	Scott W Freisher	1

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Analysis Report

Sample Description: MW-14-10-10.5 Grab Soil
NA URSO
Sunol Pipeline SL0600100443 MW-14

LLI Sample # SW 6878023
LLI Group # 1352828
Account # 11875

Project Name: Sunol, CA

Collected: 11/29/2012 11:46 by JQ

Submitted: 11/30/2012 09:30
Reported: 12/11/2012 17:35

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

S1410

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0006	1.01
10237	Ethylbenzene	100-41-4	N.D.	0.001	1.01
10237	Toluene	108-88-3	N.D.	0.001	1.01
10237	Xylene (Total)	1330-20-7	N.D.	0.001	1.01
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1.1	24.18
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	10.5	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

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
10237	BTEX 8260 Soil	SW-846 8260B	1	B123391AA	12/04/2012 14:26	Emily R Styer	1.01
06176	GC/MS - LL Water Prep	SW-846 5035A	1	201233529550	11/30/2012 20:34	Mitchell R Washel	1
06176	GC/MS - LL Water Prep	SW-846 5035A	2	201233529550	11/30/2012 20:34	Mitchell R Washel	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201233529550	11/29/2012 11:46	Client Supplied	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	12338A34A	12/03/2012 22:19	Laura M Krieger	24.18
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201233529550	11/29/2012 11:46	Client Supplied	n.a.
00111	Moisture	SM20 2540 G	1	12339820003A	12/04/2012 18:48	Scott W Freisher	1

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Analysis Report

Sample Description: MW-14-15-15.5 Grab Soil
NA URSO
Sunol Pipeline SL0600100443 MW-14

LLI Sample # SW 6878024
LLI Group # 1352828
Account # 11875

Project Name: Sunol, CA

Collected: 11/29/2012 11:52 by JQ

Submitted: 11/30/2012 09:30
Reported: 12/11/2012 17:35

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

S1415

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0006	1.07
10237	Ethylbenzene	100-41-4	N.D.	0.001	1.07
10237	Toluene	108-88-3	N.D.	0.001	1.07
10237	Xylene (Total)	1330-20-7	N.D.	0.001	1.07
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1.3	27.53
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	13.2	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

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
10237	BTEX 8260 Soil	SW-846 8260B	1	B123391AA	12/04/2012 14:49	Emily R Styer	1.07
06176	GC/MS - LL Water Prep	SW-846 5035A	1	201233529550	11/30/2012 20:35	Mitchell R Washel	1
06176	GC/MS - LL Water Prep	SW-846 5035A	2	201233529550	11/30/2012 20:35	Mitchell R Washel	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201233529550	11/29/2012 11:52	Client Supplied	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	12338A34A	12/03/2012 22:55	Laura M Krieger	27.53
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201233529550	11/29/2012 11:52	Client Supplied	n.a.
00111	Moisture	SM20 2540 G	1	12339820003A	12/04/2012 18:48	Scott W Freisher	1

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Analysis Report

Sample Description: MW-14-20-20.5 Grab Soil
NA URSO
Sunol Pipeline SL0600100443 MW-14

LLI Sample # SW 6878025
LLI Group # 1352828
Account # 11875

Project Name: Sunol, CA

Collected: 11/29/2012 12:14 by JQ

Submitted: 11/30/2012 09:30
Reported: 12/11/2012 17:35

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

S1420

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0005	0.89
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.89
10237	Toluene	108-88-3	N.D.	0.001	0.89
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.89
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1.1	22.94
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	15.9	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

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
10237	BTEX 8260 Soil	SW-846 8260B	1	B123391AA	12/04/2012 15:11	Emily R Styer	0.89
06176	GC/MS - LL Water Prep	SW-846 5035A	1	201233529550	11/30/2012 20:35	Mitchell R Washel	1
06176	GC/MS - LL Water Prep	SW-846 5035A	2	201233529550	11/30/2012 20:35	Mitchell R Washel	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201233529550	11/29/2012 12:14	Client Supplied	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	12338A34A	12/03/2012 20:30	Laura M Krieger	22.94
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201233529550	11/29/2012 12:14	Client Supplied	n.a.
00111	Moisture	SM20 2540 G	1	12339820003A	12/04/2012 18:48	Scott W Freisher	1

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Analysis Report

Sample Description: MW-14-25-25.5 Grab Soil
NA URSO
Sunol Pipeline SL0600100443 MW-14

LLI Sample # SW 6878026
LLI Group # 1352828
Account # 11875

Project Name: Sunol, CA

Collected: 11/29/2012 12:19 by JQ

Submitted: 11/30/2012 09:30
Reported: 12/11/2012 17:35

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

S1425

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0005	0.88
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.88
10237	Toluene	108-88-3	N.D.	0.001	0.88
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.88
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1	21.44
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	13.7	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

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
10237	BTEX 8260 Soil	SW-846 8260B	1	B123391AA	12/04/2012 15:34	Emily R Styer	0.88
06176	GC/MS - LL Water Prep	SW-846 5035A	1	201233529550	11/30/2012 20:35	Mitchell R Washel	1
06176	GC/MS - LL Water Prep	SW-846 5035A	2	201233529550	11/30/2012 20:35	Mitchell R Washel	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201233529550	11/29/2012 12:19	Client Supplied	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	12338A34A	12/03/2012 23:31	Laura M Krieger	21.44
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201233529550	11/29/2012 12:19	Client Supplied	n.a.
00111	Moisture	SM20 2540 G	1	12339820003A	12/04/2012 18:48	Scott W Freisher	1

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Analysis Report

Sample Description: MW-14-29.5-30 Grab Soil
NA URSO
Sunol Pipeline SL0600100443 MW-14

LLI Sample # SW 6878027
LLI Group # 1352828
Account # 11875

Project Name: Sunol, CA

Collected: 11/29/2012 12:24 by JQ

Submitted: 11/30/2012 09:30
Reported: 12/11/2012 17:35

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

S1429

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0006	1.07
10237	Ethylbenzene	100-41-4	N.D.	0.001	1.07
10237	Toluene	108-88-3	N.D.	0.001	1.07
10237	Xylene (Total)	1330-20-7	N.D.	0.001	1.07
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1.1	23.45
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	13.9	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

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
10237	BTEX 8260 Soil	SW-846 8260B	1	B123391AA	12/04/2012 15:57	Emily R Styer	1.07
06176	GC/MS - LL Water Prep	SW-846 5035A	1	201233529550	11/30/2012 20:35	Mitchell R Washel	1
06176	GC/MS - LL Water Prep	SW-846 5035A	2	201233529550	11/30/2012 20:35	Mitchell R Washel	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201233529550	11/29/2012 12:24	Client Supplied	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	12338A34A	12/04/2012 00:07	Laura M Krieger	23.45
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201233529550	11/29/2012 12:24	Client Supplied	n.a.
00111	Moisture	SM20 2540 G	1	12339820003A	12/04/2012 18:48	Scott W Freisher	1

Sample Description: MW-13-10-10.5 Grab Soil
NA URSO
Sunol Pipeline SL0600100443 MW-13

LLI Sample # SW 6878028
LLI Group # 1352828
Account # 11875

Project Name: Sunol, CA

Collected: 11/29/2012 13:00 by JQ

Submitted: 11/30/2012 09:30
Reported: 12/11/2012 17:35

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

S1310

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0006	1.01
10237	Ethylbenzene	100-41-4	N.D.	0.001	1.01
10237	Toluene	108-88-3	N.D.	0.001	1.01
10237	Xylene (Total)	1330-20-7	N.D.	0.001	1.01
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1.0	22.36
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	11.7	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

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
10237	BTEX 8260 Soil	SW-846 8260B	1	B123401AA	12/05/2012 15:28	Angela D Sneeringer	1.01
06176	GC/MS - LL Water Prep	SW-846 5035A	1	201233529550	11/30/2012 20:35	Mitchell R Washel	1
06176	GC/MS - LL Water Prep	SW-846 5035A	2	201233529550	11/30/2012 20:35	Mitchell R Washel	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201233529550	11/29/2012 13:00	Client Supplied	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	12338A34A	12/04/2012 00:43	Laura M Krieger	22.36
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201233529550	11/29/2012 13:00	Client Supplied	n.a.
00111	Moisture	SM20 2540 G	1	12339820003A	12/04/2012 18:48	Scott W Freisher	1

Sample Description: MW-13-15-15.5 Grab Soil
NA URSO
Sunol Pipeline SL0600100443 MW-13

LLI Sample # SW 6878029
LLI Group # 1352828
Account # 11875

Project Name: Sunol, CA

Collected: 11/29/2012 13:06 by JQ

Submitted: 11/30/2012 09:30
Reported: 12/11/2012 17:35

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

S1315

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0006	0.99
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.99
10237	Toluene	108-88-3	N.D.	0.001	0.99
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.99
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1.1	22.81
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	15.5	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

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
10237	BTEX 8260 Soil	SW-846 8260B	1	B123401AA	12/05/2012 15:51	Angela D Sneeringer	0.99
06176	GC/MS - LL Water Prep	SW-846 5035A	1	201233529550	11/30/2012 20:35	Mitchell R Washel	1
06176	GC/MS - LL Water Prep	SW-846 5035A	2	201233529550	11/30/2012 20:35	Mitchell R Washel	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201233529550	11/29/2012 13:06	Client Supplied	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	12338A34A	12/04/2012 01:18	Laura M Krieger	22.81
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201233529550	11/29/2012 13:06	Client Supplied	n.a.
00111	Moisture	SM20 2540 G	1	12339820003A	12/04/2012 18:48	Scott W Freisher	1

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Analysis Report

Sample Description: MW-13-20-20.5 Grab Soil
NA URSO
Sunol Pipeline SL0600100443 MW-13

LLI Sample # SW 6878030
LLI Group # 1352828
Account # 11875

Project Name: Sunol, CA

Collected: 11/29/2012 13:18 by JQ

Submitted: 11/30/2012 09:30
Reported: 12/11/2012 17:35

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

S1320

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0006	0.96
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.96
10237	Toluene	108-88-3	N.D.	0.001	0.96
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.96
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1.0	22.2
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	15.2	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

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
10237	BTEX 8260 Soil	SW-846 8260B	1	B123401AA	12/05/2012 16:13	Angela D Sneeringer	0.96
06176	GC/MS - LL Water Prep	SW-846 5035A	1	201233529550	11/30/2012 20:35	Mitchell R Washel	1
06176	GC/MS - LL Water Prep	SW-846 5035A	2	201233529550	11/30/2012 20:34	Mitchell R Washel	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201233529550	11/29/2012 13:18	Client Supplied	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	12338A34A	12/04/2012 02:30	Laura M Krieger	22.2
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201233529550	11/29/2012 13:18	Client Supplied	n.a.
00111	Moisture	SM20 2540 G	1	12339820003A	12/04/2012 18:48	Scott W Freisher	1

Sample Description: MW-13-23-23.5 Grab Soil
NA URSO
Sunol Pipeline SL0600100443 MW-13

LLI Sample # SW 6878031
LLI Group # 1352828
Account # 11875

Project Name: Sunol, CA

Collected: 11/29/2012 13:27 by JQ

Submitted: 11/30/2012 09:30
Reported: 12/11/2012 17:35

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

S1323

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	0.081	0.031	52.74
10237	Ethylbenzene	100-41-4	0.62	0.062	52.74
10237	Toluene	108-88-3	N.D.	0.062	52.74
10237	Xylene (Total)	1330-20-7	3.4	0.062	52.74
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	120	8.9	189.75
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	14.6	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

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
10237	BTEX 8260 Soil	SW-846 8260B	1	R123411AA	12/07/2012 02:02	Andrea E Lando	52.74
06176	GC/MS - LL Water Prep	SW-846 5035A	1	201233529550	11/30/2012 20:35	Mitchell R Washel	1
06176	GC/MS - LL Water Prep	SW-846 5035A	2	201233529550	11/30/2012 20:35	Mitchell R Washel	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201233529550	11/29/2012 13:27	Client Supplied	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	12338A34B	12/04/2012 19:59	Marie D John	189.75
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201233529550	11/29/2012 13:27	Client Supplied	n.a.
00111	Moisture	SM20 2540 G	1	12339820003A	12/04/2012 18:48	Scott W Freisher	1

Sample Description: MW-13-25-25.5 Grab Soil
NA URSO
Sunol Pipeline SL0600100443 MW-13

LLI Sample # SW 6878032
LLI Group # 1352828
Account # 11875

Project Name: Sunol, CA

Collected: 11/29/2012 13:32 by JQ

Submitted: 11/30/2012 09:30
Reported: 12/11/2012 17:35

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Covington LA 70433

S1325

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	0.012	0.0005	0.93
10237	Ethylbenzene	100-41-4	0.019	0.001	0.93
10237	Toluene	108-88-3	0.025	0.001	0.93
10237	Xylene (Total)	1330-20-7	0.10	0.001	0.93
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1	20.97
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	13.5	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

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
10237	BTEX 8260 Soil	SW-846 8260B	1	B123401AA	12/05/2012 16:36	Angela D Sneeringer	0.93
06176	GC/MS - LL Water Prep	SW-846 5035A	1	201233529550	11/30/2012 20:35	Mitchell R Washel	1
06176	GC/MS - LL Water Prep	SW-846 5035A	2	201233529550	11/30/2012 20:35	Mitchell R Washel	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201233529550	11/29/2012 13:32	Client Supplied	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	12338A34A	12/04/2012 03:06	Laura M Krieger	20.97
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201233529550	11/29/2012 13:32	Client Supplied	n.a.
00111	Moisture	SM20 2540 G	1	12339820003A	12/04/2012 18:48	Scott W Freisher	1

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Analysis Report

Sample Description: FB-112912 NA Water
NA URSO
Sunol Pipeline SL0600100443 FB

LLI Sample # WW 6878033
LLI Group # 1352828
Account # 11875

Project Name: Sunol, CA

Collected: 11/29/2012 10:38 by JQ

Submitted: 11/30/2012 09:30
Reported: 12/11/2012 17:35

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

SUNFB

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

General Sample Comments

State of California Lab Certification No. 2501

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10943	BTEX 8260B Water	SW-846 8260B	1	F123424AA	12/07/2012 18:16	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F123424AA	12/07/2012 18:16	Kevin A Sposito	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	12338A20A	12/03/2012 20:11	Marie D John	1
01146	GC VOA Water Prep	SW-846 5030B	1	12338A20A	12/03/2012 20:11	Marie D John	1

Sample Description: MW-15-5-5.5 Grab Soil
NA URSO
Sunol Pipeline SL0600100443 MW-15

LLI Sample # SW 6878034
LLI Group # 1352828
Account # 11875

Project Name: Sunol, CA

Collected: 11/29/2012 13:58 by JQ

Submitted: 11/30/2012 09:30
Reported: 12/11/2012 17:35

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

S1505

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0005	0.96
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.96
10237	Toluene	108-88-3	N.D.	0.001	0.96
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.96
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1	22.24
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	9.0	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

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
10237	BTEX 8260 Soil	SW-846 8260B	1	B123401AA	12/05/2012 16:59	Angela D Sneeringer	0.96
06176	GC/MS - LL Water Prep	SW-846 5035A	1	201233529550	11/30/2012 20:35	Mitchell R Washel	1
06176	GC/MS - LL Water Prep	SW-846 5035A	2	201233529550	11/30/2012 20:35	Mitchell R Washel	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201233529550	11/29/2012 13:58	Client Supplied	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	12338A34A	12/03/2012 21:07	Laura M Krieger	22.24
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201233529550	11/29/2012 13:58	Client Supplied	n.a.
00111	Moisture	SM20 2540 G	1	12339820003A	12/04/2012 18:48	Scott W Freisher	1

Sample Description: MW-15-10-10.5 Grab Soil
NA URSO
Sunol Pipeline SL0600100443 MW-15

LLI Sample # SW 6878035
LLI Group # 1352828
Account # 11875

Project Name: Sunol, CA

Collected: 11/29/2012 14:25 by JQ

Submitted: 11/30/2012 09:30
Reported: 12/11/2012 17:35

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

S1510

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0006	1
10237	Ethylbenzene	100-41-4	N.D.	0.001	1
10237	Toluene	108-88-3	N.D.	0.001	1
10237	Xylene (Total)	1330-20-7	N.D.	0.001	1
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1	21.74
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	11.0	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

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
10237	BTEX 8260 Soil	SW-846 8260B	1	B123401AA	12/05/2012 17:22	Angela D Sneeringer	1
06176	GC/MS - LL Water Prep	SW-846 5035A	1	201233529550	11/30/2012 20:35	Mitchell R Washel	1
06176	GC/MS - LL Water Prep	SW-846 5035A	2	201233529550	11/30/2012 20:35	Mitchell R Washel	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201233529550	11/29/2012 14:25	Client Supplied	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	12338A34A	12/04/2012 03:42	Laura M Krieger	21.74
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201233529550	11/29/2012 14:25	Client Supplied	n.a.
00111	Moisture	SM20 2540 G	1	12339820003A	12/04/2012 18:48	Scott W Freisher	1

Sample Description: MW-15-15-15.5 Grab Soil
NA URSO
Sunol Pipeline SL0600100443 MW-15

LLI Sample # SW 6878036
LLI Group # 1352828
Account # 11875

Project Name: Sunol, CA

Collected: 11/29/2012 14:29 by JQ

Submitted: 11/30/2012 09:30
Reported: 12/11/2012 17:35

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

S1515

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0005	0.87
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.87
10237	Toluene	108-88-3	N.D.	0.001	0.87
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.87
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	0.9	20.26
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	11.6	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

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
10237	BTEX 8260 Soil	SW-846 8260B	1	B123401AA	12/05/2012 17:44	Angela D Sneeringer	0.87
06176	GC/MS - LL Water Prep	SW-846 5035A	1	201233529550	11/30/2012 20:35	Mitchell R Washel	1
06176	GC/MS - LL Water Prep	SW-846 5035A	2	201233529550	11/30/2012 20:35	Mitchell R Washel	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201233529550	11/29/2012 14:29	Client Supplied	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	12338A34A	12/04/2012 04:18	Laura M Krieger	20.26
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201233529550	11/29/2012 14:29	Client Supplied	n.a.
00111	Moisture	SM20 2540 G	1	12339820003A	12/04/2012 18:48	Scott W Freisher	1

Sample Description: MW-15-20-20.5 Grab Soil
NA URSO
Sunol Pipeline SL0600100443 MW-15

LLI Sample # SW 6878037
LLI Group # 1352828
Account # 11875

Project Name: Sunol, CA

Collected: 11/29/2012 14:36 by JQ

Submitted: 11/30/2012 09:30
Reported: 12/11/2012 17:35

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

S1520

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0006	0.98
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.98
10237	Toluene	108-88-3	N.D.	0.001	0.98
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.98
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1.1	24.95
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	12.9	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

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
10237	BTEX 8260 Soil	SW-846 8260B	1	B123401AA	12/05/2012 18:07	Angela D Sneeringer	0.98
06176	GC/MS - LL Water Prep	SW-846 5035A	1	201233529550	11/30/2012 20:35	Mitchell R Washel	1
06176	GC/MS - LL Water Prep	SW-846 5035A	2	201233529550	11/30/2012 20:35	Mitchell R Washel	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201233529550	11/29/2012 14:36	Client Supplied	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	12338A34A	12/04/2012 04:54	Laura M Krieger	24.95
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201233529550	11/29/2012 14:36	Client Supplied	n.a.
00111	Moisture	SM20 2540 G	1	12339820003A	12/04/2012 18:48	Scott W Freisher	1

Sample Description: MW-15-27.5-28 Grab Soil
NA URSO
Sunol Pipeline SL0600100443 MW-15

LLI Sample # SW 6878038
LLI Group # 1352828
Account # 11875

Project Name: Sunol, CA

Collected: 11/29/2012 14:43 by JQ

Submitted: 11/30/2012 09:30
Reported: 12/11/2012 17:35

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

S1527

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0005	0.88
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.88
10237	Toluene	108-88-3	N.D.	0.001	0.88
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.88
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1.1	22.77
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	14.6	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

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
10237	BTEX 8260 Soil	SW-846 8260B	1	B123401AA	12/05/2012 18:30	Angela D Sneeringer	0.88
06176	GC/MS - LL Water Prep	SW-846 5035A	1	201233529550	11/30/2012 20:35	Mitchell R Washel	1
06176	GC/MS - LL Water Prep	SW-846 5035A	2	201233529550	11/30/2012 20:35	Mitchell R Washel	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201233529550	11/29/2012 14:43	Client Supplied	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	12338A34A	12/04/2012 05:30	Laura M Krieger	22.77
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201233529550	11/29/2012 14:43	Client Supplied	n.a.
00111	Moisture	SM20 2540 G	1	12339820003A	12/04/2012 18:48	Scott W Freisher	1

Sample Description: MW-X-20-20.5 Grab Soil
NA URSO
Sunol Pipeline SL0600100443 MW-X

LLI Sample # SW 6878039
LLI Group # 1352828
Account # 11875

Project Name: Sunol, CA

Collected: 11/29/2012 12:00 by JQ

Submitted: 11/30/2012 09:30
Reported: 12/11/2012 17:35

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

SFD20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0006	1.12
10237	Ethylbenzene	100-41-4	N.D.	0.001	1.12
10237	Toluene	108-88-3	N.D.	0.001	1.12
10237	Xylene (Total)	1330-20-7	N.D.	0.001	1.12
GC Volatiles	**SW-846 8015B modified**		**mg/kg**	**mg/kg**	
01725	TPH-GRO N. CA soil C6-C12	n.a.	N.D.	1.1	24.37
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	12.1	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

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
10237	BTEX 8260 Soil	SW-846 8260B	1	B123401AA	12/05/2012 19:09	Angela D Sneeringer	1.12
06176	GC/MS - LL Water Prep	SW-846 5035A	1	201233529550	11/30/2012 20:35	Mitchell R Washel	1
06176	GC/MS - LL Water Prep	SW-846 5035A	2	201233529550	11/30/2012 20:35	Mitchell R Washel	1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201233529550	11/29/2012 12:00	Client Supplied	1
01725	TPH-GRO N. CA soil C6-C12	SW-846 8015B modified	1	12338A34A	12/04/2012 06:06	Laura M Krieger	24.37
06647	GC-5g Field Preserved MeOH	SW-846 5035A	1	201233529550	11/29/2012 12:00	Client Supplied	n.a.
00111	Moisture	SM20 2540 G	1	12339820003A	12/04/2012 18:48	Scott W Freisher	1

Sample Description: TB2-112912 NA Water
NA URSO
Sunol Pipeline SL0600100443 TB2

LLI Sample # WW 6878040
LLI Group # 1352828
Account # 11875

Project Name: Sunol, CA

Collected: 11/29/2012

Submitted: 11/30/2012 09:30
Reported: 12/11/2012 17:35

Chevron Pipeline Co.
100 Northpark Blvd.
Covington LA 70433

SUNTB

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

General Sample Comments

State of California Lab Certification No. 2501

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10943	BTEX 8260B Water	SW-846 8260B	1	F123424AA	12/07/2012 18:38	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F123424AA	12/07/2012 18:38	Kevin A Sposito	1
01728	TPH-GRO N. CA water C6-C12	SW-846 8015B	1	12338A20A	12/03/2012 20:54	Marie D John	1
01146	GC VOA Water Prep	SW-846 5030B	1	12338A20A	12/03/2012 20:54	Marie D John	1

Quality Control Summary

Client Name: Chevron Pipeline Co. Group Number: 1352828
Reported: 12/11/12 at 05:35 PM

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

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

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: B123391AA	Sample number(s): 6878022-6878027							
Benzene	N.D.	0.0005	mg/kg	109	115	80-120	6	30
Ethylbenzene	N.D.	0.001	mg/kg	99	106	80-120	7	30
Toluene	N.D.	0.001	mg/kg	97	104	80-120	7	30
Xylene (Total)	N.D.	0.001	mg/kg	98	106	80-120	8	30
Batch number: B123401AA	Sample number(s): 6878028-6878030,6878032,6878034-6878039							
Benzene	N.D.	0.0005	mg/kg	97	93	80-120	5	30
Ethylbenzene	N.D.	0.001	mg/kg	99	95	80-120	4	30
Toluene	N.D.	0.001	mg/kg	97	95	80-120	2	30
Xylene (Total)	N.D.	0.001	mg/kg	99	94	80-120	4	30
Batch number: F123424AA	Sample number(s): 6878033,6878040							
Benzene	N.D.	0.5	ug/l	88		77-121		
Ethylbenzene	N.D.	0.5	ug/l	87		79-120		
Toluene	N.D.	0.5	ug/l	85		79-120		
Xylene (Total)	N.D.	0.5	ug/l	88		77-120		
Batch number: R123411AA	Sample number(s): 6878031							
Benzene	N.D.	0.025	mg/kg	102	100	80-120	2	30
Ethylbenzene	N.D.	0.050	mg/kg	98	97	80-120	1	30
Toluene	N.D.	0.050	mg/kg	102	98	80-120	4	30
Xylene (Total)	N.D.	0.050	mg/kg	98	97	80-120	1	30
Batch number: 12338A20A	Sample number(s): 6878033,6878040							
TPH-GRO N. CA water C6-C12	N.D.	50.	ug/l	125	121	75-135	4	30
Batch number: 12338A34A	Sample number(s): 6878022-6878030,6878032,6878034-6878039							
TPH-GRO N. CA soil C6-C12	N.D.	1.0	mg/kg	95	87	67-119	9	30
Batch number: 12338A34B	Sample number(s): 6878031							
TPH-GRO N. CA soil C6-C12	N.D.	1.0	mg/kg	95	87	67-119	9	30
Batch number: 12339820003A	Sample number(s): 6878022-6878032,6878034-6878039							
Moisture				100		99-101		

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

	MS	MSD	MS/MSD	RPD	BKG	DUP	DUP	Dup RPD

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

Quality Control Summary

Client Name: Chevron Pipeline Co. Group Number: 1352828
Reported: 12/11/12 at 05:35 PM

Analysis Name	%REC	%REC	Limits	RPD	MAX	Conc	Conc	RPD	Max
Batch number: B123401AA	Sample number(s): 6878028-6878030,6878032,6878034-6878039 UNSPK: 6878038								
Benzene	94		55-143						
Ethylbenzene	80		44-141						
Toluene	90		50-146						
Xylene (Total)	79		44-136						
Batch number: F123424AA	Sample number(s): 6878033,6878040 UNSPK: P877907								
Benzene	95	96	72-134	0	30				
Ethylbenzene	93	96	71-134	3	30				
Toluene	92	95	80-125	3	30				
Xylene (Total)	94	99	79-125	4	30				
Batch number: 12339820003A	Sample number(s): 6878022-6878032,6878034-6878039 BKG: 6878030								
Moisture						15.2	15.5	2	13

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: 8260 Ext. Soil Master w/GRO
Batch number: B123391AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
6878022	112	101	99	81
6878023	106	102	97	86
6878024	111	103	95	88
6878025	111	103	95	86
6878026	113	102	94	89
6878027	111	101	97	94
Blank	110	104	93	90
LCS	106	101	99	107
LCSD	105	102	98	107
Limits:	50-141	54-135	52-141	50-131

Analysis Name: 8260 Ext. Soil Master w/GRO
Batch number: B123401AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
6878028	104	101	103	84
6878029	106	100	101	86
6878030	106	105	102	90
6878032	100	101	105	95
6878034	109	107	101	89
6878035	109	108	100	90
6878036	109	108	100	91
6878037	109	106	100	88
6878038	109	107	100	90
6878039	108	105	100	89
Blank	107	102	101	88
LCS	103	101	107	105
LCSD	104	103	107	104

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

Quality Control Summary

Client Name: Chevron Pipeline Co. Group Number: 1352828
Reported: 12/11/12 at 05:35 PM

Surrogate Quality Control

MS	102	110	106	105
Limits:	50-141	54-135	52-141	50-131

Analysis Name: UST VOCs by 8260B - Water
Batch number: F123424AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
6878033	106	98	97	95
6878040	104	99	98	95
Blank	104	101	97	96
LCS	105	99	96	97
MS	104	100	96	97
MSD	104	99	99	100
Limits:	80-116	77-113	80-113	78-113

Analysis Name: 8260 Ext. Soil Master w/GRO
Batch number: R123411AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
6878031	88	89	84	79
Blank	90	93	90	92
LCS	97	97	101	102
LCSD	102	100	102	103
Limits:	50-141	54-135	52-141	50-131

Analysis Name: TPH-GRO N. CA water C6-C12
Batch number: 12338A20A

	Trifluorotoluene-F
6878033	84
6878040	84
Blank	84
LCS	120
LCSD	117
Limits:	63-135

Analysis Name: TPH-GRO N. CA soil C6-C12
Batch number: 12338A34A

	Trifluorotoluene-F
6878022	74
6878023	78
6878024	76
6878025	71
6878026	77
6878027	75
6878028	77
6878029	71
6878030	80
6878032	72
6878034	75
6878035	71

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

Quality Control Summary

Client Name: Chevron Pipeline Co. Group Number: 1352828
Reported: 12/11/12 at 05:35 PM

Surrogate Quality Control

6878036	76
6878037	67
6878038	65
6878039	68
Blank	87
LCS	93
LCSD	87
Limits:	61-122

Analysis Name: TPH-GRO N. CA soil C6-C12
Batch number: 12338A34B

	Trifluorotoluene-F
6878031	81
Blank	83
LCS	93
LCSD	87
Limits:	61-122

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

Chevron Generic Analysis Request/Chain of Custody

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Acct. # 11875 Group # 1352828 Sample # 6878022-40

For Lancaster Laboratories use only

Instructions on reverse side correspond with circled numbers.

Pg 1 of (2)

1 Client Information

Facility # Sunol Spill WBS MP2.7

Site Address Calaveras Road, Sunol, CA

Chevron PM Steve Gwin Lead Consultant URS

Consultant/Office URS/Oakland

Consultant Project Mgr. Joe Morgan

Consultant Phone # 510-874-3201

Sampler JQ & CP

SCR #:

4 Matrix

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

5 Analyses Requested

Total Number of Containers

BTEX 8260 ☐ 8021 ☐ Naphth ☒

8260 full scan

Oxygenates

TPHG 8015

Silica Gel Cleanup ☐

TPHD

Lead Total ☐ Diss. ☐ Method

VPH/EPH Method

☐ Results in Dry Weight
☐ J value reporting needed
☐ Must meet lowest detection limits possible for 8260 compounds
☐ 8021 MTBE Confirmation
☐ Confirm MTBE + Naphthalene
☐ Confirm highest hit by 8260
☐ Confirm all hits by 8260
☐ Run _____ oxy's on highest hit
☐ Run _____ oxy's on all hits

6 Remarks

2 Sample Identification	Collected Date	Collected Time	3 Grab	Composite	Soil	Water	Oil	Total Number of Containers	BTEX 8260	8260 full scan	Oxygenates	TPHG 8015	Silica Gel Cleanup	TPHD	Lead	Total	Diss.	Method	VPH/EPH Method
MW-14-5-5.5	11-29-12	1036	X		X			5	X			X							
MW-14-10-10.5	11-29-12	1146	X		X			5	X			X							
MW-14-15-15.5	11-29-12	1152	X		X			5	X			X							
MW-14-20-20.5	11-29-12	1214	X		X			5	X			X							
MW-14-25-25.5	11-29-12	1219	X		X			5	X			X							
MW-14-29.5-30	11-29-12	1224	X		X			5	X			X							
MW-13-10-10.5	11-29-12	1300	X		X			5	X			X							
MW-13-15-15.5	11-29-12	1306	X		X			5	X			X							
MW-13-20-20.5	11-29-12	1318	X		X			5	X			X							
MW-13-23-23.5	11-29-12	1327	X		X			5	X			X							
MW-13-25-25.5	11-29-12	1332	X		X			5	X			X							

7 Turnaround Time Requested (TAT) (please circle)

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

8 Data Package Options (please circle if required)

Chevron/URS Standard

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

Relinquished by	Date	Time	Received by	Date	Time (9)
Christ Pili	11/29/12	1720			
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by Commerical Carrier: UPS ____ FedEx X Other ____			Received by	Date 11.30.12	Time 930
Temperature Upon Receipt \.\ °C			Custody Seals Intact?	Yes	No

Chevron Generic Analysis Request/Chain of Custody

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Acct. # 11875 Group # 1352828 Sample # 6878022-40
Instructions on reverse side correspond with circled numbers.

Pg 2 of 2

SCR #: ______

① Client Information

Facility #: Sunol Spill MP2.7 WBS:
Site Address: Calaveras Road, Sunol CA
Chevron PM: Steve Gwin Lead Consultant: URS
Consultant/Office: URS/Oakland
Consultant Project Mgr.: Joe Morgan
Consultant Phone #: 510-874-3201
Sampler: JQ & CP

④ Matrix: Sediment ☐, Soil ☐, Ground ☐, Surface ☐, Potable ☐, NPDES ☐, Water, Oil ☐, Air ☐

⑤ Analyses Requested: BTEX + ~~MTBE~~ 8021 ☐ 8260 ☒ Naphth ☐; 8260 full scan; Oxygenates; TPHG 8015; TPHD ☐ Silica Gel Cleanup; Lead Total ☐ Diss. ☐ Method; VPH/EPH Method

② Sample Identification	Collected Date	Collected Time	③ Grab	Composite	Soil	Water	Oil	Total Number of Containers	BTEX 8260	8260 full scan	Oxygenates	TPHG 8015	TPHD	Lead	VPH/EPH Method
FB-112912	11-29-12	1038				X		6	X			X			
MW-15-5-5.5	11-29-12	1358	X		X			5	X			X			
MW-15-10-10.5	11-29-12	1425	X		X			5	X			X			
MW-15-15-15.5	11-29-12	1429	X		X			5	X			X			
MW-15-20-20.5	11-29-12	1436	X		X			5	X			X			
MW-15-27.5-28	11-29-12	1443	X		X			5	X			X			
MW-X-20-20.5	11-29-12	1200	X		X			5	X			X			
TB2-112912	—	—				X		2	X			X			

☐ Results in Dry Weight
☐ J value reporting needed
☐ Must meet lowest detection limits possible for 8260 compounds
☐ 8021 MTBE Confirmation
☐ Confirm MTBE + Naphthalene
☐ Confirm highest hit by 8260
☐ Confirm all hits by 8260
☐ Run ______ oxy's on highest hit
☐ Run ______ oxy's on all hits

⑥ Remarks

⑦ Turnaround Time Requested (TAT) (please circle)
(Standard) 5 day 4 day
72 hour 48 hour 24 hour

⑧ Data Package Options (please circle if required)
Chevron/URS Standard
Type I - Full Type VI (Raw Data) Alaska/Type III

Relinquished by	Date	Time	Received by	Date	Time
[signature]	11/29/12	1720			
Relinquished by			Received by		
Relinquished by Commerical Carrier: UPS ____ FedEx X Other ____			Received by [signature]	11-30-12	930

Temperature Upon Receipt 1.1 °C
Custody Seals Intact? (Yes) No

Lancaster Laboratories, Inc. • 2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300
The white copy should accompany samples to Lancaster Laboratories. The yellow copy should be retained by the client.

Issued by Dept. 40 Management
7047.01

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Explanation of Symbols and Abbreviations

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

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

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

> greater than

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

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

ppb parts per billion

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

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

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

Inorganic Qualifiers

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

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

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

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

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

Appendix E
Biological Survey Results

URS

Memorandum

Date: December 17, 2012

To: Joe Morgan

From: Ode Bernstein

Subject: **Biological Survey and Reconnaissance at the Sunol Spill Site, Sunol, California**

On December 4, 2012, a URS biologist performed a site assessment of the hillside and surrounding area adjacent to a stretch of Calaveras road, where an accidental fuel spill occurred in 2005. The purpose of the survey was to briefly assess and identify potential outstanding ecological issues related to the fuel release. The results of the assessment should not be construed as exhaustive, but rather as a brief snapshot of macro-level, easily observable site conditions at the time of the survey. Effects observable during a macro-level analysis (i.e. chemical-burned leaves, dead or injured wildlife, fuel observable on the surface of water) were likely limited to a short-window directly after the initial spill and cleanup (August 2005). As expected, these types of readily detectable impacts were not observed during this most recent site visit, most likely to due to the amount of intervening time between the initial spill and current drilling activities at the site 7 years later.

The site visit occurred between 0730 – 1130 hours. Weather was cool and overcast, and the ground was damp due to recent rains. During this time, the biologist walked a meandering transect on foot that covered the various site features, including: the hillside above and below the pipeline; the seasonal creek northwest of the hillside; the road edges west of the spill; the tree farm; and the downstream reach of the creek where it meanders into a California sycamore (*Platanus racemosa*) woodland. During the survey the biologist noted all species of wildlife detected by sight, sound or sign (i.e. scat or tracks). Vegetation was noted, but a comprehensive plant survey was not conducted. The immediate upstream and downstream reaches of the seasonal creek were closely inspected as well.

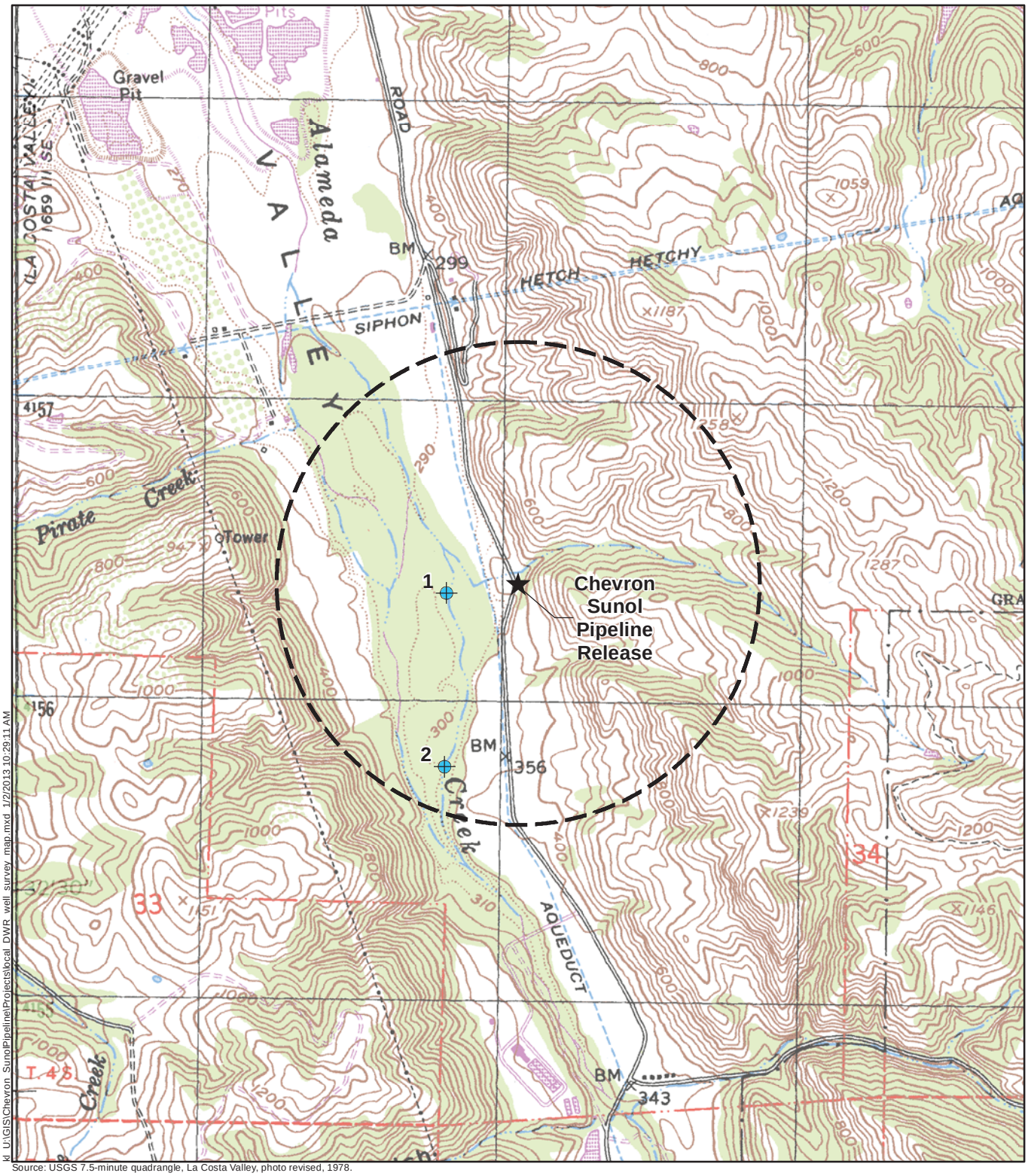
The biologist detected the following wildlife species active in the area: acorn woodpecker (*Melanerpes formicivorous*), lesser goldfinch (*Carduelis psaltria*), western scrub jay (*Aphelocoma californica*), northern raccoon (*Procyon lotor*), red-shouldered hawk (*Buteo lineatus*), California towhee (*Melozone crissalis*), chestnut-backed chickadee (*Poecile rufescens*), American kestrel (*Falco sparverius*), and black phoebe (*Sayornis nigricans*). A single horsehair worm (*Nematomorpha sp.*) was the only aquatic organism detected in the creek. No visible signs of vegetation burning, first reported in the initial biological site assessment, were visible on annual or perennial vegetation, or tree foliage. In particular, the live oak (*Quercus agrifolia*) trees lining Calaveras road did not appear diseased or distressed. No fuel was visible on the surface of standing water in the seasonal tributary creek. No dead or wounded wildlife were detected. The slope below the pipeline is fairly degraded, but the spotty vegetation cover looks to be due to trampling and erosion. Fiber rolls are deployed along the hillside contours for partial stabilization.

cc: Rachel Naccarati
Christine Pilachowski

Appendix F
Local Well Survey Results

TABLE F-1
Summary of Local DWR Well Survey Results
Data Gap Investigation and Remediation Report
Chevron Sunol Pipeline

Map ID	State Well No.	Well Owner	Approximate Well Location	Installation Date	Well Type	Total Depth (feet bgs)	Location in Relation to the Site	Approximate Distance from Site
1	E0081063	SFPUC	Calaveras Road & Hetch Hetchy Aquaduct, Sunol CA	8/27/2007	Vapor extraction	26	West	0.18 mile
2	E0081062	SFPUC	Calaveras Road & Hetch Hetchy Aquaduct, Sunol CA	8/24/2007	Vapor extraction	24	Southwest	0.35 mile



Source: USGS 7.5-minute quadrangle, La Costa Valley, photo revised, 1978.

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Approximate location of vapor extraction well

Half-mile radius of project site

0 1,000 2,000 FEET

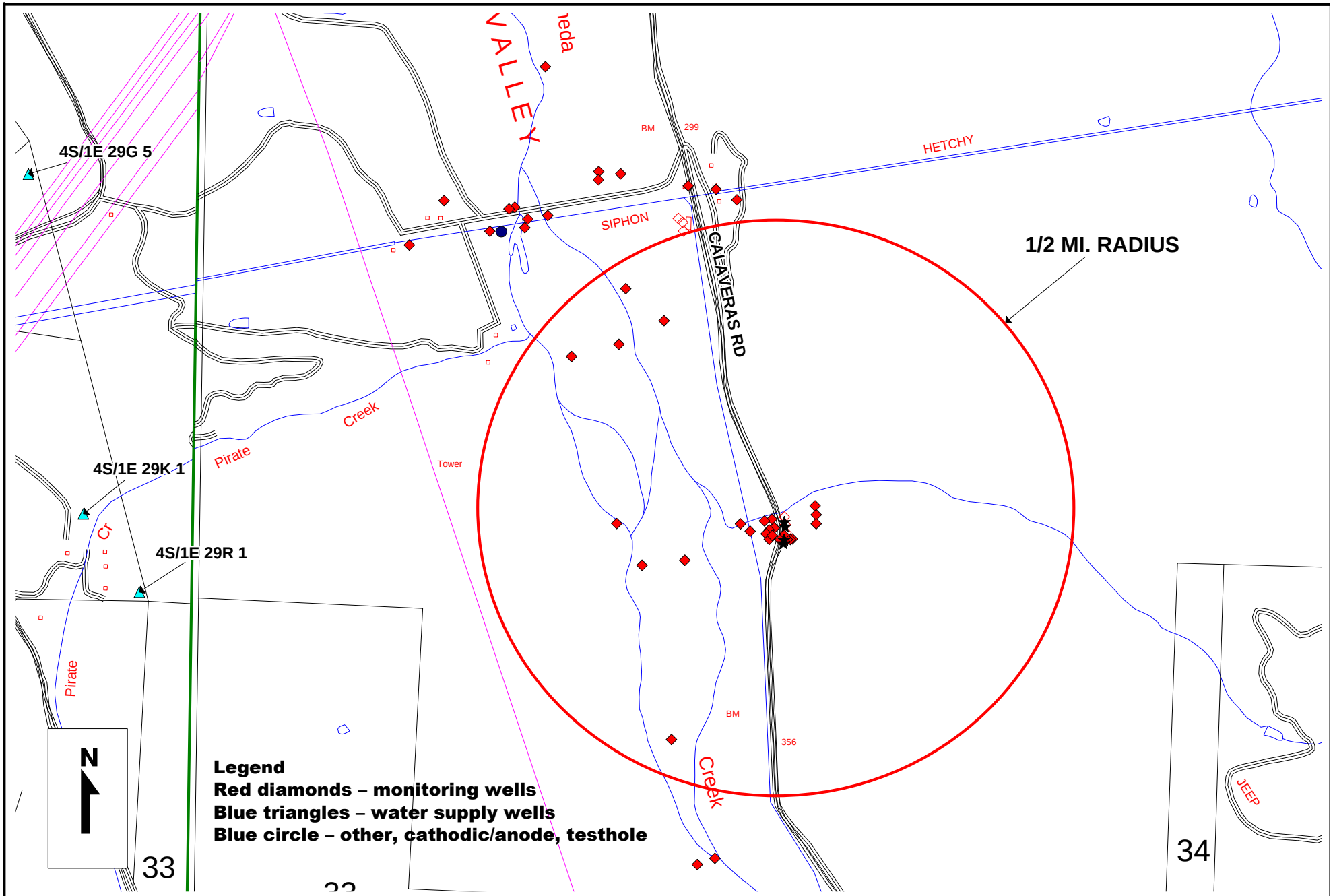
LOCAL DWR WELL SURVEY MAP

January 2013
26817187

Chevron Sunol Pipeline
Sunol, California

URS

FIGURE F-1



	ZONE 7 WATER AGENCY **100 NORTH CANYONS PARKWAY** **LIVERMORE, CA 94551**	**Figure F-2** **WELL LOCATION MAP**	**SCALE: 1"= 1200 ft** **DATE: 12/28/12** **Calaveras Rd - 2.7 mi. post**