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**PHASE II SUBSURFACE SOIL AND  
GROUNDWATER SAMPLING SITE ASSESSMENT**

**Livermore Airport Jet Fuel Line Replacement  
Livermore Airport  
Livermore, California**

**Requested by:**

**Mr. Harjit Sidhu  
City of Livermore, Engineering Division  
1052 South Livermore Avenue  
Livermore, California 94550**

**Prepared by:**

**Consolidated Engineering Laboratories  
2001 Crow Canyon Road, Suite 100  
San Ramon, California 94583  
CEL Project No. 81-01824-A**



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LABORATORIES

May 11, 2007

City of Livermore, Engineering Division  
1052 S. Livermore Avenue  
Livermore, California 94550

Attention: Mr. Harjit Sidhu

Subject: **Phase II Subsurface Soil and Groundwater Sampling Site Assessment**  
Livermore Airport Jet Fuel Line Replacement  
Livermore Airport  
Livermore, California  
CEL Project No. 81-01824-A

Dear Mr. Sidhu:

Consolidated Engineering Laboratories (CEL) has prepared this Phase II Soil and Groundwater Sampling and Site Assessment Report for an initial subsurface soil and groundwater study for the above referenced project site. The Alameda County Health Care Services Agency (ACHCSA) has requested a subsurface soil and groundwater site assessment of the subject pipeline leak area in their letter dated September 22, 2006. Please note that the ACHCSA desires electronic submittal of this material. If you have any questions regarding this report, please contact the undersigned at (925) 314-7100. We appreciate the opportunity of providing professional services to the City of Livermore.

Sincerely,

CONSOLIDATED ENGINEERING LABORATORIES

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Senior Geologist



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November 2005 and June 2006 Letters and Soil Disposal Information

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Drilling Permit and Exploratory Boring Logs

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2000-foot Radius Well Search Information



## **1.0 Background-Excavation and Sampling Activity During Pipeline Replacement**

The project site is located in the City of Livermore (City) Municipal Airport, off Airway Boulevard, just inside the airport boundary near the airport entrance, just east of Terminal Circle (see Figures 1 and 2). An underground jet fuel pipeline with remote fill located near three underground storage tanks is used to ship petroleum fuel onto the airport grounds apparently leaked at this location. The City and their pipeline repair contractor (Gettler Ryan, Inc.) were making repairs and upgrades to this pipeline and remote fuel access station just beyond the fence at the cul-de-sac off Terminal Circle (see Figures 2 and 3). The remote fuel access station is used by delivery trucks to fill the three underground fuel storage tanks (one 15,000-gallon Jet A fuel, one 15,000-gallon Aviation gasoline 2, and one 15,000-gallon Aviation gasoline 1). Signs of leakage occurred at the remote fill station adjacent to the cul-de-sac off Terminal Circle (see Figures 1 and 2 and Appendix A).

### **1.1 November 10, 2005 Soil Excavation and Sampling Summary**

At the City's request, CEL personnel visited the site on November 10, 2005 (sampling and soil analysis activities reported in our letter dated November 18, 2005) and collected 15 individual soil samples at various locations within and near the jet fuel line trench, remote fill excavation and soil stockpiles located at the Livermore Airport. A Livermore Fire Department representative selected soil sample locations, depths and the chemical analyses and observed the sampling.

Soil samples were collected by a CEL technician using laboratory supplied glass bottles, at locations under the remote fill station, pipeline trench excavation bottoms and nearby stockpiles. The bottles were filled with soil, sealed, labeled, logged onto chain-of-custody forms, and packed in chilled ice chests for shipping to the laboratory. Site native soils appeared to be clayey gravel and sandy clay; trench backfill was predominantly pea gravel; some samples may have contained both native soil and pea gravel.

The soil samples analyzed from the trench base were collected at about 2.0 to 3.5 feet deep, and from the soil stockpiles. Soil sample 1-1 at the remote fill station detected 8,000 micrograms per kilogram (ug/kg) of Total Petroleum Hydrocarbons as Gasoline (TPHG), 200 milligrams per kilogram (mg/kg) Total Petroleum Hydrocarbons as Diesel (TPHD), 59 ug/kg Toluene, 17 ug/kg Ethylbenzene and 210 ug/kg Xylenes. Benzene and Methyl-tert-Butyl-Ether (MTBE) were not detected in the sample. Soil samples 1-2 through 1-7 did not detect TPHG, TPHD, BTEX or MTBE.

### **1.2 November 21, 2005 Additional Soil Excavation and Sampling Summary**

An additional excavation was deepened by Gettler-Ryan, Inc. during the pipeline work at the City's request to about 15 feet on November 21, 2006 (letter revision dated December 14, 2005) at sample location 1-1 to estimate depth of possible leakage on the basis of odor and staining at the "remote" filling line adjacent to the cul-de-sac road (off Terminal Circle).

The City asked CEL to provide suggestions for limited reconnaissance soil sampling while the deeper excavation was open to ascertain the presence of fuel contaminants. Petroleum odor emanated from the excavation near the remote fill portion of the pipeline trench. The excavation could not proceed deeper since the equipment could not excavate more than 15 feet and the pipeline and remote fill station had to be rebuilt quickly to support airport operations. Consequently the contaminated soil removed from this excavation was stockpiled and sampled prior to off-site disposal.



On the basis of limited field observations, there appeared to be some historic leakage in this area from the remote fill station. Groundwater was not encountered in the 15-foot deep excavation. CEL collected and tested soil from the excavation and the results are provided below:

- Soil samples collected at 9.5 feet deep detected 970,000 micrograms per kilograms (ug/kg) TPHG; 2,900 ug/kg Xylenes (X) detected and Benzene Ethylbenzene and Toluene (BTE) were not detected; TPHD 2,900 mg/kg detected; and Motor Oil was not detected.
- Soil samples at 13.0 feet deep showed BTEX and MTBE were not detected; 450,000 ug/kg TPHG detected; 1,100 mg/kg TPHD detected; and Motor Oil was not detected.
- Soil samples from 15.0 feet deep showed TPHD and Motor Oil were not detected.

CEL informed the City representatives that on the basis of the field conditions that they should file the appropriate paperwork for a spill to report to the agencies and prepare a work plan for further assessment.

### **1.3 Summary of Stockpile Data and Soil Disposal**

The excavated soil and trench backfill were stockpiled near the excavations as shown on Figure 3. The soil stockpile samples (1-8 through 1-15) showed the highest concentrations ranging from 6,000 to 360,000 parts ug/kg of TPHG and 710 to 1,100 mg/kg TPHD. Benzene and Methyl-tert-Butyl-Ether (MTBE) were not detected in the samples. The samples from the underground tank area did not reveal detections; these tanks are equipped with leak detection systems and these systems did not detect any tank leakage according to the airport representative.

Soil samples analyzed for CAM 17 metals showed some Chromium and Cobalt detections above the draft Regional Water Quality Control Board Environmental Screening Levels (February 2005 Interim draft RWQCB ESLs). However, it is our opinion that these and the other metals are interpreted at levels in soils and alluvium or fill that may be attributed to the surrounding regional geologic source rocks.

The excavations were backfilled with a pea gravel fill. Since a relatively large and deep excavation had been excavated at the remote fill station, the contractor used concrete slurry to help the sidewalls stand vertically (to hold back the pea gravel backfill) as the backfill proceeded. The thin slurry "wall" can be removed in the future if needed. The City had the pipeline contractor segregate the contaminated soil (about 18 tons) and shipped to the Altamont landfill in January 2006 (see attached soil disposal documents provided by the City).

### **1.4 June 2006 Soil Stockpile Sampling Summary**

CEL was requested to return to the site to sample a small surface stockpile of pea gravel (as reported in our letter dated June 14, 2006). Four soil samples of the stockpiled soil were collected for chemical analysis. The analytical results showed low concentrations of TPHG, Toluene, TPHD and Motor Oil Range Organics. Benzene and MTBE were not detected. CAM 17 metals showed Arsenic and Cobalt just over ESLs and Chromium at a level just over ten times the Soluble Threshold Limit Concentration (STLC). These metals are currently interpreted as being at levels in soil and/or alluvium that may be attributed to the surrounding regional geologic source rocks or fill source rock.



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Airport personnel informed CEL that this soil stockpile (estimated at several yards of pea gravel) was moved to another location on the south side of the airport upon receipt of the sample analysis results. It is CEL's understanding that most of this pea gravel has been on the airport property stockpiled in an area south of the airport runways.



## 2.0 Technical Approach

A Phase II Soil and Groundwater Sampling Site Assessment was performed with an "expedited approach" to initially ascertain the subsurface vertical and lateral extent of soil and groundwater contamination in the vicinity of the pipeline, remote fill area and underground tank locations. This information will be used to assess the general subsurface conditions, the uppermost groundwater aquifer occurrence, to initially locate vadose zone and dissolved groundwater contaminants. The ACHCSA representative reviewed proposed initial assessment boring work plan and added two additional borings, repositioned some borings and added a 2000-foot radius well search to the project to approve the work plan in their letter dated December 27, 2006.

Ten exploratory GeoProbe boring locations were selected for this assessment. The borings are positioned near the previous deep excavation area near the "remote" fill line, pipelines, former soil stockpile area, and underground tanks. Two borings were positioned in the surmised downgradient direction. Groundwater was estimated to be unconfined and to occur at depths of about 20-25 feet below surface grade and with a southwesterly flow direction according to the Zone 7 Water Agency regional groundwater elevation program data (April 2005). The site subsurface soil/alluvial sediments are anticipated to be clayey gravel and sandy to gravelly clay. The soil/sediments will be sampled to provide a profile of potential contaminants near the pipeline and remote fill, and the capillary fringe and/or upper aquifer contact. Groundwater was sampled from each boring. Borings were advanced up to about 32 to 36 feet to attempt to ascertain the presence of the upper contact of an underlying aquitard. Given the proximity to a highly used pipeline and fuel storage facility, the borings were advanced to gather information but at the minimum penetration depth. The GeoProbe exploratory boring locations are shown on Figures 1 and 2.



### 3.0 Field Methods - Exploratory Borings

Ten exploratory borings were drilled at the locations shown on Figure 3. The drilling permit was secured from the Zone 7 Water Agency, and an underground utility clearance was performed prior to doing the fieldwork. The work was coordinated with the airport operations. The boreholes were drilled with a GeoProbe truck mounted with drilling equipment that typically allows for relatively rapid assessment and subsurface sampling. All drilling equipment and sampling tools were clean prior to arriving to the site, between each sample and borehole and decontaminated before leaving the site.

The probe sample barrel was advanced collecting continuous cores of soil in each borehole. The sampler was then retrieved and disassembled, and the portion of the soil filled acetate liner retained for analysis was sealed with Teflon paper or foil and plastic end caps. Soil sample intervals retained for chemical analysis were cut from the liners at depths of suspected contaminant presence and various strata. All soil samples were labeled with the borehole number, date and project number, logged onto a chain-of-custody form, placed into a chilled ice chest on crushed ice and shipped to the laboratory.

The exploratory boreholes were lithologically logged using the Unified Soil Classification System under the supervision of a professional geologist. Additional lithologic information was collected to describe the subsurface stratigraphy. The borings were continuously sampled and soil cores retained in the acetate liners, at intervals of obvious contamination if present and at stratigraphic features of interest. Soil samples at roughly every four feet were field screened both visually and with a portable Thermo Environmental 580B photoionization detector (PID) for possible fuel hydrocarbon vapor. Environmental Instruments of Concord, California calibrated the PID unit prior to field use. Each soil sample was visually checked for evidence of staining, and groundwater samples were checked for presence of sheen.

The drill cuttings, sampler expendables (tips and acetate liners, etc.), grout and cleanup/decontamination and cement grout water were placed into labeled closed top drums and placed at the Client specified on-site location.

Upon completion of the borehole drilling and collection of soil and groundwater samples, the boreholes were backfilled with cement grout, placed from the bottom to top of the borehole with a tremie pipe as required by the permitting agency. A surface patch was placed as directed by the airport representative to match the pavement.





#### 4.0 Field Methods - Groundwater Sampling

Each exploratory boring was advanced to groundwater and sampled; groundwater samples were collected from within the uppermost aquifer strata observed in the borings. The groundwater samples collected from the boreholes were used for an initial reconnaissance of the site for dissolved groundwater contamination. Groundwater tended to enter all boreholes very slowly and some borehole collapse was experienced in some boreholes.

A brief summary of these field borehole groundwater sampling procedures follows: Each borehole was advanced into the uppermost aquifer and either temporarily cased and sampled with a disposable bailer, or used a Hydropunch discrete groundwater sampler tool advanced for sampling. Depth to groundwater measurements of the first encountered groundwater were made to the nearest one-one hundredth of one foot to surface grade, and also checked for the presence of separate phase product. The water entering the borehole was sampled using a clean disposable PVC bailer (or Hydropunch sampler after pushing the sampler to the aquifer and retracting the sampler barrel up to four feet to expose the sampling screen), and carefully poured into the appropriate laboratory prepared container with minimum cavitation and immediately sealed. Each water sample was labeled with the borehole number, date and project number, logged onto a chain-of-custody form, and placed in a chilled ice chest on crushed ice for transport to the laboratory.

Excess sample water and expendable items (such as disposable bailers, etc.) were placed in drums and left at the Client specified location.



## 5.0 Subsurface Conditions

Ten borings were drilled and sampled April 2-4, 2007 at the locations shown on Figure 2. The deepest boring was advanced to a depth of 36 feet. Borings 1, 2 and 3 were advanced around the remote fuel fill loading area; B-4 was drilled at the former soil stockpile location; B-5 and B-6 drilled along the pipeline and near the sump; B-6 and B-7 near the underground fuel pipeline and storage tanks; and Borings B-8, 9 and 10 in the apparent downgradient flow direction from the fill, pipeline and underground tanks.

Clay and sandy clay strata underlie the pavements to depths of about six to 10 feet. A sand and clayey sand stratum underlies the clay to depths of about 12 to 15 feet. These strata may grade into each other and contain variable amounts of dispersed clay. Another clay stratum underlies the sand and may contain variable amounts of dispersed sand and thin sand beds. A clayey sand stratum occurs near the vicinity of B-1 and B-2 (see Geologic Cross Sections A-A' and B-B', Figures 3A and 3B).

These strata are underlain at depths of about 24 to 27 feet to about 30 feet by sandy clay that contain sandy beds. This interval forms the uppermost aquifer strata. Groundwater occurs at depths of about 24 to 26 feet and appeared to be unconfined. The aquifer strata appear to contain thin sandy beds with dispersed clay, and sandy clay beds that appear somewhat discontinuous and may laterally grade into each other at depths between about 24 to 28 feet. Groundwater entry into most boreholes was slow. Water levels did not appear to rise in the open boreholes and the water yield was low. Some apparent collapse of strata and/or swelling of clay strata precluded obtaining "static" water levels in most boreholes; therefore a rough plot of groundwater flow was not attempted from this boring data. Zone 7 groundwater plot data indicates a general southwestern flow direction.

Clay strata appear to underlie the uppermost water bearing strata at depths of 28 to 30 feet. These underlying clay strata did not yield water and the borings and Hydropunch samplers were terminated into this stratum. Field evidence of vadose soil, aquifer soil or dissolved contaminants were not observed in any borehole on the basis of PID readings, and field observations for stains, odor or sheen on water.



## 6.0 Chemical Analysis and Results

Soil samples (selected in boreholes as indicated from field observations) and groundwater samples were analyzed at McCampbell Analytical, Inc., a certified analytical laboratory. Samples were tested for the following; Total Petroleum Hydrocarbons as Gasoline (TPHG) and Diesel (TPHD) and Jet Fuel (TPHJF), Benzene (B), Toluene (T), Ethylbenzene (E), Xylene (X), and Volatile Organic Compounds (VOCs) including Methyl-tert-Butyl-Ether (MTBE), and fuel oxygenates tert-Amyl-Methyl-Ether, Ethyl-tert-Butyl-Ether, Di-Isopropyl Ether and tert-Butyl Alcohol, 1,2-Dichloroethane (1,2-DCA), Methanol and Ethanol using EPA Methods 3510/8015, 5030, 8020 and 8260B. The data results are tabulated at the end of this report and the laboratory analytical reports are attached in Appendix C (see Tables 1 and 2).



## 7.0 Discussion

The soil chemical data shows the contaminants TPHG, TPHJF, BTEX, fuel oxygenates, 1,2-DCA, Ethanol and Methanol were not detected in any soil sample. Soil sample B-1-1@2-2.5 feet showed 1.0 milligram per kilogram (mg/kg) TPHD detected. All other soil samples showed that TPHD was not detected.

Groundwater data showed the water samples from Borings 1 through 10 revealed that TPHG, TPHJF, BTEX, fuel oxygenates, 1,2-DCA, Ethanol and Methanol were not detected in any groundwater sample. Dissolved TPHD was detected in Borings B-1, 2, 4, 7 and 8 at concentrations between 55 and 110 micrograms per liter (ug/l). TPHJF was detected in Borings B-1, 2, 4 and 8 at concentrations between 53 and 86 ug/l. The laboratory notes that Diesel range compounds were significant but not a recognizable pattern for water samples from B-1, 2 and 4 (see Figure 4).

The previous pipeline repair/upgrade reported contaminants appear limited to area observed during excavation in November 2005. The excavated soil that was removed contained fuel contaminants and was disposed as discussed above.

Dissolved contaminants are limited to TPHD and TPHJF in Borings 1, 2, 4, 7 and 8. The detections were near or slightly above the detection limit and no other fuel or volatile compound contaminants were present. The presence of TPHD and TPHJF suggests a very minor amount of dissolved TPHD and TPHJF reached the groundwater and may have moved about 80 feet west of the remote fuel facility. The laboratory reports that some of these do not match a TPHD pattern and are interpreted as degraded.



## 8.0 2000-foot Radius Well Search

CEL performed a 2000-foot well search for wells within that radius of the project site. The State Department of Water Resources (DWR), City of Livermore and Alameda Zone 7 Water Agency were contacted regarding available well location and information. The available data have been summarized on the attached table (see Table 3) and the well locations plotted on Figure 5. Some of the well location information is incomplete so CEL plotted locations as close as the map or location information allows; wells were plotted in the center of the tract if the logs were not specific to location. Also the well data could contain duplicate logs, poor reproductions, and some logs and well construction details, yield, depth, and other information is incomplete. Some logs were apparently compiled from well owner interviews and then transferred onto well information forms up to several years after the well was constructed.

The information from Zone 7 is presented as sent to CEL that shows; the radius aerial map and well locations and their table of summarized well information (see Table and Appendix D). The Zone 7 well location map uses an aerial photograph and was crosschecked to the DWR information for duplicate well locations.

The well data show that 15 wells are within the 2000-foot radius; some additional wells near to the radius boundary are also included. Approximately six wells have been destroyed and eight are assumed active as irrigation or monitoring wells. The status of 13 wells is currently unknown.

There is one City of Livermore municipal water supply well (currently reported as inactive) just upgradient (northeast) of the site (T3S R1E 1P3 DWR #259569). The available well seal information for this municipal well shows a 110-foot cemented conductor casing and pumps groundwater from strata below that depth. This seal exists through the depth interval of the uppermost water bearing strata at about the 25 to 30 foot depth. A second City well at T3S R1E 1N1 (DWR #701237) is 1,000 feet west-northwest downgradient of the site and the seal from this well is reported from 0 to 220 feet. The status of this well is assumed active but that status was not verified. Telephone inquiries to the City of Livermore did not reveal any other information regarding these wells.



## 9.0 Initial Site Conceptual Model

The site is underlain by alluvium composed of interbedded sandy and clayey strata to a depth drilled of about 36 feet. Large alluvial aquifers underlie the area at depths of about 50 to 70 feet that produce large quantities of water used for drinking, agricultural and industrial uses. A brief review of the 2005 Zone 7 Groundwater Management Plan indicates that regional groundwater flow is westerly to southwesterly in the area of the airport. Subsurface information collected in this study shows that a thin unconfined shallow aquifer occurs at a depth of about 25 to 30 feet at the remote fuel fill and underground tank complex. This aquifer may contain interbeds of clayey strata and display lateral and vertical variation. A groundwater flow plot was not prepared due to slow groundwater entry and borehole collapse in some holes so "static" water level measurements were not collected in the study for an estimated groundwater flow plot, however flow in the shallow aquifer is assumed westerly. Ground monitoring well logs about 2200 feet southwest of the pipeline and underground tank location show somewhat similar hydrogeology and slightly deeper shallow groundwater occurrence for the shallow aquifer.

The project is located in the northeastern corner of the Livermore Airport at the aircraft fueling fill and underground tank complex. The potential receptors that are near to this fuel complex site include; groundwater wells, onsite airport personnel, Arroyo Las Positas Creek flows about 500 feet north of the site. The area is used for access to fuel tanks and fuel reception and storage and light aircraft parking. The City municipal well is reported in inactive or standby status and is not pumping water at this time. Aircraft operations and facilities include the control tower about two hundred yards from the fuel facility and office and reception complex about three hundred yards from the facility.

The 2000-foot radius well search indicates that several wells have been abandoned in the airport well search area and several monitoring wells are present to the north and west of the site. One City of Livermore municipal supply well is reported present within several hundred feet northeast of the aircraft fuel facility. This City of Livermore well has a conductor and seal that extend over 100 feet; this corresponds to sealing through the uppermost aquifer and the well screened interval draws water from depths of several hundred feet. Another City well occurs about 1,000 feet west northwest and also has a long well seal. No pumping wells exist on-site according to discussions with Airport personnel. A review of the well logs shows that water wells producing water for potable and irrigation use is drawn from depths below 50 feet or deeper and more typically large wells draw water from below 150 to 200 feet and deeper.

The site investigation data reported herein shows that petroleum contaminants were not present in the subsurface soil except at B-1 in shallow soil. The remaining soil samples in sandy and clayey texture soil/sediment showed that contaminants were not detected. Groundwater samples showed very low detections of TPHD and TPHJF that did not contain volatile fuel compounds. Airport personnel check fuel pipeline and underground tank systems daily and monthly and per regulations and monitoring requirements for their fueling facilities. Previous excavation in the pipeline and remote fill area did remove petroleum-contaminated soil that was disposed off-site, removing a known source of subsurface contaminants.



## 10.0 Conclusions and Recommendations

CEL has completed a Phase II Soil and Groundwater Investigation in the area of the Livermore Airport Jet Fuel Line Replacement. At the time of the pipeline work, some petroleum-contaminated soil was observed and removed from the area. On the basis of that work, the ACHCSA requested additional subsurface soil and groundwater assessment study as well as a 2000-foot radius well search.

Ten exploratory borings were drilled and sampled in the pipeline and underground tank complex area. The borings were advanced and soil sampled in the vadose zone and to the uppermost aquifer and just into the underlying aquitard. Groundwater occurs at depths of about 24 to 27 feet and appeared to be unconfined. The aquifer strata appear to contain thin sandy beds with dispersed clay, and sandy clay beds that laterally grade into each other at depths between about 24 to 28 feet. An aquitard stratum appears to occur throughout the area below a depth of about 30 feet. No field evidence of subsurface contamination as odor, stain or vapor was observed in the field.

The soil chemical data show that contaminants TPHG, TPHJF, BTEX, fuel oxygenates, 1,2-DCA, Ethanol and Methanol were not detected in any soil sample. One soil sample at B-1@2.0-2.5 feet showed 1.0 mg/kg TPHD detected. All other soil samples showed that TPHD was not detected.

Groundwater data showed the water samples from Borings 1 through 10 revealed that TPHG, TPHJF, BTEX, fuel oxygenates, 1,2-DCA, Ethanol and Methanol were not detected in any groundwater sample. Dissolved TPHD was detected in Borings B-1, 2, 4, 7 and 8 at concentrations between 55 and 110 micrograms per liter (ug/l). TPHJF was detected in Borings B-1, 2, 4 and 8 at concentrations between 53 and 86 ug/l. The laboratory notes that Diesel range compounds were significant but not in a recognizable pattern for water samples from B-1, 2 and 4.

The site region is underlain by large alluvial aquifers that produce large quantities of water for drinking, agricultural and industrial use. The chemical analysis of the soil samples shows that contaminants were not present. Very low levels of dissolved TPHD and TPHJF occur just downgradient of the pipeline and underground tanks, however some of the detections do not match laboratory patterns. It is our opinion that these detections represent very minor amounts of fuel that may be from the area of the excavated soil at the remote fill. Evidence of widespread volatile contaminants was not observed in the soil and groundwater subsurface data. Previous excavation in the pipeline and remote fill area did remove petroleum-contaminated soil that was disposed off-site in 2006, removing a known source of subsurface contaminants.

On the basis of the investigation data, there is no widespread leakage of petroleum aircraft fuel from the remote fill, pipeline or existing underground tanks. In our opinion, further work is not warranted at this time.



## 11.0 Limitations

This report has been prepared specifically for the Site at the City of Livermore Airport Underground Fuel Pipeline and Tank location at the Livermore Airport in Livermore, California and was done according to the current State and local agency suggested guidance documents for these investigations. The interpretations, conclusions and recommendations made herein are based on the data and analysis for the soil and water samples collected from the on-site exploratory boring locations. Conditions of the property can change over time and the use of this report by third parties is entirely at their own risk. Please note that reports of contamination must be submitted to the agencies in a timely manner. This report has been prepared for use solely of our Client. Reports of on-site contaminants must be reported to the oversight agencies in a timely manner. This report shall not be relied upon by or transferred to any other party, or used for any other purpose, without the express written authorization of our Client, and Consolidated Engineering Laboratories, Inc. is not responsible for errors in laboratory analysis and reporting, nor for information not available, nor unreported or unknown sources of site contamination during the course of the study, and no warranty or guarantee is expressed or implied therein.





## References

Alameda County Health Care Services Agency letter dated September 22, 2006 to Mr. Harjit Sidhu, City of Livermore, Engineering Department, 1052 S. Livermore Avenue, Livermore, CA 94550, Subject: Fuel Case No. RO0002090, City of Livermore Airport, 636 Terminal Drive, Livermore, CA 94550-Request of Workplan," with attachments.

Alameda County Health Care Services Agency letter dated December 27, 2006 to Mr. Mike Irby, City of Livermore, Engineering Department, 1052 S. Livermore Avenue, Livermore, CA 94550, Subject: Fuel Case No. RO0002090, City of Livermore Airport, 636 Terminal Drive, Livermore, CA 94550-Work Plan Comments with attachments.

City of Livermore Soil Disposal Documentation.

Consolidated Engineering Laboratories, Inc., letter report dated November 18, 2005, Revised December 14, 2005, City of Livermore City Hall, Engineering Division 1052 South Livermore Avenue Livermore, California 94550-4899 Attention: Robert Tingley Associate Engineering Technician, Subject: Environmental Sampling, Testing and Evaluation of Soil Livermore Airport Jet Fuel Line Replacement, Livermore, California, CEL Proposal No. 81-01824-PW (10-00431-PW-CS).

Consolidated Engineering Laboratories, Inc., letter report dated June 14, 2006 City of Livermore City Hall, Engineering Division 1052 South Livermore Avenue Livermore, California 94550-4899 Attention: Robert Tingley - Associate Engineering Technician, Subject: Environmental Sampling, Testing and Evaluation of Soil Livermore Airport Jet Fuel Line Replacement, Livermore, California, CEL Proposal No. 81-01824-PW (10-00431-PW-CS).

Dibblee, T. W., 2006, Geologic Map of the Livermore Quadrangle Contra Costa and Alameda Counties, California: Dibblee Geology Center Map #DF-196, Santa Barbara Museum of Natural History.

Department of Water Resources, June 1974: Bulletin 118-2, Evaluation of the Ground Water Resources: Livermore and Sunol Valleys.

Department of Water Resources, Request for Well Information, 2000-foot Radius Well Search, 636 Terminal Circle, Airport Underground Tank and Pipeline Site.

Zone 7 Water Agency, 100 North Canyons Parkway, Livermore, CA, Request for Well Information, 2000-foot Radius Well Search, 636 Terminal Circle, Airport Underground Tank and Pipeline Site.

Zone 7 Water Agency, 100 North Canyons Parkway, Livermore, CA, 2005, Annual Report of the Groundwater Management Plan, text, appendices and figures.



Table 1. Soil Chemical Data Boring B-1

|                            | B-1<br>@2-2.5' | B-1-3<br>@11.5-12' | B-1-5<br>@19.5-20' | B-1-7<br>@27.5-28' | B-1-8<br>@31.5-32' |
|----------------------------|----------------|--------------------|--------------------|--------------------|--------------------|
| TPHG (mg/kg)               | <1.0           | <1.0               | <1.0               | <1.0               | <1.0               |
| TPHD (mg/kg)               | 1.0            | <1.0               | <1.0               | <1.0               | <1.0               |
| TPHJF (mg/kg)              | <1.0           | <1.0               | <1.0               | <1.0               | <1.0               |
| Benzene (mg/kg)            | <0.005         | <0.005             | <0.005             | <0.005             | <0.005             |
| Toluene (mg/kg)            | <0.005         | <0.005             | <0.005             | <0.005             | <0.005             |
| Ethylbenzene (mg/kg)       | <0.005         | <0.005             | <0.005             | <0.005             | <0.005             |
| Xylenes (mg/kg)            | <0.005         | <0.005             | <0.005             | <0.005             | <0.005             |
| MTBE (mg/kg)               | <0.005         | <0.005             | <0.005             | <0.005             | <0.005             |
| ETBE (mg/kg)               | <0.005         | <0.005             | <0.005             | <0.005             | <0.005             |
| DIPE (mg/kg)               | <0.005         | <0.005             | <0.005             | <0.005             | <0.005             |
| TAME (mg/kg)               | <0.005         | <0.005             | <0.005             | <0.005             | <0.005             |
| TBA (mg/kg)                | <0.05          | <0.05              | <0.05              | <0.05              | <0.05              |
| 1,2-Dichloroethane (mg/kg) | <0.005         | <0.005             | <0.005             | <0.005             | <0.005             |
| Ethanol (mg/kg)            | <0.25          | <0.25              | <0.25              | <0.25              | <0.25              |
| Methanol (mg/kg)           | <2.5           | <2.5               | <2.5               | <2.5               | <2.5               |

None Detected at detection limit shown, see laboratory reports. Mg/kg – Milligrams per kilogram.

Table 1 con't. Soil Chemical Data Boring B-2

|                            | B-2-1<br>@3.5-4.0' | B-2-2<br>@7.5-8.0' | B-2-4<br>@15.5-16.0' | B-2-7<br>@27.5-28' |
|----------------------------|--------------------|--------------------|----------------------|--------------------|
| TPHG (mg/kg)               | <1.0               | <1.0               | <1.0                 | <1.0               |
| TPHD (mg/kg)               | <1.0               | <1.0               | <1.0                 | <1.0               |
| TPHJF (mg/kg)              | <1.0               | <1.0               | <1.0                 | <1.0               |
| Benzene (mg/kg)            | <0.005             | <0.005             | <0.005               | <0.005             |
| Toluene (mg/kg)            | <0.005             | <0.005             | <0.005               | <0.005             |
| Ethylbenzene (mg/kg)       | <0.005             | <0.005             | <0.005               | <0.005             |
| Xylenes (mg/kg)            | <0.005             | <0.005             | <0.005               | <0.005             |
| MTBE (mg/kg)               | <0.005             | <0.005             | <0.005               | <0.005             |
| ETBE (mg/kg)               | <0.005             | <0.005             | <0.005               | <0.005             |
| DIPE (mg/kg)               | <0.005             | <0.005             | <0.005               | <0.005             |
| TAME (mg/kg)               | <0.005             | <0.005             | <0.005               | <0.005             |
| TBA (mg/kg)                | <0.05              | <0.05              | <0.05                | <0.05              |
| 1,2-Dichloroethane (mg/kg) | <0.05              | <0.05              | <0.05                | <0.05              |
| Ethanol (mg/kg)            | <0.005             | <0.005             | <0.005               | <0.005             |
| Methanol (mg/kg)           | <0.25              | <0.25              | <0.25                | <0.25              |

None Detected at detection limit shown, see laboratory reports. Mg/kg – Milligrams per kilogram.



**Table 1, con't. Soil Chemical Data Boring B-3**

|                            | B-3-1<br>@2.5-3.0' | B-3-2<br>@7.5-8.0' | B-3-3<br>@11.5-12.0' | B-3-4<br>@15.5-16.0' | B-3-5<br>@19.5-20.0' | B-3-6<br>@23.5-24.0' |
|----------------------------|--------------------|--------------------|----------------------|----------------------|----------------------|----------------------|
| TPHG (mg/kg)               | <1.0               | <1.0               | <1.0                 | <1.0                 | <1.0                 | <1.0                 |
| TPHD (mg/kg)               | <1.0               | <1.0               | <1.0                 | <1.0                 | <1.0                 | <1.0                 |
| TPHJF (mg/kg)              | <1.0               | <1.0               | <1.0                 | <1.0                 | <1.0                 | <1.0                 |
| Benzene (mg/kg)            | <0.005             | <0.005             | <0.005               | <0.005               | <0.005               | <0.005               |
| Toluene (mg/kg)            | <0.005             | <0.005             | <0.005               | <0.005               | <0.005               | <0.005               |
| Ethylbenzene (mg/kg)       | <0.005             | <0.005             | <0.005               | <0.005               | <0.005               | <0.005               |
| Xylenes (mg/kg)            | <0.005             | <0.005             | <0.005               | <0.005               | <0.005               | <0.005               |
| MTBE (mg/kg)               | <0.005             | <0.005             | <0.005               | <0.005               | <0.005               | <0.005               |
| ETBE (mg/kg)               | <0.005             | <0.005             | <0.005               | <0.005               | <0.005               | <0.005               |
| DIPE (mg/kg)               | <0.005             | <0.005             | <0.005               | <0.005               | <0.005               | <0.005               |
| TAME (mg/kg)               | <0.005             | <0.005             | <0.005               | <0.005               | <0.005               | <0.005               |
| TBA (mg/kg)                | <0.05              | <0.05              | <0.05                | <0.05                | <0.05                | <0.05                |
| 1,2-Dichloroethane (mg/kg) | <0.05              | <0.05              | <0.05                | <0.05                | <0.05                | <0.05                |
| Ethanol (mg/kg)            | <0.005             | <0.005             | <0.005               | <0.005               | <0.005               | <0.005               |
| Methanol (mg/kg)           | <0.25              | <0.25              | <0.25                | <0.25                | <0.25                | <0.25                |

None Detected at detection limit shown, see laboratory reports. Mg/kg – Milligrams per kilogram.

**Table 1, con't. Soil Chemical Data Boring B-4**

|                            | B-4-1<br>@2.0-2.5' | B-4-2<br>@7.5-8.0' | B-4-4<br>@15.5-16.0' | B-4-5<br>@19.5-20.0' | B-4-6<br>@23.5-24.0' |
|----------------------------|--------------------|--------------------|----------------------|----------------------|----------------------|
| TPHG (mg/kg)               | <1.0               | <1.0               | <1.0                 | <1.0                 | <1.0                 |
| TPHD (mg/kg)               | <1.0               | <1.0               | <1.0                 | <1.0                 | <1.0                 |
| TPHJF (mg/kg)              | <1.0               | <1.0               | <1.0                 | <1.0                 | <1.0                 |
| Benzene (mg/kg)            | <0.005             | <0.005             | <0.005               | <0.005               | <0.005               |
| Toluene (mg/kg)            | <0.005             | <0.005             | <0.005               | <0.005               | <0.005               |
| Ethylbenzene (mg/kg)       | <0.005             | <0.005             | <0.005               | <0.005               | <0.005               |
| Xylenes (mg/kg)            | <0.005             | <0.005             | <0.005               | <0.005               | <0.005               |
| MTBE (mg/kg)               | <0.005             | <0.005             | <0.005               | <0.005               | <0.005               |
| ETBE (mg/kg)               | <0.005             | <0.005             | <0.005               | <0.005               | <0.005               |
| DIPE (mg/kg)               | <0.005             | <0.005             | <0.005               | <0.005               | <0.005               |
| TAME (mg/kg)               | <0.005             | <0.005             | <0.005               | <0.005               | <0.005               |
| TBA (mg/kg)                | <0.05              | <0.05              | <0.05                | <0.05                | <0.05                |
| 1,2-Dichloroethane (mg/kg) | <0.05              | <0.05              | <0.05                | <0.05                | <0.05                |
| Ethanol (mg/kg)            | <0.005             | <0.005             | <0.005               | <0.005               | <0.005               |
| Methanol (mg/kg)           | <0.25              | <0.25              | <0.25                | <0.25                | <0.25                |

None Detected at detection limit shown, see laboratory reports. Mg/kg – Milligrams per kilogram.



Table 1, con't. Soil Chemical Data Boring B-5

|                            | B-5-1<br>@3.5-4.0' | B-5-2<br>@7.5-8.0' | B-5-3<br>@11.5-12.0' | B-5-4<br>@15.5-16.0' | B-5-6<br>@23.5-24.0' |
|----------------------------|--------------------|--------------------|----------------------|----------------------|----------------------|
| TPHG (mg/kg)               | <1.0               | <1.0               | <1.0                 | <1.0                 | <1.0                 |
| TPHD (mg/kg)               | <1.0               | <1.0               | <1.0                 | <1.0                 | <1.0                 |
| TPHJF (mg/kg)              | <1.0               | <1.0               | <1.0                 | <1.0                 | <1.0                 |
| Benzene (mg/kg)            | ≤0.005             | ≤0.005             | ≤0.005               | ≤0.005               | ≤0.005               |
| Toluene (mg/kg)            | ≤0.005             | ≤0.005             | ≤0.005               | ≤0.005               | ≤0.005               |
| Ethylbenzene (mg/kg)       | ≤0.005             | ≤0.005             | ≤0.005               | ≤0.005               | ≤0.005               |
| Xylenes (mg/kg)            | ≤0.005             | ≤0.005             | ≤0.005               | ≤0.005               | ≤0.005               |
| MTBE (mg/kg)               | ≤0.005             | ≤0.005             | ≤0.005               | ≤0.005               | ≤0.005               |
| ETBE (mg/kg)               | ≤0.005             | ≤0.005             | ≤0.005               | ≤0.005               | ≤0.005               |
| DIPE (mg/kg)               | ≤0.005             | ≤0.005             | ≤0.005               | ≤0.005               | ≤0.005               |
| TAME (mg/kg)               | ≤0.005             | ≤0.005             | ≤0.005               | ≤0.005               | ≤0.005               |
| TBA (mg/kg)                | ≤0.05              | ≤0.05              | ≤0.05                | ≤0.05                | ≤0.05                |
| 1,2-Dichloroethane (mg/kg) | ≤0.05              | ≤0.05              | ≤0.05                | ≤0.05                | ≤0.05                |
| Ethanol (mg/kg)            | ≤0.005             | ≤0.005             | ≤0.005               | ≤0.005               | ≤0.005               |
| Methanol (mg/kg)           | ≤0.25              | ≤0.25              | ≤0.25                | ≤0.25                | ≤0.25                |

None Detected at detection limit shown, see laboratory reports. Mg/kg – Milligrams per kilogram.

Table 1, con't. Soil Chemical Data Boring B-6

|                            | B-6-1<br>@3.5-4.0' | B-6-2<br>@7.5-8.0' | B-6-4<br>@15.5-16.0' | B-6-6<br>@23.5-24.0' | B-6-8<br>@31.5-32' |
|----------------------------|--------------------|--------------------|----------------------|----------------------|--------------------|
| TPHG (mg/kg)               | <1.0               | <1.0               | <1.0                 | <1.0                 | <1.0               |
| TPHD (mg/kg)               | <1.0               | <1.0               | <1.0                 | <1.0                 | <1.0               |
| TPHJF (mg/kg)              | <1.0               | <1.0               | <1.0                 | <1.0                 | <1.0               |
| Benzene (mg/kg)            | ≤0.005             | ≤0.005             | ≤0.005               | ≤0.005               | ≤0.005             |
| Toluene (mg/kg)            | ≤0.005             | ≤0.005             | ≤0.005               | ≤0.005               | ≤0.005             |
| Ethylbenzene (mg/kg)       | ≤0.005             | ≤0.005             | ≤0.005               | ≤0.005               | ≤0.005             |
| Xylenes (mg/kg)            | ≤0.005             | ≤0.005             | ≤0.005               | ≤0.005               | ≤0.005             |
| MTBE (mg/kg)               | ≤0.005             | ≤0.005             | ≤0.005               | ≤0.005               | ≤0.005             |
| ETBE (mg/kg)               | ≤0.005             | ≤0.005             | ≤0.005               | ≤0.005               | ≤0.005             |
| DIPE (mg/kg)               | ≤0.005             | ≤0.005             | ≤0.005               | ≤0.005               | ≤0.005             |
| TAME (mg/kg)               | ≤0.005             | ≤0.005             | ≤0.005               | ≤0.005               | ≤0.005             |
| TBA (mg/kg)                | ≤0.05              | ≤0.05              | ≤0.05                | ≤0.05                | ≤0.05              |
| 1,2-Dichloroethane (mg/kg) | ≤0.05              | ≤0.05              | ≤0.05                | ≤0.05                | ≤0.05              |
| Ethanol (mg/kg)            | ≤0.005             | ≤0.005             | ≤0.005               | ≤0.005               | ≤0.005             |
| Methanol (mg/kg)           | ≤0.25              | ≤0.25              | ≤0.25                | ≤0.25                | ≤0.25              |

None Detected at detection limit shown, see laboratory reports. Mg/kg – Milligrams per kilogram.



Table 1, con't. Soil Chemical Data Boring B-7

|                               | B-7-3<br>@11.5-12.0' | B-7-4<br>@15.5-16.0' | B-7-5<br>@19.5-20.0' | B-7-6<br>@23.5-24.0' |
|-------------------------------|----------------------|----------------------|----------------------|----------------------|
| TPHG (mg/kg)                  | <1.0                 | <1.0                 | <1.0                 | <1.0                 |
| TPHD (mg/kg)                  | <1.0                 | <1.0                 | <1.0                 | <1.0                 |
| TPHJF (mg/kg)                 | <1.0                 | <1.0                 | <1.0                 | <1.0                 |
| Benzene (mg/kg)               | <0.005               | <0.005               | <0.005               | <0.005               |
| Toluene (mg/kg)               | <0.005               | <0.005               | <0.005               | <0.005               |
| Ethylbenzene (mg/kg)          | <0.005               | <0.005               | <0.005               | <0.005               |
| Xylenes (mg/kg)               | <0.005               | <0.005               | <0.005               | <0.005               |
| MTBE (mg/kg)                  | <0.005               | <0.005               | <0.005               | <0.005               |
| ETBE (mg/kg)                  | <0.005               | <0.005               | <0.005               | <0.005               |
| DIPE (mg/kg)                  | <0.005               | <0.005               | <0.005               | <0.005               |
| TAME (mg/kg)                  | <0.005               | <0.005               | <0.005               | <0.005               |
| TBA (mg/kg)                   | <0.05                | <0.05                | <0.05                | <0.05                |
| 1,2-Dichloroethane<br>(mg/kg) | <0.05                | <0.05                | <0.05                | <0.05                |
| Ethanol (mg/kg)               | <0.005               | <0.005               | <0.005               | <0.005               |
| Methanol (mg/kg)              | <0.25                | <0.25                | <0.25                | <0.25                |

None Detected at detection limit shown, see laboratory reports. Mg/kg – Milligrams per kilogram.

Table 1, con't. Soil Chemical Data Boring B-8

|                               | B-8-1<br>@3.5-4.0 | B-8-4<br>@15.5-16.0' | B-8-6<br>@23.5-24.0' |
|-------------------------------|-------------------|----------------------|----------------------|
| TPHG (mg/kg)                  | <1.0              | <1.0                 | <1.0                 |
| TPHD (mg/kg)                  | <1.0              | <1.0                 | <1.0                 |
| TPHJF (mg/kg)                 | <1.0              | <1.0                 | <1.0                 |
| Benzene (mg/kg)               | <0.005            | <0.005               | <0.005               |
| Toluene (mg/kg)               | <0.005            | <0.005               | <0.005               |
| Ethylbenzene (mg/kg)          | <0.005            | <0.005               | <0.005               |
| Xylenes (mg/kg)               | <0.005            | <0.005               | <0.005               |
| MTBE (mg/kg)                  | <0.005            | <0.005               | <0.005               |
| ETBE (mg/kg)                  | <0.005            | <0.005               | <0.005               |
| DIPE (mg/kg)                  | <0.005            | <0.005               | <0.005               |
| TAME (mg/kg)                  | <0.005            | <0.005               | <0.005               |
| TBA (mg/kg)                   | <0.05             | <0.05                | <0.05                |
| 1,2-Dichloroethane<br>(mg/kg) | <0.05             | <0.05                | <0.05                |
| Ethanol (mg/kg)               | <0.005            | <0.005               | <0.005               |
| Methanol (mg/kg)              | <0.25             | <0.25                | <0.25                |

None Detected at detection limit shown, see laboratory reports. Mg/kg – Milligrams per kilogram.



Table 1, con't. Soil Chemical Data Boring B-9

|                            | B-9-1<br>@3.5-4.0' | B-9-4<br>@15.5-16.0' | B-3-6<br>@23.5-24.0' |
|----------------------------|--------------------|----------------------|----------------------|
| TPHG (mg/kg)               | ≤1.0               | ≤1.0                 | ≤1.0                 |
| TPHD (mg/kg)               | ≤1.0               | ≤1.0                 | ≤1.0                 |
| TPHJF (mg/kg)              | ≤1.0               | ≤1.0                 | ≤1.0                 |
| Benzene (mg/kg)            | ≤0.005             | ≤0.005               | ≤0.005               |
| Toluene (mg/kg)            | ≤0.005             | ≤0.005               | ≤0.005               |
| Ethylbenzene (mg/kg)       | ≤0.005             | ≤0.005               | ≤0.005               |
| Xylenes (mg/kg)            | ≤0.005             | ≤0.005               | ≤0.005               |
| MTBE (mg/kg)               | ≤0.005             | ≤0.005               | ≤0.005               |
| ETBE (mg/kg)               | ≤0.005             | ≤0.005               | ≤0.005               |
| DIPE (mg/kg)               | ≤0.005             | ≤0.005               | ≤0.005               |
| TAME (mg/kg)               | ≤0.005             | ≤0.005               | ≤0.005               |
| TBA (mg/kg)                | ≤0.05              | ≤0.05                | ≤0.05                |
| 1,2-Dichloroethane (mg/kg) | ≤0.05              | ≤0.05                | ≤0.05                |
| Ethanol (mg/kg)            | ≤0.005             | ≤0.005               | ≤0.005               |
| Methanol (mg/kg)           | ≤0.25              | ≤0.25                | ≤0.25                |

None Detected at detection limit shown, see laboratory reports. Mg/kg – Milligrams per kilogram.

Table 1, con't. Soil Chemical Data Boring B-10

|                            | B-10-1<br>@2.5-3.0' | B-10-4<br>@15.5-16.0' | B-10-6<br>@23.5-24.0' |
|----------------------------|---------------------|-----------------------|-----------------------|
| TPHG (mg/kg)               | ≤1.0                | ≤1.0                  | ≤1.0                  |
| TPHD (mg/kg)               | ≤1.0                | ≤1.0                  | ≤1.0                  |
| TPHJF (mg/kg)              | ≤1.0                | ≤1.0                  | ≤1.0                  |
| Benzene (mg/kg)            | ≤0.005              | ≤0.005                | ≤0.005                |
| Toluene (mg/kg)            | ≤0.005              | ≤0.005                | ≤0.005                |
| Ethylbenzene (mg/kg)       | ≤0.005              | ≤0.005                | ≤0.005                |
| Xylenes (mg/kg)            | ≤0.005              | ≤0.005                | ≤0.005                |
| MTBE (mg/kg)               | ≤0.005              | ≤0.005                | ≤0.005                |
| ETBE (mg/kg)               | ≤0.005              | ≤0.005                | ≤0.005                |
| DIPE (mg/kg)               | ≤0.005              | ≤0.005                | ≤0.005                |
| TAME (mg/kg)               | ≤0.005              | ≤0.005                | ≤0.005                |
| TBA (mg/kg)                | ≤0.05               | ≤0.05                 | ≤0.05                 |
| 1,2-Dichloroethane (mg/kg) | ≤0.05               | ≤0.05                 | ≤0.05                 |
| Ethanol (mg/kg)            | ≤0.005              | ≤0.005                | ≤0.005                |
| Methanol (mg/kg)           | ≤0.25               | ≤0.25                 | ≤0.25                 |

None Detected at detection limit shown, see laboratory reports. Mg/kg – Milligrams per kilogram.



Table 2. Groundwater Chemical Data Borings B-1 through B-10

|                           | B-1* | B-2  | B-3  | B-4* | B-5  | B-6  | B-7  | B-8# | B-9  | B-10 |
|---------------------------|------|------|------|------|------|------|------|------|------|------|
| TPHG (ug/l)               | <50  | <50  | <50  | <50  | <50  | <50  | <50  | <50  | <50  | <50  |
| TPHD (ug/l)               | 84   | 100  | <50  | 110  | <50  | <50  | 55   | 110  | <50  | <50  |
| TPHJF (ug/l)              | 53   | 81   | <50  | 86   | <50  | <50  | <50  | 94   | <50  | <50  |
| Benzene (ug/l)            | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Toluene (ug/l)            | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Ethylbenzene (ug/l)       | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Xylenes (ug/l)            | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| MTBE (ug/l)               | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| ETBE (ug/l)               | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| DIPE (ug/l)               | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| TAME (ug/l)               | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| TBA (ug/l)                | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| 1,2-Dichloroethane (ug/l) | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Ethanol (ug/l)            | <50  | <50  | <50  | <50  | <50  | <50  | <50  | <50  | <50  | <50  |
| Methanol (ug/l)           | <500 | <500 | <500 | <500 | <500 | <500 | <500 | <500 | <500 | <500 |

None Detected at detection limit shown, see laboratory reports. Ug/l – Micrograms per liter.

\* - Laboratory reports that diesel range compounds are significant but no recognizable pattern and oil range compounds are significant.

# - A Laboratory report that diesel range compounds are significant and about one percent of the sample was sediment.

## **FIGURES**

**Figure 1 – Location Map**

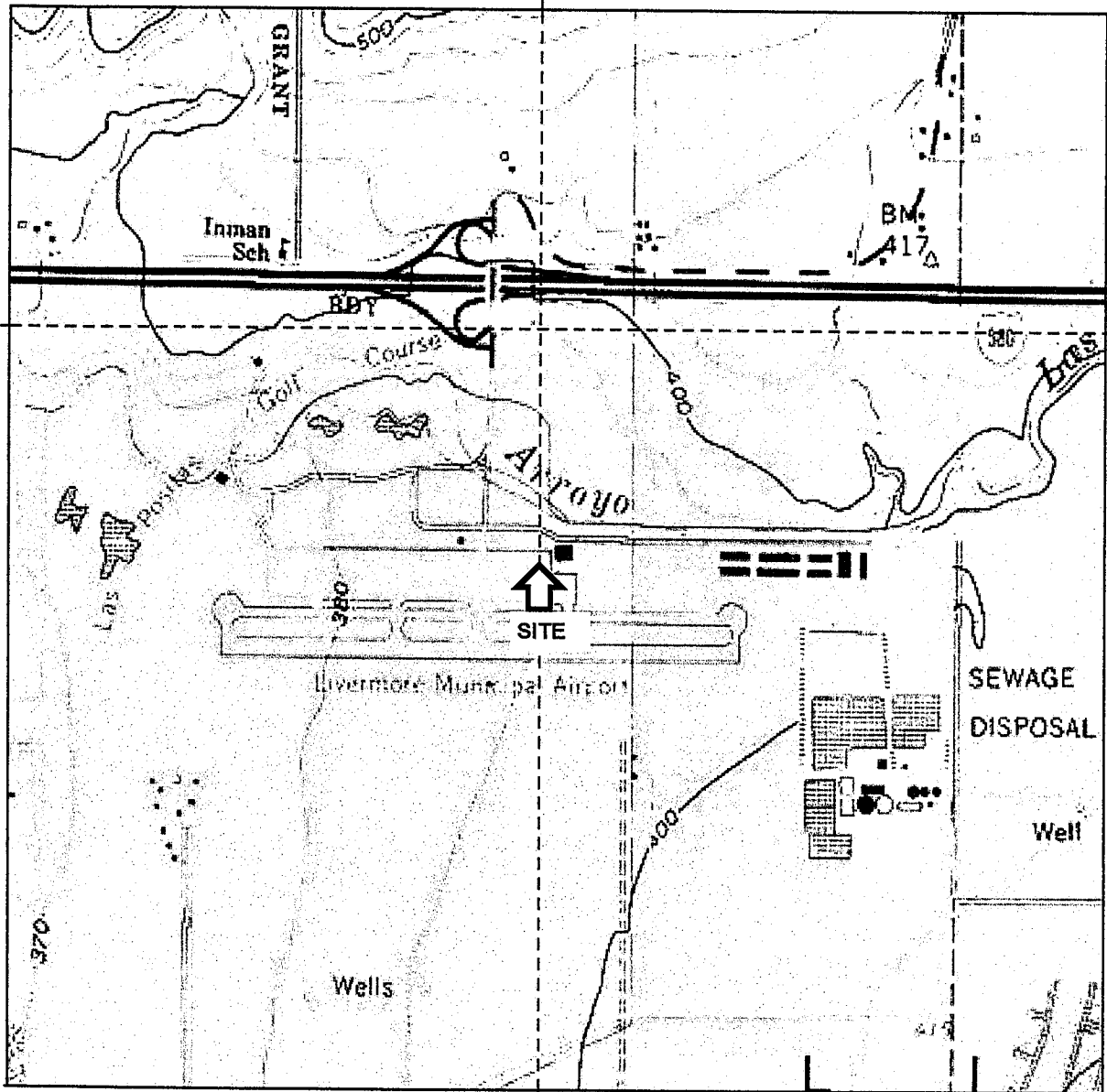
**Figure 2 – Boring Location Map**


**Figure 3A & 3B – Geologic Cross Sections**

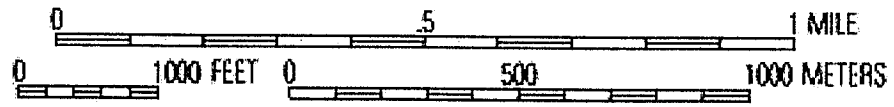
**Figure 4 – Dissolved Contaminants Map**

**Figure 5 – Well Search Map**



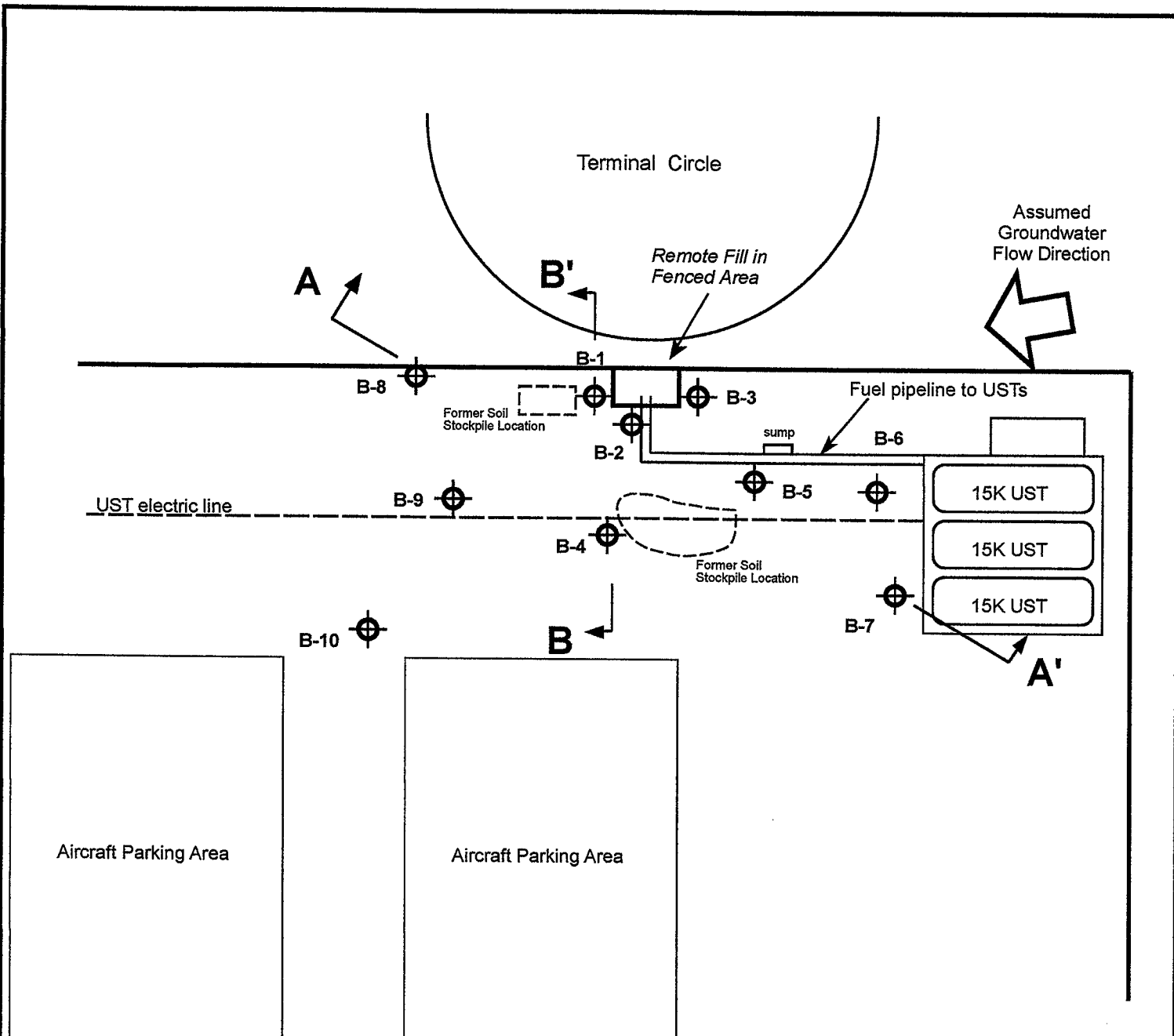


TN  MN  
15°



Map created with TOPO!® ©2003 National Geographic (www.nationalgeographic.com/topo)

|   |  |   |
|---|--|---|
|   | <p><b>Location Map</b><br/> <b>Aircraft Fuel Fill and USTs</b></p> | <p>Proj. No. 81-01824-A<br/>         May 2007</p> |
| <p>Consolidated Engineering Laboratories, Inc.<br/>         San Ramon, CA</p> | <p>Livermore Airport<br/>         Livermore, CA</p>                | <p>FIGURE 1</p>                                   |

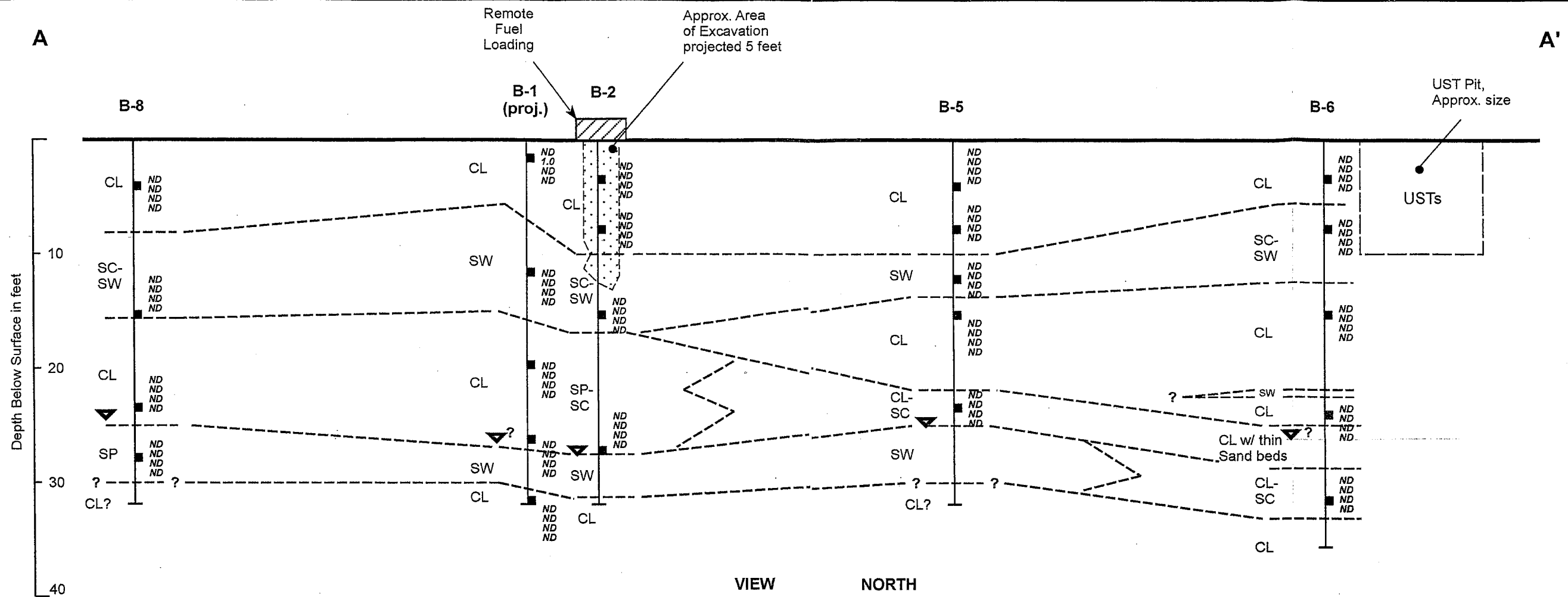


Approx. Scale  
in Feet

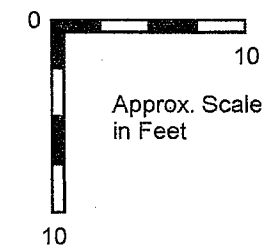
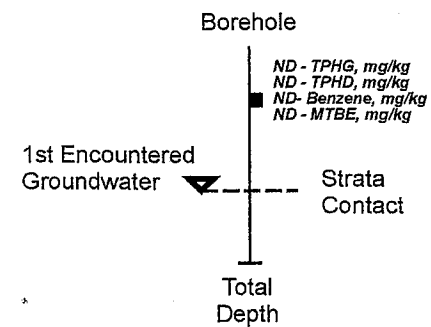
⊕ Explortory Boring Location

A ← → A' Geologic Cross Section Location

|   |   |   |
|---|---|---|
|   | <p><b>Boring Location Map</b><br/> <b>Aircraft Fuel Fill and USTs</b><br/> <b>Livermore Airport</b><br/> <b>Livermore, CA</b></p> | <p>Proj. No. 81-01824-A<br/>         May 2007<br/>         FIGURE 2</p> |
| <p><b>Consolidated Engineering Laboratories, Inc.</b><br/> <b>San Ramon, CA</b></p> |   |   |

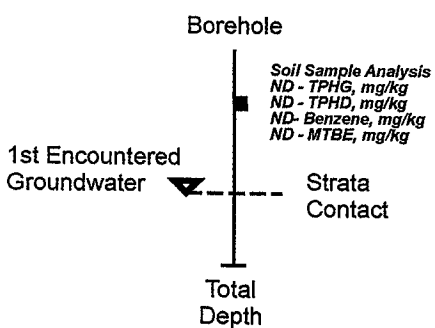
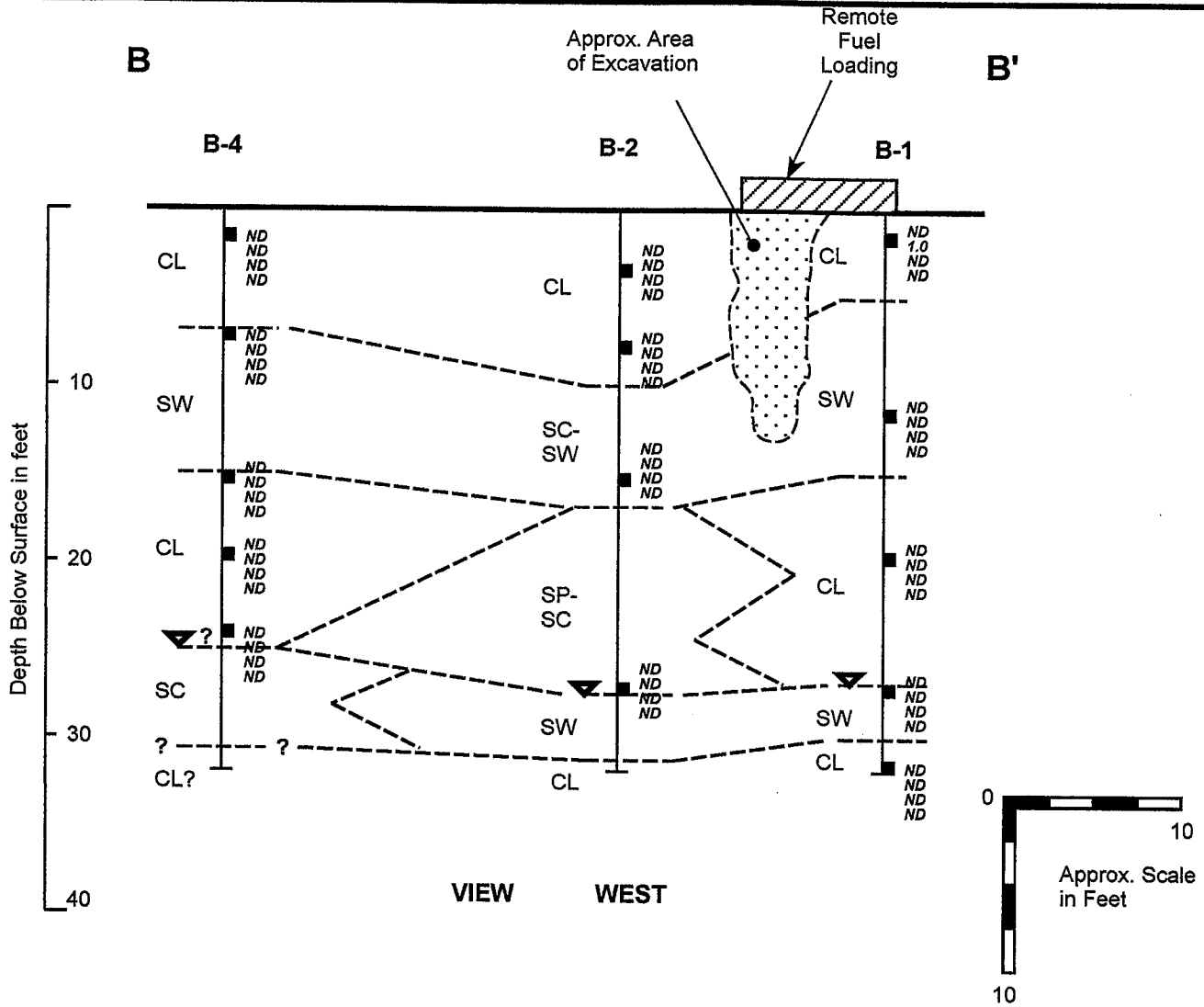


- SW SAND, well graded, may contain minor amounts of dispersed clay.
- SP SAND, poorly graded, may contain minor amounts of dispersed clay.
- SW-SC SAND and CLAYEY SAND, may occur as interbeds or mixtures.
- SC-CL CLAYEY SAND and CLAY, may occur as interbeds or mixtures, clay may contain variable amounts of silt
- CL CLAY, may contain minor to moderate amounts of dispersed sand and silt, may contain thin sandy beds.



Generalized strata relationships and contacts interpreted locations are portrayed on the cross section, additional vertical and horizontal variations may occur.

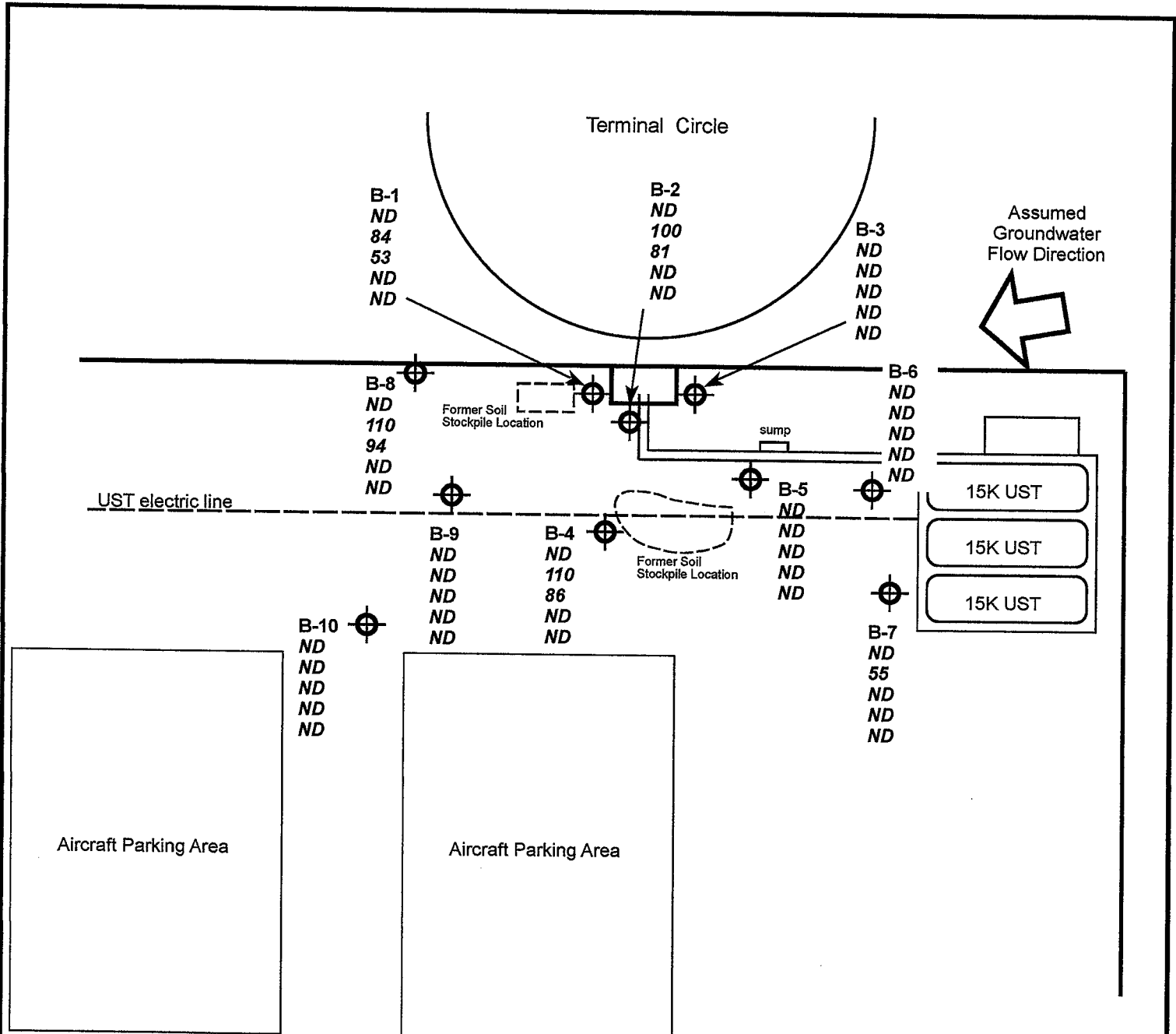
|   |  |
|---|--|
| <b>Geologic Cross Sections</b><br>Pipeline and Underground Fuel Tanks<br>Livermore Airport, Livermore, CA | Proj. No. 81-01824-A<br>Scales: as shown.<br>May, 2007 |
| CONSOLIDATED ENGINEERING LABORATORIES, INC.   | FIGURE 3A  |



- SW SAND, well graded, may contain minor amounts of dispersed clay.
- SP SAND, poorly graded, may contain minor amounts of dispersed clay.
- SW-SC SAND and CLAYEY SAND, may occur as interbeds or mixtures.
- SC-CL CLAYEY SAND and CLAY, may occur as interbeds or mixtures, clay may contain variable amounts of silt
- CL CLAY, may contain minor to moderate amounts of dispersed sand and silt, may contain thin sandy beds.

Generalized strata relationships and contacts interpreted locations are portrayed on the cross section, additional vertical and horizontal variations may occur.

|   |  |
|---|--|
| <b>Geologic Cross Sections</b><br><b>Pipeline and Underground Fuel Tanks</b><br><b>Livermore Airport, Livermore, CA</b> | Proj. No. 81-01824-A<br>Scales: as shown.<br>May, 2007 |
| CONSOLIDATED ENGINEERING LABORATORIES, INC.   | <b>FIGURE 3B</b>                                       |



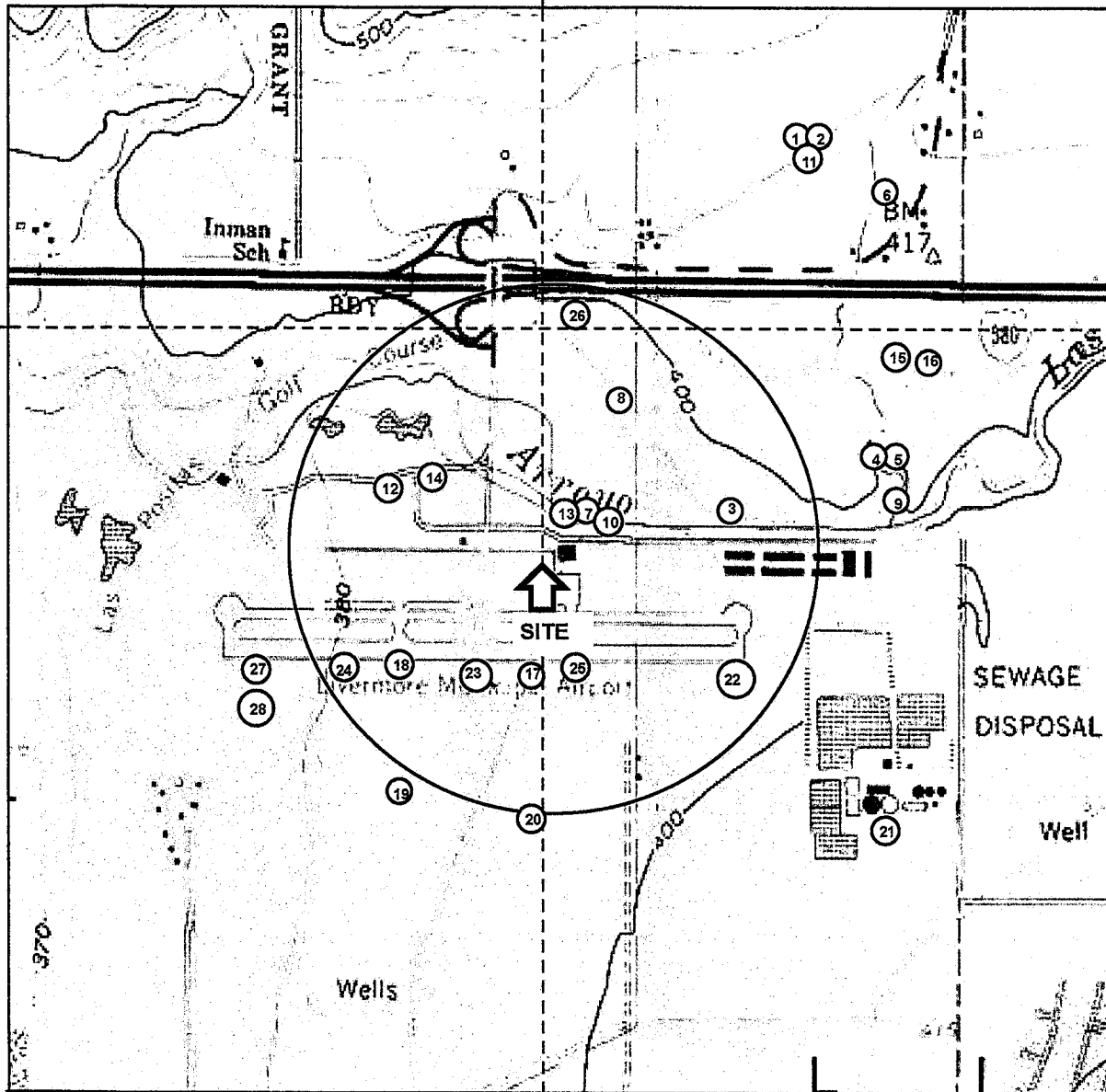
**Dissolved Contaminants Map**


**Aircraft Fuel Fill and USTs  
 Livermore Airport  
 Livermore, CA**

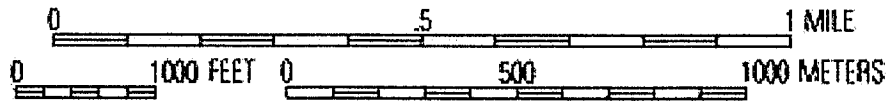
Proj. No. 81-01824-A  
 May 2007

FIGURE 4

**Consolidated Engineering Laboratories, Inc.  
 San Ramon, CA**



TN  MN  
15°



Map created with TOPO!® ©2003 National Geographic (www.nationalgeographic.com/topo)

②⑦ Reported Well Location,  
see well search table and report text.

Consolidated Engineering Laboratories, Inc.  
San Ramon, CA

2000-Foot Well Search  
Livermore Airport  
Livermore, CA

Proj. No. 81-01824-A  
May 2007

FIGURE 5

## **APPENDIX A**

**November 2005 & June 2006 Letters & Soil Disposal Information**



CONSOLIDATED ENGINEERING  
LABORATORIES

November 18, 2005

**Revised December 14, 2005**

City of Livermore  
City Hall, Engineering Division  
1052 South Livermore Avenue  
Livermore, California 94550-4899

Attention: Robert Tingley - Associate Engineering Technician

Subject: **Environmental Sampling, Testing and Evaluation of Soil**  
Livermore Airport Jet Fuel Line Replacement  
Livermore, California  
CEL Proposal No. 81-01824-PW (10-00431-PW-CS)

Dear Mr. Tingley:

Pursuant to your request, Consolidated Engineering Laboratories (CEL) has provided environmental testing services for onsite soil at the subject site. The project site is located in Livermore Municipal Airport, off of Airway Boulevard, just inside the airport boundary near the airport entrance, just east of Terminal Circle. Our representative visited the site on November 10, 2005, and collected 15 individual soil samples at various locations within and near a jet fuel line excavation located at the Livermore Airport, Livermore, California. Soil samples were collected by hand in the trench excavation bottoms and nearby stockpiles.

The sample locations are shown on the attached Figure 1. Sample 1-1 was obtained in the trench excavation at a depth of two-feet. Samples 1-2 through 1-5 were collected at the trench bottom at a depth of about 3.5-feet and 1-6 and 1-7 was obtained at a depth of three-feet. The remaining samples, 1-8 through 1-15, were obtained about one-foot into the two soil stockpiles shown on Figure 1. The small stockpile is a mixture of soil and pea gravel and the large stockpile is dirty pea gravel.

The soil samples were transported to a California state-certified laboratory for testing. Proper chain-of-custody procedures were followed. The soil samples were analyzed for the presence of Volatile Organic Compounds by GC/MS (EPA 8260B), Nonhalogenated Organics using GC/FID – Modified (Diesel Range Organics) (EPA8015B), Inductively Coupled Plasma – Atomic Emission Spectrometry (EPA 6010B/7471A), Inductivity Coupled Plasma – Atomic Emission Spectrometry – STLC Citrate (EPA 6010B), and Mercury in Solid or Semisolid Waster (Manual Cold Vapor Technique). Copies of the laboratory reports are attached.



Analytical results were compared to pertinent Soluble Threshold Limit Concentration (STLC), Total Threshold Limit Concentration (TTLC), Environmental Screening Levels (ESL's) for surface soil, and Preliminary Remediation Goals (PRG). Contaminant concentrations in soil are generally considered to be nonhazardous if they are equal or less than the TTLC, and less than 10 times the STLC as defined by the State of California, Title 22. Two other screening tools used to assess the acceptability of soils are the Preliminary Remediation Goals (PRGs) for industrial soil provided by the US EPA, and the Environmental Screening Levels provided by the San Francisco Bay Regional Water Quality Control Board for shallow soils where groundwater is not a current or potential source of drinking water (commercial/industrial land use area). The attached Table 1 summarizes the results of the analytical testing. Test results in bold indicate contaminant concentrations in excess of various regulatory guidelines.

Several constituents were found to be above regulatory guidelines. Gasoline concentrations in Samples 1-1, 1-8, 1-9, 1-10 and 1-11 were high. Concentrations ranged from 6,000 ppm to 360,000 ppm. Toluene was detected over the ESL limit in Samples 1-1, 1-9, and 1-11. In particular, the concentration of Toluene in Sample 1-11 was about 420% higher than the ESL limit. The concentration of Total Xylenes in Sample 1-1 exceeded the ESL. Diesel Range Organics were detectable above the ESL limit. The ESL for DRO is 500 ppm, and concentrations reported in Samples 1-8, 1-9, 1-10, and 1-11 ranged from 710 to 1,100 ppm. Motor oil and MTBE were below action levels or were non-detectable in all the samples.

Concentrations of metals were generally below the screening levels. However, the concentration of Cobalt was above the ESL of 10 ppm in Samples 1-1, 1-2, 1-3, 1-5, 1-13, 1-14, and 1-15. High Chromium levels were detected in Samples 1-1 and 1-14. The STLC limit for Chromium is 50 ppm, and concentrations were detected at 54 and 55 ppm in the two samples. Additional WET (Waste Extraction Test) testing was performed on samples 1-1, 1-2, and 1-14 on December 12, 2005. The WET Chromium results were well below the STLC limit for Chromium.

It should be noted that the above screening tools are generally for action levels for contaminants in soil that is to remain in place, and different criteria may apply for soil that is to be transferred to or from a site. The local landfill or other location of proposed exported soil should be contacted to determine their requirements for accepting this material. The reported results are from representative samples of the soil, and do not necessarily represent the cleanliness of the entire site. These results should not be considered a clean bill of health, or prognosis of soil cleanliness. Local governing agencies may have stricter guideline standards that will govern this disposal of the soil.

The test results indicate that the trenches for the jet fuel line are below action levels except the small stub out trench in the area of Sample 1-1. Further study in this area is warranted. The small stockpile of soil and pea gravel can be utilized onsite for backfill. The larger pea gravel stockpile will either have to be remediated or disposed properly.

We hope this provides the necessary information. If you should have any questions regarding this letter, please contact the undersigned at (925) 314-7100.

Sincerely,  
**CONSOLIDATED ENGINEERING LABORATORIES**

William R. Stevens, PE 43010, GE 2339  
Principal Geotechnical Engineer



Marc Hachey, P.G. 7833  
Project Geologist

Attachments: Figure 1 Site plan  
Table 1 – Summary of Analytical Data  
STL San Francisco Analytical Lab Report, 11/15/05, 66 pp  
STL San Francisco Analytical Lab Report, 12/12/05, 12 pp

Distributions: 2 plus email to Addressee, (925/960-4551, Fax 925/960-4504, rctingley@ci.livermore.ca.us)

MAH/WRS:pmf  
L:\Users\Geotech\RCA-Calif-81\RCO-Alameda\RCI-Livermore\81-01824-PW-Liver Airport\Analyt Sample Test 1.doc



TABLE 1 (Samples 1-1 through 1-15)  
SUMMARY OF ANALYTICAL DATA

| Constituent            | Reported Concentration (ppm) | California Title 22 STLC (ppm) | SFBRWQCB Environmental Screening Levels -ESLs (ppm) | California Title 22 TTLC (ppm) | US EPA Residential PRG (ppm) |
|------------------------|------------------------------|--------------------------------|---|--------------------------------|------------------------------|
| Gasoline Range Organic |                              | NA                             | 400   | NA                             | NA                           |
| 1-1 (2)                | 8,000                        |                                |   |                                |                              |
| 1-2                    | ND                           |                                |   |                                |                              |
| 1-3                    | ND                           |                                |   |                                |                              |
| 1-4                    | ND                           |                                |   |                                |                              |
| 1-5                    | ND                           |                                |   |                                |                              |
| 1-6                    | ND                           |                                |   |                                |                              |
| 1-7                    | ND                           |                                |   |                                |                              |
| 1-8 (2)                | 260,000                      |                                |   |                                |                              |
| 1-9 (2)                | 6,000                        |                                |   |                                |                              |
| 1-10 (2)               | 310,000                      |                                |   |                                |                              |
| 1-11 (2)               | 360,000                      |                                |   |                                |                              |
| 1-12                   | ND                           |                                |   |                                |                              |
| 1-13                   | ND                           |                                |   |                                |                              |
| 1-14                   | ND                           |                                |   |                                |                              |
| 1-15                   | ND                           |                                |   |                                |                              |
| Benzene                |                              | NA                             | 0.38  | NA                             | NA                           |
| 1-1                    | ND                           |                                |   |                                |                              |
| 1-2                    | ND                           |                                |   |                                |                              |
| 1-3                    | ND                           |                                |   |                                |                              |
| 1-4                    | ND                           |                                |   |                                |                              |
| 1-5                    | ND                           |                                |   |                                |                              |
| 1-6                    | ND                           |                                |   |                                |                              |
| 1-7                    | ND                           |                                |   |                                |                              |
| 1-8                    | ND                           |                                |   |                                |                              |
| 1-9                    | ND                           |                                |   |                                |                              |
| 1-10                   | ND                           |                                |   |                                |                              |
| 1-11                   | ND                           |                                |   |                                |                              |
| 1-12                   | ND                           |                                |   |                                |                              |
| 1-13                   | ND                           |                                |   |                                |                              |
| 1-14                   | ND                           |                                |   |                                |                              |
| 1-15                   | ND                           |                                |   |                                |                              |
| Toluene                |                              | NA                             | 9.3   | NA                             | NA                           |
| 1-1 (2)                | 59                           |                                |   |                                |                              |
| 1-2                    | ND                           |                                |   |                                |                              |
| 1-3                    | ND                           |                                |   |                                |                              |
| 1-4                    | ND                           |                                |   |                                |                              |
| 1-5                    | ND                           |                                |   |                                |                              |
| 1-6                    | ND                           |                                |   |                                |                              |
| 1-7                    | ND                           |                                |   |                                |                              |
| 1-8                    | ND                           |                                |   |                                |                              |
| 1-9 (2)                | 12                           |                                |   |                                |                              |
| 1-10                   | ND                           |                                |   |                                |                              |
| 1-11 (2)               | 3,900                        |                                |   |                                |                              |
| 1-12                   | ND                           |                                |   |                                |                              |
| 1-13                   | 8.3                          |                                |   |                                |                              |
| 1-14                   | 5.6                          |                                |   |                                |                              |
| 1-15                   | ND                           |                                |   |                                |                              |



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| Constituent           | Reported Concentration (ppm) | California Title 22 STLC (ppm) | SFBRWQCB Environmental Screening Levels -ESLs (ppm) | California Title 22 TTLC (ppm) | US EPA Residential PRG (ppm) |
|-----------------------|------------------------------|--------------------------------|---|--------------------------------|------------------------------|
| Ethyl Benzene         |                              | NA                             | 32  | NA                             | NA                           |
| 1-1                   | 17                           |                                |   |                                |                              |
| 1-2                   | ND                           |                                |   |                                |                              |
| 1-3                   | ND                           |                                |   |                                |                              |
| 1-4                   | ND                           |                                |   |                                |                              |
| 1-5                   | ND                           |                                |   |                                |                              |
| 1-6                   | ND                           |                                |   |                                |                              |
| 1-7                   | ND                           |                                |   |                                |                              |
| 1-8                   | ND                           |                                |   |                                |                              |
| 1-9                   | ND                           |                                |   |                                |                              |
| 1-10                  | ND                           |                                |   |                                |                              |
| 1-11                  | ND                           |                                |   |                                |                              |
| 1-12                  | ND                           |                                |   |                                |                              |
| 1-13                  | ND                           |                                |   |                                |                              |
| 1-14                  | ND                           |                                |   |                                |                              |
| 1-15                  | ND                           |                                |   |                                |                              |
| Total Xylenes         |                              | NA                             | 2.3   | NA                             | NA                           |
| 1-1 (2)               | 210                          |                                |   |                                |                              |
| 1-2                   | ND                           |                                |   |                                |                              |
| 1-3                   | ND                           |                                |   |                                |                              |
| 1-4                   | ND                           |                                |   |                                |                              |
| 1-5                   | ND                           |                                |   |                                |                              |
| 1-6                   | ND                           |                                |   |                                |                              |
| 1-7                   | ND                           |                                |   |                                |                              |
| 1-8                   | ND                           |                                |   |                                |                              |
| 1-9                   | ND                           |                                |   |                                |                              |
| 1-10                  | ND                           |                                |   |                                |                              |
| 1-11                  | ND                           |                                |   |                                |                              |
| 1-12                  | ND                           |                                |   |                                |                              |
| 1-13                  | ND                           |                                |   |                                |                              |
| 1-14                  | ND                           |                                |   |                                |                              |
| 1-15                  | ND                           |                                |   |                                |                              |
| Diesel Range Organics |                              | NA                             | 500   | NA                             | NA                           |
| 1-1                   | 200                          |                                |   |                                |                              |
| 1-2                   | ND                           |                                |   |                                |                              |
| 1-3                   | ND                           |                                |   |                                |                              |
| 1-4                   | 6.1                          |                                |   |                                |                              |
| 1-5                   | 61                           |                                |   |                                |                              |
| 1-6                   | ND                           |                                |   |                                |                              |
| 1-7                   | ND                           |                                |   |                                |                              |
| 1-8 (2)               | 1,100                        |                                |   |                                |                              |
| 1-9 (2)               | 710                          |                                |   |                                |                              |
| 1-10 (2)              | 750                          |                                |   |                                |                              |
| 1-11 (2)              | 800                          |                                |   |                                |                              |
| 1-12                  | 16                           |                                |   |                                |                              |
| 1-13                  | 15                           |                                |   |                                |                              |
| 1-14                  | 7.5                          |                                |   |                                |                              |
| 1-15                  | 3                            |                                |   |                                |                              |



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| Constituent              | Reported Concentration (ppm) | California Title 22 STLC (ppm) | SFBRWQCB Environmental Screening Levels -ESLs (ppm) | California Title 22 TTLC (ppm) | US EPA Residential PRG (ppm) |
|--------------------------|------------------------------|--------------------------------|---|--------------------------------|------------------------------|
| Motor Oil Range Organics |                              | NA                             | 1,000   | NA                             | NA                           |
| 1-1                      | ND                           |                                |   |                                |                              |
| 1-2                      | ND                           |                                |   |                                |                              |
| 1-3                      | ND                           |                                |   |                                |                              |
| 1-4                      | ND                           |                                |   |                                |                              |
| 1-5                      | ND                           |                                |   |                                |                              |
| 1-6                      | ND                           |                                |   |                                |                              |
| 1-7                      | ND                           |                                |   |                                |                              |
| 1-8                      | ND                           |                                |   |                                |                              |
| 1-9                      | ND                           |                                |   |                                |                              |
| 1-10                     | ND                           |                                |   |                                |                              |
| 1-11                     | ND                           |                                |   |                                |                              |
| 1-12                     | 65                           |                                |   |                                |                              |
| 1-13                     | 68                           |                                |   |                                |                              |
| 1-14                     | ND                           |                                |   |                                |                              |
| 1-15                     | ND                           |                                |   |                                |                              |
| MTBE                     |                              | NA                             | 5.6   | NA                             | 620                          |
| 1-1                      | ND                           |                                |   |                                |                              |
| 1-2                      | ND                           |                                |   |                                |                              |
| 1-3                      | ND                           |                                |   |                                |                              |
| 1-4                      | ND                           |                                |   |                                |                              |
| 1-5                      | ND                           |                                |   |                                |                              |
| 1-6                      | ND                           |                                |   |                                |                              |
| 1-7                      | ND                           |                                |   |                                |                              |
| 1-8                      | NA                           |                                |   |                                |                              |
| 1-9                      | ND                           |                                |   |                                |                              |
| 1-10                     | NA                           |                                |   |                                |                              |
| 1-11                     | NA                           |                                |   |                                |                              |
| 1-12                     | ND                           |                                |   |                                |                              |
| 1-13                     | ND                           |                                |   |                                |                              |
| 1-14                     | ND                           |                                |   |                                |                              |
| 1-15                     | ND                           |                                |   |                                |                              |
| Antimony                 |                              | 15                             | 40  | 500                            | 31                           |
| 1-1                      | 3.8                          |                                |   |                                |                              |
| 1-2                      | ND                           |                                |   |                                |                              |
| 1-3                      | ND                           |                                |   |                                |                              |
| 1-4                      | ND                           |                                |   |                                |                              |
| 1-5                      | ND                           |                                |   |                                |                              |
| 1-6                      | ND                           |                                |   |                                |                              |
| 1-7                      | ND                           |                                |   |                                |                              |
| 1-8                      | ND                           |                                |   |                                |                              |
| 1-9                      | ND                           |                                |   |                                |                              |
| 1-10                     | ND                           |                                |   |                                |                              |
| 1-11                     | ND                           |                                |   |                                |                              |
| 1-12                     | ND                           |                                |   |                                |                              |
| 1-13                     | ND                           |                                |   |                                |                              |
| 1-14                     | ND                           |                                |   |                                |                              |
| 1-15                     | ND                           |                                |   |                                |                              |



CONSOLIDATED ENGINEERING  
LABORATORIES

| Constituent | Reported Concentration (ppm) | California Title 22 STLC (ppm) | SFBRWQCB Environmental Screening Levels -ESLs (ppm) | California Title 22 TTLC (ppm) | US EPA Residential PRG (ppm) |
|-------------|------------------------------|--------------------------------|---|--------------------------------|------------------------------|
| Arsenic     |                              | 5                              | 5.5   | 500                            | 39                           |
| 1-1         | 5.5                          |                                |   |                                |                              |
| 1-2         | 3.9                          |                                |   |                                |                              |
| 1-3         | 4.1                          |                                |   |                                |                              |
| 1-4         | 2.1                          |                                |   |                                |                              |
| 1-5         | 3.1                          |                                |   |                                |                              |
| 1-6         | 2.7                          |                                |   |                                |                              |
| 1-7         | 1.6                          |                                |   |                                |                              |
| 1-8         | ND                           |                                |   |                                |                              |
| 1-9         | 1.2                          |                                |   |                                |                              |
| 1-10        | 1.4                          |                                |   |                                |                              |
| 1-11        | 1.3                          |                                |   |                                |                              |
| 1-12        | 1.7                          |                                |   |                                |                              |
| 1-13        | 4.2                          |                                |   |                                |                              |
| 1-14        | 4.1                          |                                |   |                                |                              |
| 1-15        | 4.1                          |                                |   |                                |                              |
| Barium      |                              | 100                            | 1,500   | 10,000                         | 5,400                        |
| 1-1         | 170                          |                                |   |                                |                              |
| 1-2         | 190                          |                                |   |                                |                              |
| 1-3         | 180                          |                                |   |                                |                              |
| 1-4         | 35                           |                                |   |                                |                              |
| 1-5         | 140                          |                                |   |                                |                              |
| 1-6         | 45                           |                                |   |                                |                              |
| 1-7         | 26                           |                                |   |                                |                              |
| 1-8         | 35                           |                                |   |                                |                              |
| 1-9         | 27                           |                                |   |                                |                              |
| 1-10        | 46                           |                                |   |                                |                              |
| 1-11        | 46                           |                                |   |                                |                              |
| 1-12        | 49                           |                                |   |                                |                              |
| 1-13        | 160                          |                                |   |                                |                              |
| 1-14        | 170                          |                                |   |                                |                              |
| 1-15        | 150                          |                                |   |                                |                              |
| Beryllium   |                              | 0.75                           | 8.0   | 75                             | 150                          |
| 1-1         | ND                           |                                |   |                                |                              |
| 1-2         | ND                           |                                |   |                                |                              |
| 1-3         | ND                           |                                |   |                                |                              |
| 1-4         | ND                           |                                |   |                                |                              |
| 1-5         | ND                           |                                |   |                                |                              |
| 1-6         | ND                           |                                |   |                                |                              |
| 1-7         | ND                           |                                |   |                                |                              |
| 1-8         | ND                           |                                |   |                                |                              |
| 1-9         | ND                           |                                |   |                                |                              |
| 1-10        | ND                           |                                |   |                                |                              |
| 1-11        | ND                           |                                |   |                                |                              |
| 1-12        | ND                           |                                |   |                                |                              |
| 1-13        | ND                           |                                |   |                                |                              |
| 1-14        | ND                           |                                |   |                                |                              |
| 1-15        | ND                           |                                |   |                                |                              |



**CONSOLIDATED ENGINEERING  
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| Constituent             | Reported Concentration (ppm) | California Title 22 STLC (ppm) | SFBRWQCB Environmental Screening Levels –ESLs (ppm) | California Title 22 TTLC (ppm) | US EPA Residential PRG (ppm) |
|-------------------------|------------------------------|--------------------------------|---|--------------------------------|------------------------------|
| <b>Cadmium</b>          |                              | <b>1</b>                       | <b>7.4</b>  | <b>100</b>                     | <b>3.7</b>                   |
| 1-1                     | 1.6                          |                                |   |                                |                              |
| 1-2                     | 1.5                          |                                |   |                                |                              |
| 1-3                     | 1.5                          |                                |   |                                |                              |
| 1-4                     | 1.0                          |                                |   |                                |                              |
| 1-5                     | 1.3                          |                                |   |                                |                              |
| 1-6                     | 1.2                          |                                |   |                                |                              |
| 1-7                     | 0.8                          |                                |   |                                |                              |
| 1-8                     | 0.5                          |                                |   |                                |                              |
| 1-9                     | 0.5                          |                                |   |                                |                              |
| 1-10                    | 0.8                          |                                |   |                                |                              |
| 1-11                    | 1.2                          |                                |   |                                |                              |
| 1-12                    | 0.9                          |                                |   |                                |                              |
| 1-13                    | 1.5                          |                                |   |                                |                              |
| 1-14                    | 1.5                          |                                |   |                                |                              |
| 1-15                    | 1.4                          |                                |   |                                |                              |
| <b>Chromium – Total</b> |                              | <b>5</b>                       | <b>58</b>   | <b>NA</b>                      | <b>210</b>                   |
| 1-1 (1)                 | <b>54</b>                    |                                |   |                                |                              |
| 1-1 WET                 | 0.12                         |                                |   |                                |                              |
| 1-2                     | 50                           |                                |   |                                |                              |
| 1-2 WET                 | 0.89                         |                                |   |                                |                              |
| 1-3                     | 48                           |                                |   |                                |                              |
| 1-4                     | 15                           |                                |   |                                |                              |
| 1-5                     | 41                           |                                |   |                                |                              |
| 1-6                     | 15                           |                                |   |                                |                              |
| 1-7                     | 14                           |                                |   |                                |                              |
| 1-8                     | 11                           |                                |   |                                |                              |
| 1-9                     | 11                           |                                |   |                                |                              |
| 1-10                    | 19                           |                                |   |                                |                              |
| 1-11                    | 41                           |                                |   |                                |                              |
| 1-12                    | 18                           |                                |   |                                |                              |
| 1-13                    | 48                           |                                |   |                                |                              |
| 1-14 (1)                | 55                           |                                |   |                                |                              |
| 1-14 WET                | 0.17                         |                                |   |                                |                              |
| 1-15                    | 50                           |                                |   |                                |                              |
| <b>Cobalt</b>           |                              | <b>80</b>                      | <b>10</b>   | <b>8,000</b>                   | <b>4,700</b>                 |
| 1-1 (2)                 | 14                           |                                |   |                                |                              |
| 1-2 (2)                 | 14                           |                                |   |                                |                              |
| 1-3 (2)                 | 14                           |                                |   |                                |                              |
| 1-4                     | 4.7                          |                                |   |                                |                              |
| 1-5 (2)                 | 11                           |                                |   |                                |                              |
| 1-6                     | 7.8                          |                                |   |                                |                              |
| 1-7                     | 3.4                          |                                |   |                                |                              |
| 1-8                     | 3.9                          |                                |   |                                |                              |
| 1-9                     | 3.5                          |                                |   |                                |                              |
| 1-10                    | 5.9                          |                                |   |                                |                              |
| 1-11                    | 8.2                          |                                |   |                                |                              |
| 1-12                    | 9.7                          |                                |   |                                |                              |
| 1-13 (2)                | 13                           |                                |   |                                |                              |
| 1-14 (2)                | 14                           |                                |   |                                |                              |
| 1-15 (2)                | 13                           |                                |   |                                |                              |



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| Constituent  | Reported Concentration (ppm) | California Title 22 STLC (ppm) | SFBRWQCB Environmental Screening Levels -ESLs (ppm) | California Title 22 TTLC (ppm) | US EPA Residential PRG (ppm) |
|--------------|------------------------------|--------------------------------|---|--------------------------------|------------------------------|
| Copper       |                              | 25                             | 230   | 2,500                          | 2,900                        |
| 1-1          | 35                           |                                |   |                                |                              |
| 1-2          | 30                           |                                |   |                                |                              |
| 1-3          | 31                           |                                |   |                                |                              |
| 1-4          | 11                           |                                |   |                                |                              |
| 1-5          | 26                           |                                |   |                                |                              |
| 1-6          | 15                           |                                |   |                                |                              |
| 1-7          | 8.3                          |                                |   |                                |                              |
| 1-8          | 9.1                          |                                |   |                                |                              |
| 1-9          | 7.5                          |                                |   |                                |                              |
| 1-10         | 13                           |                                |   |                                |                              |
| 1-11         | 17                           |                                |   |                                |                              |
| 1-12         | 19                           |                                |   |                                |                              |
| 1-13         | 27                           |                                |   |                                |                              |
| 1-14         | 29                           |                                |   |                                |                              |
| 1-15         | 27                           |                                |   |                                |                              |
| Lead - Total |                              | 5                              | 750   | 1,000                          | 400                          |
| 1-1          | 7.5                          |                                |   |                                |                              |
| 1-2          | 6.6                          |                                |   |                                |                              |
| 1-3          | 6.9                          |                                |   |                                |                              |
| 1-4          | 4.0                          |                                |   |                                |                              |
| 1-5          | 6.1                          |                                |   |                                |                              |
| 1-6          | 4.4                          |                                |   |                                |                              |
| 1-7          | 3.0                          |                                |   |                                |                              |
| 1-8          | 10                           |                                |   |                                |                              |
| 1-9          | 8.7                          |                                |   |                                |                              |
| 1-10         | 10                           |                                |   |                                |                              |
| 1-11         | 5.2                          |                                |   |                                |                              |
| 1-12         | 2.6                          |                                |   |                                |                              |
| 1-13         | 7.3                          |                                |   |                                |                              |
| 1-14         | 7.4                          |                                |   |                                |                              |
| 1-15         | 7.8                          |                                |   |                                |                              |
| Molybdenum   |                              | 350                            | 40  | 3,500                          | 390                          |
| 1-1          | ND                           |                                |   |                                |                              |
| 1-2          | ND                           |                                |   |                                |                              |
| 1-3          | ND                           |                                |   |                                |                              |
| 1-4          | ND                           |                                |   |                                |                              |
| 1-5          | ND                           |                                |   |                                |                              |
| 1-6          | ND                           |                                |   |                                |                              |
| 1-7          | ND                           |                                |   |                                |                              |
| 1-8          | ND                           |                                |   |                                |                              |
| 1-9          | ND                           |                                |   |                                |                              |
| 1-10         | ND                           |                                |   |                                |                              |
| 1-11         | ND                           |                                |   |                                |                              |
| 1-12         | ND                           |                                |   |                                |                              |
| 1-13         | ND                           |                                |   |                                |                              |
| 1-14         | ND                           |                                |   |                                |                              |
| 1-15         | ND                           |                                |   |                                |                              |





CONSOLIDATED ENGINEERING  
LABORATORIES

| Constituent | Reported Concentration (ppm) | California Title 22 STLC (ppm) | SFBRWQCB Environmental Screening Levels -ESLs (ppm) | California Title 22 TTLC (ppm) | US EPA Residential PRG (ppm) |
|-------------|------------------------------|--------------------------------|---|--------------------------------|------------------------------|
| Nickel      |                              | 20                             | 150   | 2,000                          | 1,600                        |
| 1-1         | 100                          |                                |   |                                |                              |
| 1-2         | 93                           |                                |   |                                |                              |
| 1-3         | 92                           |                                |   |                                |                              |
| 1-4         | 28                           |                                |   |                                |                              |
| 1-5         | 73                           |                                |   |                                |                              |
| 1-6         | 28                           |                                |   |                                |                              |
| 1-7         | 19                           |                                |   |                                |                              |
| 1-8         | 16                           |                                |   |                                |                              |
| 1-9         | 22                           |                                |   |                                |                              |
| 1-10        | 32                           |                                |   |                                |                              |
| 1-11        | 28                           |                                |   |                                |                              |
| 1-12        | 40                           |                                |   |                                |                              |
| 1-13        | 100                          |                                |   |                                |                              |
| 1-14        | 110                          |                                |   |                                |                              |
| 1-15        | 98                           |                                |   |                                |                              |
| Selenium    |                              | 1                              | 10  | 100                            | 390                          |
| 1-1         | ND                           |                                |   |                                |                              |
| 1-2         | ND                           |                                |   |                                |                              |
| 1-3         | ND                           |                                |   |                                |                              |
| 1-4         | ND                           |                                |   |                                |                              |
| 1-5         | ND                           |                                |   |                                |                              |
| 1-6         | ND                           |                                |   |                                |                              |
| 1-7         | ND                           |                                |   |                                |                              |
| 1-8         | ND                           |                                |   |                                |                              |
| 1-9         | ND                           |                                |   |                                |                              |
| 1-10        | ND                           |                                |   |                                |                              |
| 1-11        | ND                           |                                |   |                                |                              |
| 1-12        | ND                           |                                |   |                                |                              |
| 1-13        | ND                           |                                |   |                                |                              |
| 1-14        | ND                           |                                |   |                                |                              |
| 1-15        | ND                           |                                |   |                                |                              |
| Silver      |                              | 5                              | 40  | 500                            | 390                          |
| 1-1         | ND                           |                                |   |                                |                              |
| 1-2         | ND                           |                                |   |                                |                              |
| 1-3         | ND                           |                                |   |                                |                              |
| 1-4         | ND                           |                                |   |                                |                              |
| 1-5         | ND                           |                                |   |                                |                              |
| 1-6         | ND                           |                                |   |                                |                              |
| 1-7         | ND                           |                                |   |                                |                              |
| 1-8         | ND                           |                                |   |                                |                              |
| 1-9         | ND                           |                                |   |                                |                              |
| 1-10        | ND                           |                                |   |                                |                              |
| 1-11        | ND                           |                                |   |                                |                              |
| 1-12        | ND                           |                                |   |                                |                              |
| 1-13        | ND                           |                                |   |                                |                              |
| 1-14        | ND                           |                                |   |                                |                              |
| 1-15        | ND                           |                                |   |                                |                              |



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| Constituent | Reported Concentration (ppm) | California Title 22 STLC (ppm) | SFBRWQCB Environmental Screening Levels -ESLs (ppm) | California Title 22 TTLC (ppm) | US EPA Residential PRG (ppm) |
|-------------|------------------------------|--------------------------------|---|--------------------------------|------------------------------|
| Thallium    |                              | 7                              | 13  | 700                            | 5.2                          |
| 1-1         | ND                           |                                |   |                                |                              |
| 1-2         | ND                           |                                |   |                                |                              |
| 1-3         | ND                           |                                |   |                                |                              |
| 1-4         | ND                           |                                |   |                                |                              |
| 1-5         | ND                           |                                |   |                                |                              |
| 1-6         | ND                           |                                |   |                                |                              |
| 1-7         | ND                           |                                |   |                                |                              |
| 1-8         | ND                           |                                |   |                                |                              |
| 1-9         | ND                           |                                |   |                                |                              |
| 1-10        | ND                           |                                |   |                                |                              |
| 1-11        | ND                           |                                |   |                                |                              |
| 1-12        | ND                           |                                |   |                                |                              |
| 1-13        | ND                           |                                |   |                                |                              |
| 1-14        | ND                           |                                |   |                                |                              |
| 1-15        | ND                           |                                |   |                                |                              |
| Vanadium    |                              | 24                             | 200   | 2,400                          | 550                          |
| 1-1         | 25                           |                                |   |                                |                              |
| 1-2         | 25                           |                                |   |                                |                              |
| 1-3         | 25                           |                                |   |                                |                              |
| 1-4         | 12                           |                                |   |                                |                              |
| 1-5         | 22                           |                                |   |                                |                              |
| 1-6         | 28                           |                                |   |                                |                              |
| 1-7         | 11                           |                                |   |                                |                              |
| 1-8         | 11                           |                                |   |                                |                              |
| 1-9         | 6.7                          |                                |   |                                |                              |
| 1-10        | 12                           |                                |   |                                |                              |
| 1-11        | 28                           |                                |   |                                |                              |
| 1-12        | 13                           |                                |   |                                |                              |
| 1-13        | 22                           |                                |   |                                |                              |
| 1-14        | 22                           |                                |   |                                |                              |
| 1-15        | 23                           |                                |   |                                |                              |
| Zinc        |                              | 250                            | 600   | 5,000                          | 23,000                       |
| 1-1         | 47                           |                                |   |                                |                              |
| 1-2         | 42                           |                                |   |                                |                              |
| 1-3         | 45                           |                                |   |                                |                              |
| 1-4         | 72                           |                                |   |                                |                              |
| 1-5         | 39                           |                                |   |                                |                              |
| 1-6         | 31                           |                                |   |                                |                              |
| 1-7         | 20                           |                                |   |                                |                              |
| 1-8         | 17                           |                                |   |                                |                              |
| 1-9         | 22                           |                                |   |                                |                              |
| 1-10        | 24                           |                                |   |                                |                              |
| 1-11        | 26                           |                                |   |                                |                              |
| 1-12        | 30                           |                                |   |                                |                              |
| 1-13        | 43                           |                                |   |                                |                              |
| 1-14        | 44                           |                                |   |                                |                              |
| 1-15        | 41                           |                                |   |                                |                              |



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| Constituent | Reported Concentration (ppm) | California Title 22 STLC (ppm) | SFBRWQCB Environmental Screening Levels –ESLs (ppm) | California Title 22 TTLC (ppm) | US EPA Residential PRG (ppm) |
|-------------|------------------------------|--------------------------------|---|--------------------------------|------------------------------|
| Mercury     |                              | 0.2                            | 10  | 20                             | 2.3                          |
| 1-1         | 0.06                         |                                |   |                                |                              |
| 1-2         | 0.06                         |                                |   |                                |                              |
| 1-3         | ND                           |                                |   |                                |                              |
| 1-4         | ND                           |                                |   |                                |                              |
| 1-5         | ND                           |                                |   |                                |                              |
| 1-6         | ND                           |                                |   |                                |                              |
| 1-7         | ND                           |                                |   |                                |                              |
| 1-8         | ND                           |                                |   |                                |                              |
| 1-9         | ND                           |                                |   |                                |                              |
| 1-10        | ND                           |                                |   |                                |                              |
| 1-11        | ND                           |                                |   |                                |                              |
| 1-12        | ND                           |                                |   |                                |                              |
| 1-13        | 0.06                         |                                |   |                                |                              |
| 1-14        | 0.05                         |                                |   |                                |                              |
| 1-15        | 0.05                         |                                |   |                                |                              |

ND Non Detectable

NA Not Applicable/Available

- (1) More than 10 times the California STLC. However, the test results are below the California TTLC, San Francisco Bay Regional Water Quality Board ESLs, and the US EPA PRG.
- (2) More than the San Francisco Bay Regional Water Quality Board ESLs. However, the test results are below the California TTLC, STLC and US EPA PRG.



CONSOLIDATED ENGINEERING  
LABORATORIES

June 14, 2006

City of Livermore  
City Hall, Engineering Division  
1052 South Livermore Avenue  
Livermore, California 94550-4899

Attention: Robert Tingley - Associate Engineering Technician

Subject: **Environmental Sampling, Testing and Evaluation of Soil**  
Livermore Airport Jet Fuel Line Replacement  
Livermore, California  
CEL Proposal No. 81-01824-PW (10-00431-PW-CS)

Dear Mr. Tingley:

Pursuant to your request, Consolidated Engineering Laboratories (CEL) has provided environmental testing services for onsite soil at the subject site. CEL previously prepared a similar letter, dated December 14, 2005. The project site is located in Livermore Municipal Airport, off of Airway Boulevard, just inside the airport boundary near the airport entrance, just east of Terminal Circle in Livermore. Our representative visited the site on June 8, 2006, and collected 4 individual samples of the stockpiled pea-gravel removed from the project excavation. Samples were collected by hand throughout the stockpile.

The samples were transported to a California state-certified laboratory for testing. Proper chain-of-custody procedures were followed. The soil samples were analyzed for the presence of Volatile Organic Compounds by GC/MS (EPA 8260B), Gasoline Range Volatile Hydrocarbons as Gasoline with BTEX and MTBE (EPA 8021B/8015Cm), Diesel and Oil Range Extractable Hydrocarbons as Diesel and Motor Oil (EPA 8015C), and CAM 17 Metals (EPA 6020 B). Copies of the laboratory reports are attached.

Analytical results were compared to pertinent Soluble Threshold Limit Concentration (STLC), Total Threshold Limit Concentration (TTLC), Environmental Screening Levels (ESL's) for surface soil, and Preliminary Remediation Goals (PRG). Contaminant concentrations in soil are generally considered to be nonhazardous if they are equal or less than the TTLC, and less than 10 times the STLC as defined by the State of California, Title 22. Two other screening tools used to assess the acceptability of soils are the Preliminary Remediation Goals (PRGs) for industrial soil provided by the US EPA, and the Environmental Screening Levels provided by the San Francisco Bay Regional Water Quality Control Board for shallow soils where groundwater is not a current or potential source of drinking water (commercial/industrial land use area). The attached Table 1 summarizes the results of the analytical testing. Test results in bold indicate

contaminant concentrations in excess of various regulatory guidelines.

Several constituents were found to be above regulatory guidelines. The level of Arsenic in Sample 1 was 1 mg/kg higher than the allowed ESL. Total Chromium in Sample 1 was found to have a concentration 7 mg/kg higher than that allowed by the STLC. Lastly, all four pea-gravel samples had slightly more Cobalt concentration than the ESL allows.

It should be noted that the above screening tools are generally for action levels for contaminants in soil that is to remain in place, and different criteria may apply for soil that is to be transferred to or from a site. The local landfill or other location of proposed exported soil should be contacted to determine their requirements for accepting this material. The reported results are from representative samples of the soil, and do not necessarily represent the cleanliness of the entire site. These results should not be considered a clean bill of health, or prognosis of soil cleanliness. Local governing agencies may have stricter guideline standards that will govern this disposal of the soil.

We hope this provides the necessary information. If you should have any questions regarding this letter, please contact the undersigned at (925) 314-7100.

Sincerely,  
**CONSOLIDATED ENGINEERING LABORATORIES**

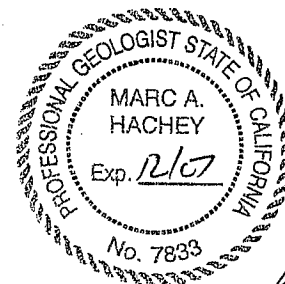
*MH for WRS*

William R. Stevens, PE 43010, GE 2339  
Principal Geotechnical Engineer

Attachments: Figure 1 Site plan  
Table 1 – Summary of Analytical Data  
McCampbell Analytical, Inc. Lab Data  
Chain of Custody

Distributions: 2 plus email to Addressee, (925/960-4551, Fax 925/960-4504, rctingley@ci.livermore.ca.us)

MAH/WRS:pmf  
L:\Users\Geotech\RCL-Livermore\81-01824-PW-Liver Airport\Analyt Sample Test 2.doc



Marc Hachey, P.G. 7833  
Project Geologist

A handwritten signature in black ink, appearing to be "MH", written over the printed name of Marc Hachey.



TABLE 1 (Samples 1-4)  
SUMMARY OF ANALYTICAL DATA

| Constituent            | Reported Concentration (ppm) | California Title 22 STLC (ppm) | SFBRWQCB Environmental Screening Levels -ESLs (ppm) | California Title 22 TTLC (ppm) | US EPA Residential PRG (ppm) |
|------------------------|------------------------------|--------------------------------|---|--------------------------------|------------------------------|
| Gasoline Range Organic |                              | NA                             | 400   | NA                             | NA                           |
| 1                      | 2.9                          |                                |   |                                |                              |
| 2                      | 1.7                          |                                |   |                                |                              |
| 3                      | 1.9                          |                                |   |                                |                              |
| 4                      | 3.5                          |                                |   |                                |                              |
| Benzene                |                              | NA                             | 0.38  | NA                             | NA                           |
| 1                      | ND                           |                                |   |                                |                              |
| 2                      | ND                           |                                |   |                                |                              |
| 3                      | ND                           |                                |   |                                |                              |
| 4                      | ND                           |                                |   |                                |                              |
| Toluene                |                              | NA                             | 9.3   | NA                             | NA                           |
| 1                      | 0.06                         |                                |   |                                |                              |
| 2                      | 0.07                         |                                |   |                                |                              |
| 3                      | 0.031                        |                                |   |                                |                              |
| 4                      | 0.031                        |                                |   |                                |                              |
| Ethyl Benzene          |                              | NA                             | 32  | NA                             | NA                           |
| 1                      | ND                           |                                |   |                                |                              |
| 2                      | ND                           |                                |   |                                |                              |
| 3                      | ND                           |                                |   |                                |                              |
| 4                      | ND                           |                                |   |                                |                              |
| Total Xylenes          |                              | NA                             | 2.3   | NA                             | NA                           |
| 1                      | ND                           |                                |   |                                |                              |
| 2                      | ND                           |                                |   |                                |                              |
| 3                      | ND                           |                                |   |                                |                              |
| 4                      | ND                           |                                |   |                                |                              |
| Diesel Range Organics  |                              | NA                             | 500   | NA                             | NA                           |
| 1                      | 18                           |                                |   |                                |                              |
| 2                      | 100                          |                                |   |                                |                              |
| 3                      | 43                           |                                |   |                                |                              |
| 4                      | 16                           |                                |   |                                |                              |



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| Constituent              | Reported Concentration (ppm) | California Title 22 STLC (ppm) | SFBRWQCB Environmental Screening Levels -ESLs (ppm) | California Title 22 TTLC (ppm) | US EPA Residential PRG (ppm) |
|--------------------------|------------------------------|--------------------------------|---|--------------------------------|------------------------------|
| Motor Oil Range Organics |                              | NA                             | 1,000   | NA                             | NA                           |
| 1                        | 43                           |                                |   |                                |                              |
| 2                        | 78                           |                                |   |                                |                              |
| 3                        | 91                           |                                |   |                                |                              |
| 4                        | 40                           |                                |   |                                |                              |
| MTBE                     |                              | NA                             | 5.6   | NA                             | 620                          |
| 1                        | ND                           |                                |   |                                |                              |
| 2                        | ND                           |                                |   |                                |                              |
| 3                        | ND                           |                                |   |                                |                              |
| 4                        | ND                           |                                |   |                                |                              |
| Antimony                 |                              | 15                             | 40  | 500                            | 31                           |
| 1                        | 0.51                         |                                |   |                                |                              |
| 2                        | ND                           |                                |   |                                |                              |
| 3                        | ND                           |                                |   |                                |                              |
| 4                        | ND                           |                                |   |                                |                              |
| Arsenic                  |                              | 5                              | 5.5   | 500                            | 39                           |
| 1 (2)                    | 6.5                          |                                |   |                                |                              |
| 2                        | 4.6                          |                                |   |                                |                              |
| 3                        | 3.9                          |                                |   |                                |                              |
| 4                        | 4.7                          |                                |   |                                |                              |
| Barium                   |                              | 100                            | 1,500   | 10,000                         | 5,400                        |
| 1                        | 150                          |                                |   |                                |                              |
| 2                        | 140                          |                                |   |                                |                              |
| 3                        | 130                          |                                |   |                                |                              |
| 4                        | 160                          |                                |   |                                |                              |
| Beryllium                |                              | 0.75                           | 8.0   | 75                             | 150                          |
| 1                        | ND                           |                                |   |                                |                              |
| 2                        | ND                           |                                |   |                                |                              |
| 3                        | ND                           |                                |   |                                |                              |
| 4                        | ND                           |                                |   |                                |                              |



CONSOLIDATED ENGINEERING  
LABORATORIES

| Constituent      | Reported Concentration (ppm) | California Title 22 STLC (ppm) | SFBRWQCB Environmental Screening Levels -ESLs (ppm) | California Title 22 TTLC (ppm) | US EPA Residential PRG (ppm) |
|------------------|------------------------------|--------------------------------|---|--------------------------------|------------------------------|
| Cadmium          |                              | 1                              | 7.4   | 100                            | 3.7                          |
| 1                | ND                           |                                |   |                                |                              |
| 2                | ND                           |                                |   |                                |                              |
| 3                | ND                           |                                |   |                                |                              |
| 4                | ND                           |                                |   |                                |                              |
| Chromium - Total |                              | 5                              | 58  | NA                             | 210                          |
| 1 (1)            | 57                           |                                |   |                                |                              |
| 2                | 47                           |                                |   |                                |                              |
| 3                | 40                           |                                |   |                                |                              |
| 4                | 45                           |                                |   |                                |                              |
| Cobalt           |                              | 80                             | 10  | 8,000                          | 4,700                        |
| 1 (2)            | 12                           |                                |   |                                |                              |
| 2 (2)            | 13                           |                                |   |                                |                              |
| 3 (2)            | 12                           |                                |   |                                |                              |
| 4 (2)            | 11                           |                                |   |                                |                              |
| Copper           |                              | 25                             | 230   | 2,500                          | 2,900                        |
| 1                | 34                           |                                |   |                                |                              |
| 2                | 32                           |                                |   |                                |                              |
| 3                | 26                           |                                |   |                                |                              |
| 4                | 25                           |                                |   |                                |                              |
| Lead - Total     |                              | 5                              | 750   | 1,000                          | 400                          |
| 1                | 19                           |                                |   |                                |                              |
| 2                | 17                           |                                |   |                                |                              |
| 3                | 10                           |                                |   |                                |                              |
| 4                | 12                           |                                |   |                                |                              |
| Molybdenum       |                              | 350                            | 40  | 3,500                          | 390                          |
| 1                | ND                           |                                |   |                                |                              |
| 2                | 1.2                          |                                |   |                                |                              |
| 3                | ND                           |                                |   |                                |                              |
| 4                | ND                           |                                |   |                                |                              |





**CONSOLIDATED ENGINEERING**  
LABORATORIES

| Constituent | Reported Concentration (ppm) | California Title 22 STLC (ppm) | SFBRWQCB Environmental Screening Levels -ESLs (ppm) | California Title 22 TTLC (ppm) | US EPA Residential PRG (ppm) |
|-------------|------------------------------|--------------------------------|---|--------------------------------|------------------------------|
| Nickel      |                              | 20                             | 150   | 2,000                          | 1,600                        |
| 1           | 80                           |                                |   |                                |                              |
| 2           | 73                           |                                |   |                                |                              |
| 3           | 59                           |                                |   |                                |                              |
| 4           | 76                           |                                |   |                                |                              |
| Selenium    |                              | 1                              | 10  | 100                            | 390                          |
| 1           | ND                           |                                |   |                                |                              |
| 2           | ND                           |                                |   |                                |                              |
| 3           | ND                           |                                |   |                                |                              |
| 4           | ND                           |                                |   |                                |                              |
| Silver      |                              | 5                              | 40  | 500                            | 390                          |
| 1           | ND                           |                                |   |                                |                              |
| 2           | ND                           |                                |   |                                |                              |
| 3           | ND                           |                                |   |                                |                              |
| 4           | ND                           |                                |   |                                |                              |
| Thallium    |                              | 7                              | 13  | 700                            | 5.2                          |
| 1           | ND                           |                                |   |                                |                              |
| 2           | ND                           |                                |   |                                |                              |
| 3           | ND                           |                                |   |                                |                              |
| 4           | ND                           |                                |   |                                |                              |
| Vanadium    |                              | 24                             | 200   | 2,400                          | 550                          |
| 1           | 51                           |                                |   |                                |                              |
| 2           | 44                           |                                |   |                                |                              |
| 3           | 64                           |                                |   |                                |                              |
| 4           | 41                           |                                |   |                                |                              |
| Zinc        |                              | 250                            | 600   | 5,000                          | 23,000                       |
| 1           | 80                           |                                |   |                                |                              |
| 2           | 84                           |                                |   |                                |                              |
| 3           | 63                           |                                |   |                                |                              |
| 4           | 240                          |                                |   |                                |                              |
| Mercury     |                              | 0.2                            | 10  | 20                             | 2.3                          |
| 1           | 0.095                        |                                |   |                                |                              |
| 2           | 0.10                         |                                |   |                                |                              |
| 3           | 0.052                        |                                |   |                                |                              |
| 4           | 0.056                        |                                |   |                                |                              |

ND Non Detectable

NA Not Applicable/Available

- (1) More than 10 times the California STLC. However, the test results are below the California TTLC, San Francisco Bay Regional Water Quality Board ESLs, and the US EPA PRG.
- (2) More than the San Francisco Bay Regional Water Quality Board ESLs. However, the test results are below the California TTLC, STLC and US EPA PRG.

**NON-HAZARDOUS WASTE MANIFEST**

1. Generator's US EPA ID No. Manifest Doc. No. 2. Page 1 of 1  
2. 2. 0. 2. 7

Generator's Name and Mailing Address  
**CITY OF LIVERMORE**  
**636 TERMINAL CIRCLE, LIVERMORE, CA. 94551**

4. Generator's Phone ( 925 ) 570-9150

5. Transporter 1 Company Name  
**UNIVERSAL ENVIRONMENTAL, INC.**

8. US EPA ID Number  
**C A D 9. 8. 3. 6. 5. 2. 2. 7. 2**

A. Transporter's Phone  
**707-747-6699**

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address  
**ALTAMONT LANDFILL**  
**10840 ALTAMONT PASS RD.**  
**LIVERMORE, CA. 94550-9745**

10. US EPA ID Number  
**C A D 9. 8. 1. 3. 8. 2. 7. 3. 2**

C. Facility's Phone  
**925-455-7301**

11. Waste Shipping Name and Description

12. Containers No. Type

13. Total Quantity

14. Unit WWVol

a. **NON-HAZARDOUS WASTE SOLID (SOIL)**

0 0 1 D T . 18x T

b.

c.

d.

D. Additional Descriptions for Materials Listed Above  
**(SOIL)**

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information.  
**PROFILE #55346800** **JOB #2027**  
**CUSTOMER: GETTLER-RYAN**  
**WEAR APPROPRIATE PPE WHEN HANDLING**  
**24HR EMERGENCY CONTACT: UE @ 800-747-6609.**

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name **JACK ROSSIGNOL for City of Livermore** Signature *[Signature]* Month Day Year **10/09/06**

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name **John Samler** Signature *[Signature]* Month Day Year **10/09/06**

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name Signature Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name *[Signature]* Signature *[Signature]* Month Day Year **11/9/06**

NUMBER OF CONTAINERS

TRANSPORTER

FACILITY

TRANSPORTER #1

J5 03:28PM From-altamont landfill

8254557383

T-799 P.001/002 F-984



Altamont Landfill & Resource Recovery Facility  
10840 Altamont Pass Road  
Livermore, CA 94550-9745  
(925) 455-7300 (925) 455-7383 Fax

December 19, 2005

Geoffery Risee  
Gettler Ryan Inc.

Re: City of Livermore

FAX: 916/631-1317

Approval of Profile # 55346800

Altamont Landfill & Resource Recovery Facility (Altamont) is pleased to submit this approval for non hazardous soil at the following rate:

Waste Description  
Class II Cover Soil

Rate

No free liquids, moisture content must be less than 50%, and minimal debris.

The following conditions prevail regarding the above quoted rate:

- Late fees will be assessed on balances exceeding 45 days.
- All jobs must commence within 60 days of receiving this letter.
- We reserve the right to increase pricing 60 days after the date of this letter, or if waste stream conditions change.

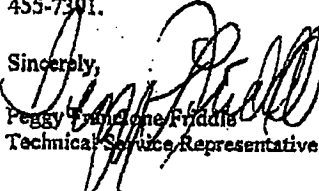
The above rate applies to this profile, which expires on February 19, 2006. Please contact the Altamont Landfill for re-certification of this profile 30 days in advance to avoid delays.

Attached is a copy of the completed Waste Acceptance Form. Each truckload is required to have a copy of the Waste Acceptance Form when it arrives at our scale house. If you require a non-hazardous manifest to be signed, send it with the Waste Acceptance Form as we do not sign manifests at any other time.

All loads must be scheduled at least 24 hours in advance. NO EXCEPTIONS. Contact Peggy at (925)455-7301, 1-800-449-6349, or email pfriddle@wm.com to schedule.

Thank you for the opportunity to provide service for your waste disposal needs. All billing questions should be addressed to Shari Laine at 925-455-7317 and other discrepancies should be addressed to Peggy Friddle at 925-455-7301.

Sincerely,

  
Peggy Friddle  
Technical Service Representative

1/5/06  
2.4% moisture

Waste Acceptance Form attached.

Gettler\_55346800\_leurr.doc



# INVOICE

|                |                |
|----------------|----------------|
| INVOICE NUMBER | 17503          |
| INVOICE DATE   | 11/20/06       |
| PO#            | 502203         |
| TERMS          | NET 30         |
| JOB NO.        | 0037           |
| SALES REP.     | SARAH STANFORD |

|                           |
|---------------------------|
| <b>CUSTOMER</b>           |
| GETTLER RYAN, INC         |
| ATTN: ACCOUNTS PAYABLE    |
| 547 WILSON COURT, SUITE 1 |
| DUBLIN, CA 94568          |

|  |
|--|
| <b>WORK PERFORMED</b>  |
| PROVIDE END DUMPS TO TRANSPORT SOIL TO ALTAMONT LANDFILL<br>THESE: LIVERMORE AIRPORT<br>436 TERMINAL CIRCLE, LIVERMORE<br>ORDERED BY: DENNIS GAN |

**REMIT TO:**  
 P.O. Box 996  
 Benicia, CA 94510

| DESCRIPTION / ITEMIZATION  |  |
|--|--|
| PRICES AS QUOTED   |  |
| 1/9/06   |  |
| TRANSPORTATION BY TRUCKS TO AND FROM TRUCKS  |  |
| LOG #04169   |  |
| ALTAMONT LANDFILL TICKET NO. 536778-1  |  |
| NON-HAZARDOUS WASTE MANIFEST NO. 37027   |  |
| ALTAMONT LANDFILL TICKET NO. 536875-1  |  |
| NON-HAZARDOUS WASTE MANIFEST NO. 37027   |  |
| LOG #23323   |  |
| ALTAMONT LANDFILL TICKET NO. 536739-1  |  |
| NON-HAZARDOUS WASTE MANIFEST NO. 42027   |  |
| ALTAMONT LANDFILL TICKET NO. 536837-1  |  |
| NON-HAZARDOUS WASTE MANIFEST NO. 37027   |  |
| ALTAMONT LANDFILL TICKET NO. 536914-1  |  |
| NON-HAZARDOUS WASTE MANIFEST NO. 37027   |  |
| DISPOSAL FEE TO BE PAID  |  |
| <div style="border: 1px solid black; padding: 5px; display: inline-block;">           JOB FILE<br/>           10-053120-3<br/> <i>[Signature]</i> </div> |  |

NOTE: In the event of an action or proceeding upon this agreement, the court shall award to the prevailing party court costs and reasonable attorney fees. Interest will be charged at the rate of 1 1/2% per month (18% per annum) on all overdue accounts.

|            |  |
|------------|--|
| AMOUNT DUE |  |
|------------|--|

29323

# Universal Environmental, Inc.

4101 Industrial Way P.O. Box 996 Benicia, CA 94510 707-747-6699  
 P.O. Box 10120 Reno, NV 89510-0120 775-351-2500  
**HAZARDOUS WASTE HAULING REMEDIATION INDUSTRIAL CLEANING**

|   |  |
|---|--|
| DISC 3240   | ICC # MC271664   |
| MANIFEST #  | DATE <u>1-9-06</u>   |
|   | P.O. #   |
| CONTACT   | JOB # <u>2027</u>  |
| CUSTOMER <u>Gettler Ryan</u>  |  |
| JOB LOCATION <u>Livermore Airport 136 Ter.</u>                                  |  |
|   | CITY <u>Livermore</u> STATE <u>CA</u>  |
| SERVICES PERFORMED <u>Load three loads at Airport &amp; un-load at Altamont</u> |  |
| DELIVER BIN #   |  |
| PICK UP BIN #   |  |
| PRODUCT <u>Soil</u>   | ORIGIN <u>Livermore</u> DESTINATION <u>Altamont</u>                              |
| ARRIVE JOB  | ARRIVE DISPOSAL  |
| DEPART JOB  | DEPART DISPOSAL  |
| TRUCK # <u>1143</u>   | TRAILER # <u>8851</u> START <u>0530</u> STOP <u>1600</u> TIME <u>10 1/2</u> HOUR |
| CAPACITY  | TIME OUT TO LESS HOUR  |
| # LOADS <u>3</u>  | DM/YD/LBS/GALS LINER <u>3</u> W/O NET <u>10 1/2</u> HOUR                         |
| DISPOSAL SITE <u>Altamont</u>   | PER DIEM TOLL  |
| DRIVERS NAME <u>John Semler</u>   | LABORER  |

John Semler  
 DRIVERS SIGNATURE

CUSTOMER AUTHORIZATION

NOTE: In the event of action or proceeding upon this agreement, the court shall award to the prevailing party court costs and reasonable attorney fees.  
 Interest will be charged at the rate of 1 1/2% per month (18% per annum) on all overdue accounts.

34169

# Universal Environmental, Inc.

4101 Industrial Way P.O. Box 996 Benicia, CA 94510 707-747-6699  
 P.O. Box 10120 Reno, NV 89510-0120 775-351-2500  
**HAZARDOUS WASTE HAULING      REMEDIATION      INDUSTRIAL CLEANING**

DISC 3240      ICC # MC271664  
 MANIFEST # 0001 0002      DATE 9 JAN 06  
 CONTACT \_\_\_\_\_      P.O. # \_\_\_\_\_  
 CUSTOMER CITY OF LIVERMORE AIRPORT      JOB # 2027  
 JOB LOCATION 996 TERMINAL CIRCL      CITY LIVERMORE      STATE CA  
 SERVICES PERFORMED HAZEL DIRT FOR DISPOSAL  
TRAFFIC WRECK ON SR-168 RAMP  
 DELIVER BIN # \_\_\_\_\_  
 PICK UP BIN # \_\_\_\_\_  
 PRODUCT SOIL      ORIGIN LIVERMORE AIRPORT      DESTINATION ALTAMONT LANDFILL  
 ARRIVE JOB 0715      1115      ARRIVE DISPOSAL 0945      1215  
 DEPART JOB 0915      1200      DEPART DISPOSAL 1045      1245  
 TRUCK # 1141      TRAILER # 3354      START 0530      STOP 1630      TIME 11      HOUR  
 CAPACITY 20 yd      TIME OUT \_\_\_\_\_      TO \_\_\_\_\_      LESS 4      HOUR  
 # LOADS 1      DM/YD/LBS/GALS 36      LINER 2      W/O \_\_\_\_\_      NET 11      HOUR  
 DISPOSAL SITE ALTAMONT LANDFILL (LIVERMORE)      PER DIEM \_\_\_\_\_      TOLL 1  
 DRIVERS NAME GLENN OLSON      LABORER WARREN SABLE

Glenn Olson  
 DRIVERS SIGNATURE

[Signature]  
 CUSTOMER AUTHORIZATION

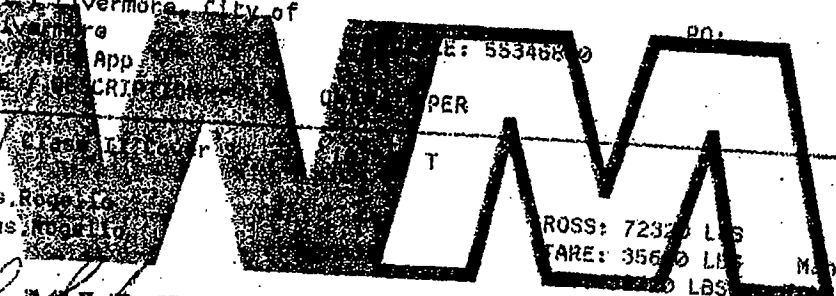
NOTE: In the event of action or proceeding upon this agreement, the court shall award to the prevailing party court costs and reasonable attorney fees.  
 Interest will be charged at the rate of 1 1/2% per month (18% per annum) on all overdue accounts.

WEIGHMASTER Altamont Landfill & RRF  
@ Altamont Pass Road  
Livermore CA 94551

DATE: 01/09/2006  
TIME IN: 11:55  
TIME OUT: 11:56

TICKET: 586837-1  
I/O: I

CARRIER: UM / Universal environmental  
TRUCK: 1143 TRAILER#:   
CUSTOMER: GETT / Gettler Ryan Inc  
GENERATOR: LIVCT / Livermore, City of  
ORIGIN: LIV / Livermore  
DESTINATION: N/A / No App  
MANIFEST WASTE: CR15



32027 C2C /   
DEPUY IN: Rojas,   
DEPUY OUT: Rojas,   
CUSTOMER: *[Signature]*

ROSS: 72370 LBS  
TARE: 3560 LBS  
Manual  
18.36

# WASTE MANAGEMENT

My signature, as customer, confirms the information reported to the weighmaster is correct, and understand and agree to all WM rules and policies while on site.

## WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

MASTER Altamont Landfill & RRF  
0 Altamont Pass Road  
Armstrong CA 94551

DATE: 01/09/2006  
TIME IN: 12:36  
TIME OUT: 12:36

TICKET: 586875-1  
I/O: I

CARRIER: UN / Universal environmental  
TRUCK: 1141 TRAILER#:  
CUSTOMER: GETT / Gettler Ryan Inc  
GENERATOR: LIVCL / Livermore, City of  
ORIGIN: LIV / Livermore  
DESTINATION: NA / Not App  
MANIFEST WASTE / DESCRIPTION

PROFIT: 55346800

PN:

72027 C2C / C198 All Cover 3

QUANTITY PER

DEPUTY IN: Brown, Ken Sr

DEPUTY OUT: Brown, Ken Sr

ROSS: 745 LBS

TARE: 3620 LBS

Manual

LOSS: 19.16

CUSTOMER:

*[Signature]*

# WASTE MANAGEMENT

My signature, as customer, confirms the information reported to the weighmaster is correct, and understand and agree to all WM rules and policies while on site.

## WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.



WASTE MASTER Alameda Landfill & RRF  
3940 Alameda Pass Road  
Livermore CA 94551

DATE: 01/09/2006  
TIME IN: 09:28  
TIME OUT: 09:58

TICKET: 586739-1  
1/01-1

CARRIER: UN / Universal environmental  
TRUCK: 1143 TRAILER:  
CUSTOMER: GETT / Gettler Ryan Inc  
GENERATOR: LIVCI / Livermore, City of

ORIGIN: LIV Livermore PU:  
DESTINATION: Alameda Landfill  
MANIFEST WASTE DESCRIPTION ONE PER

42027 CRUSHED STEEL COILS 1 1  
GROSS: 6500 LBS  
TARE: 3500 LBS  
NET: 3000 LBS  
GNS: 14.9

DEPUTY (N): PHILIP...  
DEPUTY (O): BRUCE...  
CUSTOMER:

my signature, as customer, hereby certifies that the information furnished hereon is correct, and understand and agree to all law rules and policies while on site.  
**WASTE MANAGEMENT**  
WASTE MASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

WEIGHMASTER Alameda Landfill & RR  
2040 Alameda Pass Road  
Livermore CA 94551

DATE: 01/09/2006  
TIME IN: 13:38  
TIME OUT: 13:38

TICKET: 586914-1  
T/O: 1

CARRIER: UN / Universal environmental  
TRUCK: 1143 TRAILER#:  
CUSTOMER: GETI / Gettler Ryan Inc  
GENERATOR: LIVER / Livermore City of  
ORIGIN: LIV / Livermore  
DESTINATION: UN / on Alameda  
MANIFEST WASTE RESIDUAL

FILE: 5534 800

PER

22027

CEP / CEP

6 T

DEPUTY IN: Brown  
DEPUTY OUT: Brown

GRUSS: 6120 LBS  
TARE: 3600 LBS

Manual

CUSTOMER:

*[Signature]*

# WASTE MANAGEMENT

My signature, as customer, confirms the information reported to the weighmaster is correct, and understand and agree to all WM rules and policies while on site.

## WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

**NON-HAZARDOUS WASTE MANIFEST**

1. Generator's US EPA ID No. Manifest Doc. No. 2. Page 1 of

4-2-0-2-7

Generator's Name and Mailing Address

**CITY OF LIVERMORE  
636 TERMINAL CIRCLE, LIVERMORE, CA. 94551**

4. Generator's Phone (925) 570-9150

5. Transporter 1 Company Name  
**UNIVERSAL ENVIRONMENTAL, INC.**

6. US EPA ID Number  
**C.A.D.9.8.3.6.5.2.2.7.2**

A. Transporter's Phone  
**707-747-6699**

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address

**ALTAMONT LANDFILL  
10840 ALTAMONT PASS RD.  
LIVERMORE, CA. 94550-9745**

10. US EPA ID Number  
**C.A.D.9.8.1.3.8.2.7.3.2**

C. Facility's Phone  
**925-455-7301**

11. Waste Shipping Name and Description

a. **NON-HAZARDOUS WASTE SOLID (SOIL)**

*636 Terminal Circle Livermore*

12. Containers No. Type

*Circle 0-01 DT*

13. Total Quantity

*197*

14. Unit W/Vol

*T*

D. Additional Descriptions for Materials Listed Above  
**(SOIL)**

E. Handling Codes for Wastes Listed Above

16. Special Handling Instructions and Additional Information

**PROFILE #55346800  
CUSTOMER: GETTLER-RYAN**

**JOB #2027**

**WEAR APPROPRIATE PPE WHEN HANDLING  
24HR EMERGENCY CONTACT: UR @ 800-747-6609**

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name

*JACK ROMAN*

Signature

*[Signature]*

Month Day Year

*01 09 06*

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

*John Savden*

Signature

*[Signature]*

Month Day Year

*01 09 06*

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

*[Signature]*

Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

*[Signature]*

Signature

*[Signature]*

Month Day Year

*01 19 06*

GENERATOR

TRANSPORTER

FACILITY

TRANSPORTER #1

**NON-HAZARDOUS WASTE MANIFEST**

1. Generator's US EPA ID No. Manifest Doc. No. 2. Page 1 of

7-2-0-2-7

Generator's Name and Mailing Address  
**CITY OF LIVERMORE**  
**636 TERMINAL CIRCLE, LIVERMORE, CA. 94551**

4. Generator's Phone ( 925 ) 570-9150

5. Transporter 1 Company Name  
**UNIVERSAL ENVIRONMENTAL, INC.**

6. US EPA ID Number  
**C A D 9 8 3 6 5 2 2 7 2**

A. Transporter's Phone  
**707-747-6699**

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address  
**ALTAMONT LANDFILL**  
**10840 ALTAMONT PASS RD.**  
**LIVERMORE, CA. 94550-9745**

10. US EPA ID Number  
**C A D 9 8 1 3 8 2 7 3 2**

C. Facility's Phone  
**925-455-7301**

11. Waste Shipping Name and Description

12. Containers No. Type 13. Total Quantity 14. Unit Wt/Vol

a. **NON-HAZARDOUS WASTE SOLID (SOIL)**

**0 0 1 D T 669.15 T**

b.

c.

d.

D. Additional Descriptions for Materials Listed Above  
**(SOIL)**

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information  
**PROFILE #55346800**  
**CUSTOMER: GETTLER-RYAN**

**JOB #2027**

**WEAR APPROPRIATE PPE WHEN HANDLING**  
**24HR EMERGENCY CONTACT: UE @ 800-747-6609**

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name  
**JACK ROWAN for CITY of LIVERMORE**

Signature  
*Jack Rowan*

Month Day Year  
**11 19 06**

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name  
**Glenn Olson**

Signature  
*Glenn Olson*

Month Day Year  
**11 19 06**

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name

Signature  
*Ken Brown*

Month Day Year  
**11 19 06**

**TRANSPORTER #1**

GENERATOR'S FACILITY

**NON-HAZARDOUS WASTE MANIFEST**

1. Generator's US EPA ID No. Manifest Doc. No. 2. Page 1 of

8.2.0.2.7

Generator's Name and Mailing Address

**CITY OF LIVERMORE  
636 TERMINAL CIRCLE, LIVERMORE, CA. 94551**

4. Generator's Phone ( 925 ) 570-9150

5. Transporter 1 Company Name  
**UNIVERSAL ENVIRONMENTAL, INC.**

6. US EPA ID Number  
**C A D 9 8 3 6 5 2 2 7 2**

A. Transporter's Phone  
**707-747-6699**

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address

**ALTAMONT LANDFILL  
10840 ALTAMONT PASS RD.  
LIVERMORE, CA. 94550-9745**

10. US EPA ID Number  
**C A D 9 8 1 3 8 2 7 3 2**

C. Facility's Phone  
**925-455-7301**

11. Waste Shipping Name and Description

a. **NON-HAZARDOUS WASTE SOLID (SOIL)**

12. Containers No. Type 13. Total Quantity 14. Unit Wt/Vol

0 0 1 D T 666 1 8 T

D. Additional Descriptions for Materials Listed Above  
**(SOIL)**

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

**PROFILE #55346800**

**JOB #2027**

**CUSTOMER: GETTLER-RYAN**

**WEAR APPROPRIATE PPE WHEN HANDLING**

**24HR EMERGENCY CONTACT: UR @ 800-747-6609**

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to Federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name  
**JACK ROMAN**

Signature  
*[Signature]* Month Day Year  
**01 09 06**

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name  
**Glenn Olson**

Signature  
*[Signature]* Month Day Year  
**11 09 06**

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Signature  
*[Signature]* Month Day Year  
**11 22 06**

GENERATOR

TRANSPORTER

FACILITY

TRANSPORTER #1

## **APPENDIX B**

**Drilling Permit  
Exploratory Boring Logs**



# ZONE 7 WATER AGENCY

100 NORTH CANYONS PARKWAY, LIVERMORE, CALIFORNIA 94551 VOICE (925) 454-5000 FAX (925) 454-5728

## DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT Livermore Airport  
Terminal Circle at Airport Blvd  
Livermore  
Lat 37.695 Long 121.815  
 California Coordinates Source \_\_\_\_\_ ft. Accuracy ± \_\_\_\_\_ ft.  
 CGN \_\_\_\_\_ ft. COE \_\_\_\_\_ ft.  
 APN \_\_\_\_\_

PERMIT NUMBER 27059  
 WELL NUMBER \_\_\_\_\_  
 APN \_\_\_\_\_

### PERMIT CONDITIONS

(Circled Permit Requirements Apply)

CLIENT Name City of Livermore  
 Address 10525 S. Livermore Ave Phone 925/460-4531  
 City Livermore CA Zip 94550

- A. GENERAL**
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to 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 or equivalent for well projects or drilling logs and location sketch for geotechnical projects.
  3. Permit is void if project not begun within 90 days of approval date.

APPLICANT Name Consolidated Engr. Labs Inc. Fax \_\_\_\_\_  
 Address 2001 Crown Canyon Rd Phone 925/314-7137  
 City San Ramon, CA Zip 94583

- B. WATER SUPPLY WELLS**
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
  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. An access port at least 0.5 inches in diameter is required on the wellhead for water level measurements.
  4. A sample port is required on the discharge pipe near the wellhead.

TYPE OF PROJECT

|                     |                          |                            |                                     |
|---------------------|--------------------------|----------------------------|-------------------------------------|
| Well Construction   |                          | Geotechnical Investigation |                                     |
| Cathodic Protection | <input type="checkbox"/> | General                    | <input type="checkbox"/>            |
| Water Supply        | <input type="checkbox"/> | Contamination              | <input checked="" type="checkbox"/> |
| Monitoring          | <input type="checkbox"/> | Well Destruction           | <input type="checkbox"/>            |

- C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS**
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
  2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

PROPOSED WELL USE

|              |                          |                          |                                     |
|--------------|--------------------------|--------------------------|-------------------------------------|
| New Domestic | <input type="checkbox"/> | Irrigation               | <input type="checkbox"/>            |
| Municipal    | <input type="checkbox"/> | Remediation              | <input type="checkbox"/>            |
| Industrial   | <input type="checkbox"/> | Groundwater Monitoring   | <input type="checkbox"/>            |
| Dewatering   | <input type="checkbox"/> | Other <u>Boring only</u> | <input checked="" type="checkbox"/> |

- 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.

DRILLING METHOD:

|            |                          |             |                          |                       |                                     |
|------------|--------------------------|-------------|--------------------------|-----------------------|-------------------------------------|
| Mud Rotary | <input type="checkbox"/> | Air Rotary  | <input type="checkbox"/> | Hollow Stem Auger     | <input type="checkbox"/>            |
| Cable Tool | <input type="checkbox"/> | Direct Push | <input type="checkbox"/> | Other <u>Geoprobe</u> | <input checked="" type="checkbox"/> |

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

DRILLING COMPANY U & W Drilling  
 DRILLER'S LICENSE NO. C57-720904

- F. WELL DESTRUCTION.** See attached.

WELL PROJECTS

|                     |              |         |               |
|---------------------|--------------|---------|---------------|
| Drill Hole Diameter | <u>3</u> in. | Maximum |               |
| Casing Diameter     | <u>3</u> in. | Depth   | <u>30</u> ft. |
| Surface Seal Depth  | _____ ft.    | Number  | <u>12</u>     |

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

SOIL BORINGS

|                   |              |         |               |
|-------------------|--------------|---------|---------------|
| Number of Borings | <u>10</u>    | Maximum |               |
| Hole Diameter     | <u>3</u> in. | Depth   | <u>30</u> ft. |

ESTIMATED STARTING DATE April 2, 2007  
 ESTIMATED COMPLETION DATE April 4, 2007

Approved Wyman Hong Date 3/30/07  
 Wyman Hong

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

APPLICANT'S SIGNATURE Chris Palmer for CEL Inc Date March 26, 2007  
 Chris Palmer

ATTACH SITE PLAN OR SKETCH

Revised: April 27, 2005

# Consolidated Engineering Laboratories, Inc.

# Exploratory Boring Log

Project No.81-01824-A BORING NO. B-1  
 Logged by: CMP Date: April 2, 2007  
 Client: City of Livermore Airport  
 Location: Fuel Pipeline and USTs

Drilling Method: GeoProbe Page 1 of 1  
**BOREHOLE COMPLETION:**  
 Well Installed: No  
 Total Depth: 32'

Permit: Zone 7 #27059  
 Water Levels: 1st Enc: 26' Static: 22?

Grout Seal: 32' to Surface

| Sample No. | PID /OV | Contin. Push/ Core | Sample Depth | Lithology Log   | Well Detail/ Backfill |
|------------|---------|--------------------|--------------|---|-----------------------|
|            |         |                    |              | Asphalt   |                       |
| B-1 to 4'  | 0       |                    |              | CL - Sandy CLAY, dark brown 10YR3/3, f.-med. sand 30-40%, low plasticity, stiff, damp.  |                       |
| B-1 to 8'  | 0       |                    | 5            | Same as above, increasing sand.   |                       |
| B-1 to 12' | 0       |                    | 10           | SW - SAND with Clay, brownish yellow 10YR6/6, clay up to 20%, low plasticity, f.-crs. sand 80%, rare fine gravel, med. dense, damp. |                       |
| B-1 to 16' | 0       |                    | 15           | Same as above, f.-crs. sand, clay decreases occurs as matrix, color change to light yellowish brown 10YR6/4, dense, damp.           |                       |
| B-1 to 20' | 0       |                    | 20           | CL - Sandy CLAY, dark yellowish brown 10YR4/4, f. -med. sand 30-40%, clay lean, low plasticity, 60-70%, med. stiff, damp.           |                       |
| B-1 to 24' | 0       |                    |              | CL - Sandy CLAY, grayish brown 2.5YR5/2, f. sand 5-15%, clay low plasticity, 75%+, med. stiff, damp.                                |                       |
| B-1 to 28' | 0       |                    | 25           | Increase in f.-med. sand to 45%, med. stiff, moist.<br>Becomes very moist to saturated at about 26 feet.                            |                       |
| B-1 to 32' | 0       |                    | 30           | SW - SAND, grayish brown 2.5YR4/2, f.-crs. sand 90%, fines 10% and slightly plastic, dense, saturated.                              |                       |
|            |         |                    |              | CL - Sandy CLAY, dark grayish brown 2.5YR4/2, f.-med. sand 15-25%, clay low plasticity, stiff ,damp.                                |                       |
|            |         |                    | 35           | Bottom of Boring =32 feet<br>Water enters borehole slowly   |                       |

Reviewed by PG



# Consolidated Engineering Laboratories, Inc.

# Exploratory Boring Log

Project No.81-01824-A BORING NO. B-2  
 Logged by: CMP Date: April 2, 2007  
 Client: City of Livermore Airport  
 Location: Fuel Pipeline and USTs

Drilling Method: GeoProbe Page 1 of 1  
**BOREHOLE COMPLETION:**  
 Well Installed: No  
 Total Depth: 32'

Permit: Zone 7 #27059  
 Water Levels: 1st Enc: 26.5' Static: NM

Grout Seal: 32' to Surface

| Sample No. | PID /OV | Contin. Push/ Core | Sample Depth | Lithology Log  | Well Detail/ Backfill |
|------------|---------|--------------------|--------------|--|-----------------------|
|            |         |                    |              | Asphalt  |                       |
| B-2 to 4'  | 0       |                    |              | CL - CLAY, dark yellowish brown 10YR3/4, f. sand 20%, low plasticity, lean, stiff, damp.   |                       |
| B-2 to 8'  | 0       |                    | 5            | CL - Sandy CLAY, dark yellowish brown 10YR3/4, f.-crs. sand 40%, rare gravel clay 60% lean low plasticity, stiff, damp.<br><br>Sand content varies from about 45-65% at 8 feet, stiff, damp. |                       |
| B-2 to 12' | 0       |                    | 10           | SC-SW - Clayey SAND to SAND interbedded, brown 10YR5/2, f.-crs. sand 70-90%, clay varies 10-30%, lean low plasticity, rare gravel, dense, damp.  |                       |
| B-2 to 16' | 0       |                    | 15           | Same as above, less med. crs. sand, lens of sand 2-4 inches thick, dense, damp.<br><br>Pushes hard 16-20 feet.   |                       |
| B-2 to 20' | 0       |                    | 20           | SP - SAND, grayish brown 10YR5/2, f. sand 80-90%, fines 10-20%, nonplastic to slightly plastic, dense, damp.   |                       |
| B-2 to 24' | 0       |                    |              |  |                       |
| B-2 to 28' | 0       |                    | 25           | SP-SC - SAND and Clayey SAND, grayish brown 10YR5/2, f. sand 70-90%, clay/fines low plasticity lean, dense, damp to very moist.  |                       |
| B-2 to 32' | 0       |                    | 30           | CL - CLAY, yellowish brown 10YR5/6, v. f. sand <5%, stiff, damp.<br>Sand interbed about 26 to 28 feet, saturated, low core recovery.   |                       |
|            |         |                    | 30           | Sand interbed fines 10-15%, sand 85%, dense saturated at 31.5-31.8, then clay as above, not saturated 31.8-32, stiff, damp.  |                       |
|            |         |                    | 35           | Bottom of Boring = 32 feet<br>Water enters borehole slowly, some collapse or swell 28-32 feet, sampled with Hydropunch   |                       |
|            |         |                    |              | Reviewed by PG   |                       |

# Consolidated Engineering Laboratories, Inc.

# Exploratory Boring Log

Project No. 81-01824-A BORING NO. B-3  
 Logged by: CMP Date: April 2, 2007  
 Client: City of Livermore Airport  
 Location: Fuel Pipeline and USTs

Drilling Method: GeoProbe Page 1 of 1  
**BOREHOLE COMPLETION:**  
 Well Installed: No  
 Total Depth: 28'

Permit: Zone 7 #27059  
 Water Levels: 1st Enc: 25' Static: 25'?

Grout Seal: 28' to Surface

| Sample No. | PID /OV | Contin. Push/ Core | Sample Depth | Lithology Log   | Well Detail/ Backfill |
|------------|---------|--------------------|--------------|---|-----------------------|
|            |         |                    |              | Concrete  |                       |
| B-3 to 4'  | 0       |                    |              | CL - Sandy CLAY, dark yellowish brown 10YR3/4, f. sand 15-20%, low plasticity lean clay, med. stiff, damp.  |                       |
| B-3 to 8'  | 0       |                    | 5            | Same as above, thin sand beds 2-4 inches thick with crs. sand, o/w med. stiff, damp.<br><br>Increase in sand at 8 feet, pushes hard 8-12 feet, stiff, damp. |                       |
| B-3 to 12' | 0       |                    | 10           | SW - SAND, light yellowish gray 10YR6/2, f. -crs. sand 90%, fines slightly plastic, may contain very thin clay beds 1-2 inches thick, very dense, damp.     |                       |
| B-3 to 16' | 0       |                    | 15           | SC - Clayey SAND. brown 10YR5/2, f. sand 75%, lean low plasticity clay 25%, faint bedding, very dense, damp.  |                       |
| B-3 to 20' | 0       |                    | 20           | Same as above, less and, clay inc. to 40%, possible caliche, very dense, damp.  |                       |
| B-3 to 24' | 0       |                    |              | Same as above, inc. in sand to 75%, then transition to underlying stratum, dense, damp.   |                       |
| B-3 to 28' | 0       |                    | 25           | CL - Silty CLAY, brown 10YR5/2, lean, no sand, stiff, damp.   |                       |
|            |         |                    |              | SW-SC - SAND and Clayey SAND, brown 10YR4/3, f.-med. sand 70-80%, clay lean low plasticity 20-30%, dense, saturated.  |                       |
|            |         |                    |              | CL - CLAY, brown 10YR4/3, f. sand <5%, clay lean low plasticity, stiff, damp.   |                       |
|            |         |                    | 30           |   |                       |
|            |         |                    | 35           |   |                       |
|            |         |                    |              | Bottom of Boring = 28 feet<br>Water enters borehole slowly  |                       |
|            |         |                    |              | Reviewed by PG  |                       |

# Consolidated Engineering Laboratories, Inc.

# Exploratory Boring Log

Project No.81-01824-A BORING NO. B-4  
 Logged by: CMP Date: April 3, 2007  
 Client: City of Livermore Airport  
 Location: Fuel Pipeline and USTs

Drilling Method: GeoProbe Page 1 of 1  
**BOREHOLE COMPLETION:**  
 Well Installed: No  
 Total Depth: 32'

Permit: Zone 7 #27059  
 Water Levels: 1st Enc: 25' Static: NM

Grout Seal: 32' to Surface

| Sample No.            | PID /OV | Contin. Push/ Core | Sample Depth | Lithology Log  | Well Detail/ Backfill |
|-----------------------|---------|--------------------|--------------|--|-----------------------|
|                       |         |                    |              | Asphalt  |                       |
| B-4 to 4'             | 0       |                    |              | CL - Silty CLAY, brown 10YR5/6, v.f. sand <5%, clay lean low platicity, med. stiff, damp.  |                       |
| B-4 to 8'             | 0       |                    | 5            |  |                       |
| B-4 to 12'            | 0       |                    | 10           | SW - SAND, pale brown 10YR6/4, f.-crs. sand 90%, fines 10% and nonplastic, rare gravel, massive, dense damp.   |                       |
| B-4 to 16'            | 0       |                    | 15           | Same as above, crude crs. sand grain-sized defined bedding, nonplastic fines, very dense, damp.  |                       |
| B-4 to 20'            | 0       |                    | 20           | CL - Silty CLAY, brown 10YR4/3, clay low plasticity lean 90%, v.f. sand 10%, caliche(?), hard, damp.   |                       |
| B-4 to 24'            | 0       |                    | 25           | Same as above, massive clay, v.f. sand inc. to 10-15%, pushes hard 20-24 feet.   |                       |
| B-4 to 28'            | 0       |                    | 25           | Sandy Clay to Clayey Sand interbed 6 inches thick at 22.5-23 feet, o/w same clay below 23 feet, stiff to hard, damp.   |                       |
| B-4 to 32' Hydropunch | 0       |                    | 30           | SC - Clayey SAND, gray 10YR5/1, f. -med sand 70%, clay 30%, low plasticity, very dense, very moist to saturated.   |                       |
|                       |         |                    | 35           | Borehole collapses to 17 feet after recovery of 25 foot sample. Use Hydropunch for water sample, push tool to 32 feet, then pull back to 27 for water entry. |                       |
|                       |         |                    |              | Bottom of Boring = 32 feet<br>Water enters borehole slowly   |                       |

Reviewed by PG

# Consolidated Engineering Laboratories, Inc.

# Exploratory Boring Log

Project No. 81-01824-A BORING NO. B-5  
 Logged by: CMP Date: April 3, 2007  
 Client: City of Livermore Airport  
 Location: Fuel Pipeline and USTs

Drilling Method: GeoProbe Page 1 of 1  
**BOREHOLE COMPLETION:**  
 Well Installed: No  
 Total Depth: 32'

Permit: Zone 7 #27059  
 Water Levels: 1st Enc: 24.5' Static: NM

Grout Seal: 32' to Surface

| Sample No.               | PID /OV | Contin. Push/ Core | sample Depth | Lithology Log   | Well Detail/ Backfill |
|--------------------------|---------|--------------------|--------------|---|-----------------------|
|                          |         |                    |              | Asphalt   |                       |
| B-5 to 4'                | 0       |                    |              | CL - Sandy CLAY, dark yellowish brown 10YR3/4, lean low plasticity, v.f. sand <5%, med. stiff, damp.  |                       |
| B-5 to 8'                | 0       |                    | 5            | CL - Sandy CLAY, brown, 10YR4/3, f. crs. sand 20%, gravel 1%, clay lean low plasticity 80%, massive to crudely bedded, stiff, damp.   |                       |
| B-5 to 12'               | 0       |                    | 10           | SW - SAND, grayish brown 10YR5/2, f. crs. sand 85%, f. gravel 5%, fines 10% nonplastic to slightly plastic, very dense, damp.   |                       |
| B-5 to 16'               | 0       |                    | 15           | CL - Silty CLAY, yellowish brown 10YR5/4, low-mod. plasticity, v.f. sand <5%, dissem. in clay, minor caliche, hard, damp.   |                       |
| B-5 to 20'               | 0       |                    | 20           | Same as above, pushes hard, no caliche, hard, damp.   |                       |
| B-5 to 24'               | 0       |                    | 25           | CL-SC - Sandy CLAY to Clayey SAND, dark grayish brown 10YR4/2, f.-med. sand 40-70%, fines 40-70% varies, low plasticity, locally contains 2-4 inch thick sand beds at 23-24 feet, hard to dense, damp, moist at 24 feet |                       |
| B-5 to 28'               | 0       |                    |              | SP - SAND, dark grayish brown 10Yr4/3, sand 95%, nonplastic fines 5%, massive to faint bedding, very dense saturated.   |                       |
| B-5 to 32'<br>Hydropunch |         |                    | 30           | Borehole collapses at 8 feet, use Hydropunch to collect water sample, push to 32 feet, pull back to 27 feet to collect sample.  |                       |
|                          |         |                    | 35           | Bottom of Boring =32 feet<br>Water enters borehole slowly   |                       |

Reviewed by PG

# Consolidated Engineering Laboratories, Inc.

# Exploratory Boring Log

Project No. 81-01824-A BORING NO. B-6  
 Logged by: CMP Date: April 3, 2007  
 Client: City of Livermore Airport  
 Location: Fuel Pipeline and USTs

Drilling Method: GeoProbe Page 1 of 1  
**BOREHOLE COMPLETION:**  
 Well Installed: No  
 Total Depth: 36'

Permit: Zone 7 #27059  
 Water Levels: 1st Enc: 27'? Static: 24'

Grout Seal: 36' to Surface

| Sample No. | PID /OV | Contin. Push/ Core | sample Depth | Lithology Log   | Well Detail/ Backfill |
|------------|---------|--------------------|--------------|---|-----------------------|
|            |         |                    |              | Asphalt   |                       |
| B-6 to 4'  | 0       |                    |              | CL - Silty CLAY, brown 10YR4/3, f. crs. sand 5%, clay lean low plasticity, stiff, damp.   |                       |
| B-6 to 8'  | 0       |                    | 5            |   |                       |
| B-6 to 12' | 0       |                    | 10           | SW-SC - SAND and Clayey SAND, dark grayish brown 10YR4/2, .f.crs. sand 60-75% fines 25-40% slight to low plasticity, dense, damp.   |                       |
| B-6 to 16' | 0       |                    | 15           | CL - Silty CLAY, dark yellowish brown 10YR4/6, low-mod. plasticity, v.f. sand 5%, some caliche. hard, damp.<br>Same as above, light tan mottles and caliche(?), f. sand to 10%, hard, damp. |                       |
| B-6 to 20' | 0       |                    | 20           | Same as above, v.f. sand 5%, some very thin sandy zones 18-24 feet, very slow push at 20 feet   |                       |
| B-6 to 24' | 0       |                    | 25           | 3 inch thick f. med. sand bed at 23-23.3 feet, hard, damp, becomes damp to moist at 24 feet.  |                       |
| B-6 to 28' | 0       |                    | 30           | CL - Sandy CLAY, yellowish brown 10YR5/4, f. sand 30%, clay 70% low plasticity lean, massive, hard, damp to moist; pushes very hard to 27 feet.   |                       |
| B-6 to 32' | 0       |                    | 35           | SC-CL - Clayey SAND to Sandy CLAY, yellowish brown 10YR5/4, vf. f. sand 50-75%, fines/clay 25-50% low plasticity lean, local thin sand beds, hard to dense, damp to slightly moist.         |                       |
| B-6 to 36' | 0       |                    | 40           | CL - Sandy CLAY, brown 10YR4/3, f. sand 10-30%, dissem. in clay, clay 70% low plasticity, hard, damp.   |                       |
|            |         |                    |              | Bottom of Boring = 36 feet<br>Water enters borehole slowly  |                       |
|            |         |                    |              | Reviewed by PG  |                       |

# Consolidated Engineering Laboratories, Inc.

# Exploratory Boring Log

Project No. 81-01824-A BORING NO. B-7  
 Logged by: CMP Date: April 3, 2007  
 Client: City of Livermore Airport  
 Location: Fuel Pipeline and USTs

Drilling Method: GeoProbe Page 1 of 1  
**BOREHOLE COMPLETION:**  
 Well Installed: No  
 Total Depth: 32'

Permit: Zone 7 #27059  
 Water Levels: 1st Enc: 25.5' Static: 23.5'

Grout Seal: 32' to Surface

| Sample No. | PID /OV | Contin. Push/ Core | Sample Depth | Lithology Log   | Well Detail/ Backfill |
|------------|---------|--------------------|--------------|---|-----------------------|
| B-7 to 4'  | 0       |                    |              | Asphalt   |                       |
| B-7 to 8'  | 0       |                    | 5            | CL - Silty CLAY, brown 10YR4/3, f. crs. sand 5%, clay lean low plasticity, stiff, damp.   |                       |
| B-7 to 12' | 0       |                    | 10           | SW-SC - SAND and Clayey SAND, dark grayish brown 10YR4/2, f. crs. sand varies 60-80%, clay 20-40% low plasticity, dense, damp.  |                       |
| B-7 to 16' | 0       |                    | 15           | Same as above, locally crs. gravel 10%, f. crs. sand 80-85%, fines <5-10%, very dense, damp.                                    |                       |
| B-7 to 20' | 0       |                    | 20           | CL - Silty CLAY, yellowish brown 10YR5/6, low-mod. plasticity, f. sand 10-20% dissem. in clay, hard, damp.                      |                       |
| B-7 to 24' | 0       |                    | 25           | Same as above, minor tan mottles, caliche infilled fractures, hard, damp.   |                       |
| B-7 to 28' | 0       |                    | 25           | Sand interbed 4-6 inch thick at 23.5 feet, inc. sand from 25-30%, hard, damp.   |                       |
| B-7 to 32' | 0       |                    | 25           | CL - Sandy CLAY, brown 10YR4/3, f. sand 30-40%, dissem. in clay, clay low plasticity, hard, damp. Sandy interbed damp to moist. |                       |
|            |         |                    | 25           | CL - CLAY, brown 10YR4/3, sandy beds from 25-26 feet, clay low plasticity lean, hard, damp.                                     |                       |
|            |         |                    | 30           | Same as above, sandy interbed sturated at 28.5-29 feet, then clay damp.   |                       |
|            |         |                    | 35           | Bottom of Boring = 32 feet<br>Water enters borehole slowly  |                       |

Reviewed by PG

# Consolidated Engineering Laboratories, Inc.

# Exploratory Boring Log

Project No. 81-01824-A BORING NO. B-8  
 Logged by: CMP Date: April 4, 2007  
 Client: City of Livermore Airport  
 Location: Fuel Pipeline and USTs

Drilling Method: GeoProbe Page 1 of 1  
**BOREHOLE COMPLETION:**  
 Well Installed: No  
 Total Depth: 32'

Permit: Zone 7 #27059  
 Water Levels: 1st Enc: 24' Static: 24?

Grout Seal: 32' to Surface

| Sample No.            | PID /OV | Contin. Push/ Core | sample Depth | Lithology Log   | Well Detail/ Backfill |
|-----------------------|---------|--------------------|--------------|---|-----------------------|
| B-8 to 4'             | 0       |                    |              | Asphalt   |                       |
| B-8 to 8'             | 0       |                    | 5            | Cl - Sandy CLAY, brown 10YR4/3, f. sand 20%, clay 80%, low plasticity, massive, hard, damp.   |                       |
| B-8 to 12'            | 0       |                    | 10           | Same as above, med. sand 15-20%, color change to dark yellowish brown 10YR3/4, lean, sandy interbed at 6 feet, hard, damp.                                  |                       |
| B-8 to 16'            | 0       |                    | 15           | SC-SW - Clayey SAND to SAND, brown 10YR5/3, f. crs. sand 90%, fines 10% slightly plastic, crs. sand beds 0.2-1.0 inches thick from 11-14 feet, dense, damp. |                       |
| B-8 to 20'            | 0       |                    | 20           | Same as above, faint bedding, rare fine gravel, sand 80-90%, fines 10-20% are slightly plastic, dense damp.   |                       |
| B-8 to 24'            | 0       |                    | 24           | CL - Silty CLAY, yellowish brown 10YR5/4, lean low plasticity, v.f. sand 10%, caliche, stiff to hard, damp.   |                       |
| B-8 to 28'            | 0       |                    | 25           | Same as above, v.f. sand 5%, massive, stiff, damp to moist at about 24 feet.  |                       |
| B-8 to 32' Hydropunch | 0       |                    | 30           | SP - SAND, yellow brown 10YR5/4, f. sand 90%, fines 10% slightly plastic, thin clay beds at 24-26 feet interbedded with sand, med. dense, saturated.        |                       |
|                       |         |                    | 30           | Insufficient yield of water, push Hydropunch to 32 feet collect water sample.   |                       |
|                       |         |                    | 35           | Bottom of Boring = 32 feet<br>Water enters borehole slowly  |                       |

Reviewed by PG

# Consolidated Engineering Laboratories, Inc.

# Exploratory Boring Log

Project No. 81-01824-A BORING NO. B-9  
 Logged by: CMP Date: April 4, 2007  
 Client: City of Livermore Airport  
 Location: Fuel Pipeline and USTs

Drilling Method: GeoProbe Page 1 of 1  
**BOREHOLE COMPLETION:**  
 Well Installed: No  
 Total Depth: 32'

Permit: Zone 7 #27059  
 Water Levels: 1st Enc: 25' Static: 22'

Grout Seal: 32' to Surface

| Sample No. | PID /OV | Contin. Push/ Core | sample Depth | Lithology Log  | Well Detail/ Backfill |
|------------|---------|--------------------|--------------|--|-----------------------|
|            |         |                    |              | Asphalt  |                       |
| B-9 to 4'  | 0       |                    |              | CL - Sandy CLAY, dark yellowish brown 10YR3/4, f. med. sand 30-40%, massive, stiff, damp.<br>Sand inc. to near 50% at 5 feet.  |                       |
| B-9 to 8'  | 0       |                    | 5            | SC-SW - Clayey SAND to SAND, varigated to gray 10YR5/1, f. -crs. sand 70-90%, fines 10-30% and slightly plastic, dense, damp.  |                       |
| B-9 to 12' | 0       |                    | 10           | Same as above, local fine gravel beds, crudely bedded crs. sand strata, very dense, damp.  |                       |
| B-9 to 16' | 0       |                    | 15           | Same as above, massive f.-crs sand beds, very little fines, then sharp contact.  |                       |
| B-9 to 20' | 0       |                    | 20           | CL - Sandy CLAY, dark yellowish brown 10YR4/4, low plasticity lean, v.f. sand 10-20%, very faint bedding at 16 feet, stiff, damp; pushes hard 16 19 feet.<br>Same as above, stiff, damp. |                       |
| B-9 to 24' | 0       |                    | 25           | SC-SP - Clayey SAND to SAND, dark yellowish brown 10YR4/4, f. sand 75-90%, fines 10-25% clay low plasticity, massive, dense, damp.   |                       |
| B-9 to 28' | 0       |                    |              | Same as above, interbeds of SP sand very moist to saturated, SC clayey SAND damp to moist.   |                       |
| B-9 to 32' | 0       |                    | 30           | CL - Sandy CLAY, yellow brown 10YR4/6, low to mod. plasticity, v.f. sand 10-20%, stiff, damp.  |                       |
|            |         |                    | 35           | Bottom of Boring = 32 feet<br>Water enters borehole slowly   |                       |
|            |         |                    |              | Reviewed by PG   |                       |



# Consolidated Engineering Laboratories, Inc.

# Exploratory Boring Log

Project No. 81-01824-A BORING NO. B-10  
 Logged by: CMP Date: April 4, 2007  
 Client: City of Livermore Airport  
 Location: Fuel Pipeline and USTs

Drilling Method: GeoProbe Page 1 of 1  
**BOREHOLE COMPLETION:**  
 Well Installed: No  
 Total Depth: 32'

Permit: Zone 7 #27059  
 Water Levels: 1st Enc: 25' Static: NM

Grout Seal: 32' to Surface

| Sample No.  | PID /OV | Contin. Push/ Core | sample Depth | Lithology Log   | Well Detail/ Backfill |
|-------------|---------|--------------------|--------------|---|-----------------------|
|             |         |                    |              | Asphalt   |                       |
| B-10 to 4'  | 0       |                    |              | CL - Sandy CLAY, brown 10YR4/3, f. sand 20-30%, clay 70-80% lean low plasticity, massive, stiff, damp.                  |                       |
|             |         |                    | 5            | color change to very dark brown 10YR2/2, v.f. sand 15%, massive, stiff, damp.   |                       |
| B-10 to 8'  | 0       |                    |              |   |                       |
|             |         |                    | 10           | Same as above, crs. sand interbed 3 inches thick at 1 feet, inc. in sand overall, stiff, damp.                          |                       |
| B-10 to 12' | 0       |                    |              |   |                       |
|             |         |                    | 15           | SC - Clayey SAND, yellowish brown 10YR5/8, f. med. sand 70-80%, clay/fines 20-30%, low plasticity, dense damp.          |                       |
| B-10 to 16' | 0       |                    |              |   |                       |
|             |         |                    | 20           | CL - Silty CLAY, dark yellowish brown 10YR4/6, low-mod. plasticity, some caliche, f. sand 10%, stiff to hard, damp.     |                       |
| B-10 to 20' | 0       |                    |              |   |                       |
|             |         |                    | 25           | Same as above, v.f. sand 20-25% dissem. in clay, stiff to hard, damp.   |                       |
| B-10 to 24' | 0       |                    |              |   |                       |
|             |         |                    | 30           | Increasing sand to nearly 50%, stiff, damp.   |                       |
| B-10 to 28' | 0       |                    |              |   |                       |
|             |         |                    | 35           | SC-SP - Clayey SAND to SAND, yellowish brown 10YR5/6, f. sand 60-90%, clay 10-40% low plasticity, dense, damp to moist. |                       |
| B-10 to 32' | 0       |                    |              |   |                       |
| Hydropunch  |         |                    |              | thin clay interbeds and saturated sand beds, clay decreases to 10%, v.f. sand 90%, water entry into borehole very slow. |                       |
|             |         |                    |              | Hydropunch to 32 feet to collect sufficient yield for samples.  |                       |
|             |         |                    |              | Bottom of Boring = 32 feet<br>Water enters borehole slowly  |                       |

Reviewed by PG

## **APPENDIX C**

**Chemical Analytical Data  
Chain-of-Custody**



**McC Campbell Analytical, Inc.**

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Web: www.mccampbell.com E-mail: main@mccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

|  |   |                          |
|--|---|--------------------------|
| Consolidated Engineering Laborat<br>2001 Crow Canyon Road, Suite<br>100<br>San Ramon, CA 94583 | Client Project ID: #81-01824-A; Livermore<br>Airport-Pipeline | Date Sampled: 04/02/07   |
|  |   | Date Received: 04/02/07  |
|  | Client Contact: Chris Palmer                                  | Date Reported: 04/06/07  |
|  | Client P.O.:  | Date Completed: 04/06/07 |

**WorkOrder: 0704022**

April 06, 2007

Dear Chris:

Enclosed are:

- 1). the results of 11 analyzed samples from your #81-01824-A; Livermore Airport-Pipeline project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions please contact me. McC Campbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Best regards,

Angela Rydelius, Lab Manager

cel 0704022

**Consolidated Engineering Laboratories, Inc.**  
 2001 Crow Canyon Road, Suite 100  
 San Ramon, CA 94583

Ph. 925/314-7100  
 Fx. 925/855-7140

# Chain of Custody

Date: April 2, 2007  
 Proj. No. 81-01824-A  
 Page 1 of     

Project name: Livermore Airport - Pipeline

Relinquished by: CMPalmer Received by: Duke Carter Date received: 4/2/07  
 Print name: CMPalmer Print name: Duke Carter  
 Company name: Consolidated Engin Lab Lab name: McAniff Time received: 1515  
Duke Carter 4/2 18:30

| Special Instructions                                  |        |      |        | Number of samples | Turn Around Time | Analysis Requested | TPH/G/B/TEX/M/TBET<br>OKYS | 8015, 8200B | TPH/DIESEL 8015 | Received in good condition |          |                    |
|---|--------|------|--------|-------------------|------------------|--------------------|----------------------------|-------------|-----------------|----------------------------|----------|--------------------|
| N-5 day<br>Please check on TPND range for<br>Jet fuel |        |      |        |                   |                  |                    |                            |             |                 | Yes                        | No       | Total # of Samples |
| Sample I.D.   | Date   | Time | Matrix |                   |                  |                    |                            |             |                 |                            | Comments |                    |
| B-1e 2=2.5  | 4/2/07 | 0900 | Soil   | 1                 | N                |                    | /                          | /           |                 |                            |          |                    |
| B-1-2 @ 7.5-8   |        | 0905 |        | 1                 | N                |                    | /                          | /           |                 |                            |          | HOLD               |
| B-1-3 @ 12.5-12                                       |        | 0910 |        | 1                 | N                |                    | /                          | /           |                 |                            |          | HOLD               |
| B-1-4 @ 15.5-16                                       |        | 0920 |        | 1                 | N                |                    | /                          | /           |                 |                            |          | HOLD               |
| B-1-5 @ 19.5-20                                       |        | 0930 |        | 1                 | N                |                    | /                          | /           |                 |                            |          | HOLD               |
| B-1-6 @ 23.5-24                                       |        | 0945 |        | 1                 | N                |                    | /                          | /           |                 |                            |          | HOLD               |
| B-1-7 @ 27.5-28                                       |        | 1000 |        | 1                 | N                |                    | /                          | /           |                 |                            |          |                    |
| B-1-8 @ 31.5-32                                       |        | 1040 |        | 1                 | N                |                    | /                          | /           |                 |                            |          |                    |
| B-1 water 26-29                                       | 4/2/07 | 1010 | water  | 4                 | N                |                    | /                          | /           |                 |                            |          |                    |

f30

APPROPRIATE PRESERVATION   
 PRESERVED IN LAB   
 VOAS

UCC: MPO Valle meti Valles 4/2/07 MA:



**McC Campbell Analytical, Inc.**



1534 Willow Pass Rd  
Pittsburg, CA 94565-1701  
(925) 252-9262

**CHAIN-OF-CUSTODY RECORD**

WorkOrder: 0704022

ClientID: CEL

EDF

Fax

Email

HardCopy

ThirdParty

Report to:

Chris Palmer  
Consolidated Engineering Laboratori  
2001 Crow Canyon Road, Suite 100  
San Ramon, CA 94583

Email: cp@ce-labs.com  
TEL: 925.485.5000 FAX: 925.485.5019  
ProjectNo: #81-01824-A; Livermore Airport-Pipeline  
PO:

Bill t

Accounts Payable  
Consolidated Engineering Laboratori  
2001 Crow Canyon Road, Suite 100  
San Ramon, CA 94583  
ap@ce-labs.com

Requested TAT: 5 days

Date Received 04/02/2007

Date Printed: 04/02/2007

| Sample ID   | ClientSampID       | Matrix | Collection Date   | Hold                     | Requested Tests (See legend below) |   |   |   |   |   |   |   |   |    |    |    |  |
|-------------|--------------------|--------|-------------------|--------------------------|------------------------------------|---|---|---|---|---|---|---|---|----|----|----|--|
|             |                    |        |                   |                          | 1                                  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |  |
| 0704022-001 | B-1 @ 2-2.5        | Soil   | 04/02/07 9:00:00  | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704022-003 | B-1-3 @ 11.5-12    | Soil   | 04/02/07 9:10:00  | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704022-005 | B-1-5 @ 19.5-20    | Soil   | 04/02/07 9:30:00  | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704022-007 | B-1-7 @ 27.5-28    | Soil   | 04/02/07 10:00:00 | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704022-008 | B-1-8 @ 31.5-32    | Soil   | 04/02/07 10:40:00 | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704022-009 | B-1 Water 26-28'   | Water  | 04/02/07 10:10:00 | <input type="checkbox"/> |                                    | A |   | B |   |   |   |   |   |    |    |    |  |
| 0704022-010 | B-2-1 @ 3.5-4.0    | Soil   | 04/02/07 11:15:00 | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704022-011 | B-2-2 @ 7.5-8.0    | Soil   | 04/02/07 11:20:00 | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704022-013 | B-2-4 @ 15.5-16.0  | Soil   | 04/02/07 11:35:00 | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704022-016 | B-2-7 @ 27.5-28'   | Soil   | 04/02/07 12:20:00 | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704022-017 | B-2 Water @ 28-32' | Water  | 04/02/07 12:45:00 | <input type="checkbox"/> |                                    | A |   | B |   |   |   |   |   |    |    |    |  |

Test Legend:

|    |           |    |           |   |                  |   |                  |    |  |
|----|-----------|----|-----------|---|------------------|---|------------------|----|--|
| 1  | G-MBTEX S | 2  | G-MBTEX W | 3 | MBTEXOXY-8260B S | 4 | MBTEXOXY-8260B W | 5  |  |
| 6  |           | 7  |           | 8 |                  | 9 |                  | 10 |  |
| 11 |           | 12 |           |   |                  |   |                  |    |  |

The following SampIDs: 0704022-001A, 0704022-003A, 0704022-005A, 0704022-007A, 0704022-008A, 0704022-009A, 0704022-010A, 0704022-011A, 0704022-013A, 0704022-016A, 0704022-017A contain testgroup.

Prepared by: Melissa Valles

Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.



**Sample Receipt Checklist**

Client Name: **Consolidated Engineering Laboratories** Date and Time Received: **04/02/07 7:26:21 PM**  
Project Name: **#81-01824-A; Livermore Airport-Pipeline** Checklist completed and reviewed by: **Melissa Valles**  
WorkOrder N°: **0704022** Matrix Soil/Water Carrier: Courier

**Chain of Custody (COC) Information**

Chain of custody present? Ye  No   
Chain of custody signed when relinquished and received? Ye  No   
Chain of custody agrees with sample labels? Ye  No   
Sample IDs noted by Client on COC? Ye  No   
Date and Time of collection noted by Client on COC? Ye  No   
Sampler's name noted on COC? Ye  No

**Sample Receipt Information**

Custody seals intact on shipping container/cooler? Ye  No  NA   
Shipping container/cooler in good condition? Ye  No   
Samples in proper containers/bottles? Ye  No   
Sample containers intact? Ye  No   
Sufficient sample volume for indicated test? Ye  No

**Sample Preservation and Hold Time (HT) Information**

All samples received within holding time? Ye  No   
Container/Temp Blank temperature Cooler Temp: 4.9°C NA   
Water - VOA vials have zero headspace / no bubbles? Ye  No  No VOA vials submitted   
Sample labels checked for correct preservation? Ye  No

-----  
Client contacted: Date contacted: Contacted by:  
Comments:



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Telephone: 877-252-9262 Fax: 925-252-9269

|  |   |                                   |
|--|---|-----------------------------------|
| Consolidated Engineering Laboratories<br>2001 Crow Canyon Road, Suite 100<br>San Ramon, CA 94583 | Client Project ID: #81-01824-A; Livermore<br>Airport-Pipeline | Date Sampled: 04/02/07            |
|  | Client Contact: Chris Palmer                                  | Date Received: 04/02/07           |
|  | Client P.O.:  | Date Extracted: 04/02/07-04/04/07 |
|  |   | Date Analyzed: 04/03/07-04/04/07  |

### Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE\*

Extraction method SW5030B

Analytical methods SW8021B/8015Cm

Work Order: 0704022

| Lab ID | Client ID          | Matrix | TPH(g) | MTBE | Benzene | Toluene | Ethylbenzene | Xylenes | DF | % SS |
|--------|--------------------|--------|--------|------|---------|---------|--------------|---------|----|------|
| 001A   | B-1 @ 2-2.5        | S      | ND     | ND   | ND      | ND      | ND           | ND      | 1  | 86   |
| 003A   | B-1-3 @ 11.5-12    | S      | ND     | ND   | ND      | ND      | ND           | ND      | 1  | 92   |
| 005A   | B-1-5 @ 19.5-20    | S      | ND     | ND   | ND      | ND      | ND           | ND      | 1  | 96   |
| 007A   | B-1-7 @ 27.5-28    | S      | ND     | ND   | ND      | ND      | ND           | ND      | 1  | 97   |
| 008A   | B-1-8 @ 31.5-32    | S      | ND     | ND   | ND      | ND      | ND           | ND      | 1  | 101  |
| 009A   | B-1 Water 26-28'   | W      | ND     | ND   | ND      | ND      | ND           | ND      | 1  | 90   |
| 010A   | B-2-1 @ 3.5-4.0    | S      | ND     | ND   | ND      | ND      | ND           | ND      | 1  | 96   |
| 011A   | B-2-2 @ 7.5-8.0    | S      | ND     | ND   | ND      | ND      | ND           | ND      | 1  | 93   |
| 013A   | B-2-4 @ 15.5-16.0  | S      | ND     | ND   | ND      | ND      | ND           | ND      | 1  | 82   |
| 016A   | B-2-7 @ 27.5-28'   | S      | ND     | ND   | ND      | ND      | ND           | ND      | 1  | 79   |
| 017A   | B-2 Water @ 28-32' | W      | ND     | ND   | ND      | ND      | ND           | ND      | 1  | 91   |
|        |                    |        |        |      |         |         |              |         |    |      |
|        |                    |        |        |      |         |         |              |         |    |      |
|        |                    |        |        |      |         |         |              |         |    |      |
|        |                    |        |        |      |         |         |              |         |    |      |
|        |                    |        |        |      |         |         |              |         |    |      |

|  |   |     |      |       |       |       |       |   |       |
|--|---|-----|------|-------|-------|-------|-------|---|-------|
| Reporting Limit for DF =1;<br>ND means not detected at or<br>above the reporting limit | W | 50  | 5.0  | 0.5   | 0.5   | 0.5   | 0.5   | 1 | µg/L  |
|  | S | 1.0 | 0.05 | 0.005 | 0.005 | 0.005 | 0.005 | 1 | mg/Kg |

\* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) value derived using a client specified carbon range; o) results are reported on a dry weight basis; p) see attached narrative.



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Web: www.mcccampbell.com E-mail: main@mcccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

|  |   |                                   |
|--|---|-----------------------------------|
| Consolidated Engineering Laboratories<br>2001 Crow Canyon Road, Suite 100<br>San Ramon, CA 94583 | Client Project ID: #81-01824-A;<br>Livermore Airport-Pipeline | Date Sampled: 04/02/07            |
|  | Client Contact: Chris Palmer                                  | Date Received: 04/02/07           |
|  | Client P.O.:  | Date Extracted: 04/02/07-04/04/07 |
|  |   | Date Analyzed: 04/03/07-04/04/07  |

**Oxygenates and BTEX by GC/MS\***

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704022

|           |              |                 |                 |                 |                              |  |
|-----------|--------------|-----------------|-----------------|-----------------|------------------------------|--|
| Lab ID    | 0704022-001A | 0704022-003A    | 0704022-005A    | 0704022-007A    | Reporting Limit for<br>DF =1 |  |
| Client ID | B-1 @ 2-2.5  | B-1-3 @ 11.5-12 | B-1-5 @ 19.5-20 | B-1-7 @ 27.5-28 |                              |  |
| Matrix    | S            | S               | S               | S               |                              |  |
| DF        | 1            | 1               | 1               | 1               |                              |  |

| Compound                      | Concentration |    |    |    | mg/kg | µg/L |
|-------------------------------|---------------|----|----|----|-------|------|
| tert-Amyl methyl ether (TAME) | ND            | ND | ND | ND | 0.005 | 0.5  |
| Benzene                       | ND            | ND | ND | ND | 0.005 | 0.5  |
| t-Butyl alcohol (TBA)         | ND            | ND | ND | ND | 0.05  | 5.0  |
| Diisopropyl ether (DIPE)      | ND            | ND | ND | ND | 0.005 | 0.5  |
| Ethylbenzene                  | ND            | ND | ND | ND | 0.005 | 0.5  |
| Ethyl tert-butyl ether (ETBE) | ND            | ND | ND | ND | 0.005 | 0.5  |
| Methyl-t-butyl ether (MTBE)   | ND            | ND | ND | ND | 0.005 | 0.5  |
| Toluene                       | ND            | ND | ND | ND | 0.005 | 0.5  |
| Xylenes                       | ND            | ND | ND | ND | 0.005 | 0.5  |

**Surrogate Recoveries (%)**

|       |     |     |     |     |
|-------|-----|-----|-----|-----|
| %SS1: | 103 | 100 | 101 | 100 |
| %SS2: | 108 | 107 | 107 | 106 |
| %SS3: | 113 | 114 | 113 | 114 |

**Comments**

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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|  |   |                                   |
|--|---|-----------------------------------|
| Consolidated Engineering Laboratories<br><br>2001 Crow Canyon Road, Suite 100<br><br>San Ramon, CA 94583 | Client Project ID: #81-01824-A;<br>Livermore Airport-Pipeline | Date Sampled: 04/02/07            |
|  | Client Contact: Chris Palmer                                  | Date Received: 04/02/07           |
|  | Client P.O.:  | Date Extracted: 04/02/07-04/04/07 |
|  |   | Date Analyzed: 04/03/07-04/04/07  |

### Oxygenates and BTEX by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704022

|           |                 |                  |                 |                 |                              |  |
|-----------|-----------------|------------------|-----------------|-----------------|------------------------------|--|
| Lab ID    | 0704022-008A    | 0704022-009B     | 0704022-010A    | 0704022-011A    | Reporting Limit for<br>DF =1 |  |
| Client ID | B-1-8 @ 31.5-32 | B-1 Water 26-28' | B-2-1 @ 3.5-4.0 | B-2-2 @ 7.5-8.0 |                              |  |
| Matrix    | S               | W                | S               | S               |                              |  |
| DF        | 1               | 1                | 1               | 1               |                              |  |

| Compound                      | Concentration |    |    |    | mg/kg | µg/L |
|-------------------------------|---------------|----|----|----|-------|------|
| tert-Amyl methyl ether (TAME) | ND            | ND | ND | ND | 0.005 | 0.5  |
| Benzene                       | ND            | ND | ND | ND | 0.005 | 0.5  |
| t-Butyl alcohol (TBA)         | ND            | ND | ND | ND | 0.05  | 5.0  |
| Diisopropyl ether (DIPE)      | ND            | ND | ND | ND | 0.005 | 0.5  |
| Ethylbenzene                  | ND            | ND | ND | ND | 0.005 | 0.5  |
| Ethyl tert-butyl ether (ETBE) | ND            | ND | ND | ND | 0.005 | 0.5  |
| Methyl-t-butyl ether (MTBE)   | ND            | ND | ND | ND | 0.005 | 0.5  |
| Toluene                       | ND            | ND | ND | ND | 0.005 | 0.5  |
| Xylenes                       | ND            | ND | ND | ND | 0.005 | 0.5  |

### Surrogate Recoveries (%)

|       |     |     |     |     |
|-------|-----|-----|-----|-----|
| %SS1: | 99  | 111 | 100 | 96  |
| %SS2: | 105 | 97  | 105 | 105 |
| %SS3: | 110 | 105 | 108 | 110 |

### Comments

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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|  |   |                                   |
|--|---|-----------------------------------|
| Consolidated Engineering Laboratories<br><br>2001 Crow Canyon Road, Suite 100<br><br>San Ramon, CA 94583 | Client Project ID: #81-01824-A;<br>Livermore Airport-Pipeline | Date Sampled: 04/02/07            |
|  | Client Contact: Chris Palmer                                  | Date Received: 04/02/07           |
|  | Client P.O.:  | Date Extracted: 04/02/07-04/04/07 |
|  |   | Date Analyzed: 04/03/07-04/04/07  |

### Oxygenates and BTEX by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704022

|           |                       |                      |                        |  |                              |  |
|-----------|-----------------------|----------------------|------------------------|--|------------------------------|--|
| Lab ID    | 0704022-013A          | 0704022-016A         | 0704022-017B           |  | Reporting Limit for<br>DF =1 |  |
| Client ID | B-2-4 @ 15.5-<br>16.0 | B-2-7 @ 27.5-<br>28' | B-2 Water @ 28-<br>32' |  |                              |  |
| Matrix    | S                     | S                    | W                      |  |                              |  |
| DF        | 1                     | 1                    | 1                      |  |                              |  |

| Compound                      | Concentration |    |    |  | mg/kg | µg/L |
|-------------------------------|---------------|----|----|--|-------|------|
| tert-Amyl methyl ether (TAME) | ND            | ND | ND |  | 0.005 | 0.5  |
| Benzene                       | ND            | ND | ND |  | 0.005 | 0.5  |
| t-Butyl alcohol (TBA)         | ND            | ND | ND |  | 0.05  | 5.0  |
| Diisopropyl ether (DIPE)      | ND            | ND | ND |  | 0.005 | 0.5  |
| Ethylbenzene                  | ND            | ND | ND |  | 0.005 | 0.5  |
| Ethyl tert-butyl ether (ETBE) | ND            | ND | ND |  | 0.005 | 0.5  |
| Methyl-t-butyl ether (MTBE)   | ND            | ND | ND |  | 0.005 | 0.5  |
| Toluene                       | ND            | ND | ND |  | 0.005 | 0.5  |
| Xylenes                       | ND            | ND | ND |  | 0.005 | 0.5  |

### Surrogate Recoveries (%)

|       |     |     |     |  |
|-------|-----|-----|-----|--|
| %SS1: | 95  | 94  | 113 |  |
| %SS2: | 105 | 105 | 97  |  |
| %SS3: | 109 | 107 | 107 |  |

### Comments

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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|  |   |                                 |
|--|---|---------------------------------|
| Consolidated Engineering Laboratories<br>2001 Crow Canyon Road, Suite 100<br>San Ramon, CA 94583 | Client Project ID: #81-01824-A;<br>Livermore Airport-Pipeline | Date Sampled: 04/02/07          |
|  | Client Contact: Chris Palmer                                  | Date Received: 04/02/07         |
|  | Client P.O.:  | Date Analyzed 04/03/07-04/04/07 |
|  |   |                                 |

### Diesel (C10-23) and Jet Fuel (C9-C18) Range Extractable Hydrocarbons as Diesel and Jet Fuel\*

Extraction method: SW3510C/SW3550C

Analytical methods: SW8015C

Work Order: 0704022

| Lab ID       | Client ID          | Matrix | TPH(d)  | TPH(jf) | DF | % SS |
|--------------|--------------------|--------|---------|---------|----|------|
| 0704022-001A | B-1 @ 2-2.5        | S      | 1.0,g,b | ND      | 1  | 92   |
| 0704022-003A | B-1-3 @ 11.5-12    | S      | ND      | ND      | 1  | 108  |
| 0704022-005A | B-1-5 @ 19.5-20    | S      | ND      | ND      | 1  | 108  |
| 0704022-007A | B-1-7 @ 27.5-28    | S      | ND      | ND      | 1  | 107  |
| 0704022-008A | B-1-8 @ 31.5-32    | S      | ND      | ND      | 1  | 106  |
| 0704022-009A | B-1 Water 26-28'   | W      | 84,g,b  | 53      | 1  | 90   |
| 0704022-010A | B-2-1 @ 3.5-4.0    | S      | ND      | ND      | 1  | 107  |
| 0704022-011A | B-2-2 @ 7.5-8.0    | S      | ND      | ND      | 1  | 108  |
| 0704022-013A | B-2-4 @ 15.5-16.0  | S      | ND      | ND      | 1  | 108  |
| 0704022-016A | B-2-7 @ 27.5-28'   | S      | ND      | ND      | 1  | 103  |
| 0704022-017A | B-2 Water @ 28-32' | W      | 100,b   | 81      | 1  | 100  |
|              |                    |        |         |         |    |      |
|              |                    |        |         |         |    |      |
|              |                    |        |         |         |    |      |
|              |                    |        |         |         |    |      |
|              |                    |        |         |         |    |      |

|  |   |     |     |       |
|--|---|-----|-----|-------|
| Reporting Limit for DF =1;<br>ND means not detected at or<br>above the reporting limit | W | 50  | 50  | µg/L  |
|  | S | 1.0 | 1.0 | mg/Kg |

\* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPL / TCLP extracts are reported in µg/L.

# cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; k) kerosene/kerosene range; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirit.



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**QC SUMMARY REPORT FOR SW8021B/8015Cm**

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0704022

| Analyte                | EPA Method SW8021B/8015Cm |        | Extraction SW5030B |        |        | BatchID: 27165 |        |          | Spiked Sample ID: 0703731-015A |     |          |     |
|------------------------|---------------------------|--------|--------------------|--------|--------|----------------|--------|----------|--------------------------------|-----|----------|-----|
|                        | Sample                    | Spiked | MS                 | MSD    | MS-MSD | LCS            | LCSD   | LCS-LCSD | Acceptance Criteria (%)        |     |          |     |
|                        | mg/Kg                     | mg/Kg  | % Rec.             | % Rec. | % RPD  | % Rec.         | % Rec. | % RPD    | MS / MSD                       | RPD | LCS/LCSD | RPD |
| TPH(btex) <sup>f</sup> | ND                        | 0.60   | 93                 | 91.6   | 1.55   | 96.8           | 97.4   | 0.545    | 70 - 130                       | 30  | 70 - 130 | 30  |
| MTBE                   | ND                        | 0.10   | 85.4               | 79.4   | 7.28   | 85.4           | 84.9   | 0.542    | 70 - 130                       | 30  | 70 - 130 | 30  |
| Benzene                | ND                        | 0.10   | 91.2               | 87.8   | 3.79   | 90.5           | 91     | 0.581    | 70 - 130                       | 30  | 70 - 130 | 30  |
| Toluene                | ND                        | 0.10   | 91.8               | 88.8   | 3.33   | 91.3           | 92     | 0.721    | 70 - 130                       | 30  | 70 - 130 | 30  |
| Ethylbenzene           | ND                        | 0.10   | 98                 | 94.9   | 3.27   | 98.1           | 97.6   | 0.532    | 70 - 130                       | 30  | 70 - 130 | 30  |
| Xylenes                | ND                        | 0.30   | 110                | 107    | 3.08   | 110            | 110    | 0        | 70 - 130                       | 30  | 70 - 130 | 30  |
| %SS:                   | 84                        | 0.10   | 86                 | 83     | 3.48   | 80             | 83     | 3.72     | 70 - 130                       | 30  | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

**BATCH 27165 SUMMARY**

| Sample ID    | Date Sampled      | Date Extracted | Date Analyzed     | Sample ID    | Date Sampled      | Date Extracted | Date Analyzed     |
|--------------|-------------------|----------------|-------------------|--------------|-------------------|----------------|-------------------|
| 0704022-001A | 04/02/07 9:00 AM  | 04/02/07       | 04/03/07 4:17 PM  | 0704022-003A | 04/02/07 9:10 AM  | 04/02/07       | 04/03/07 4:48 PM  |
| 0704022-005A | 04/02/07 9:30 AM  | 04/02/07       | 04/03/07 5:49 PM  | 0704022-007A | 04/02/07 10:00 AM | 04/02/07       | 04/03/07 11:24 PM |
| 0704022-008A | 04/02/07 10:40 AM | 04/02/07       | 04/03/07 11:55 PM |              |                   |                |                   |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

E TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.



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## QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0704022

| EPA Method SW8021B/8015Cm |        | Extraction SW5030B |        |        | BatchID: 27231 |        |        | Spiked Sample ID: 0704022-016A |                         |     |          |     |
|---------------------------|--------|--------------------|--------|--------|----------------|--------|--------|--------------------------------|-------------------------|-----|----------|-----|
| Analyte                   | Sample | Spiked             | MS     | MSD    | MS-MSD         | LCS    | LCSD   | LCS-LCSD                       | Acceptance Criteria (%) |     |          |     |
|                           | mg/Kg  | mg/Kg              | % Rec. | % Rec. | % RPD          | % Rec. | % Rec. | % RPD                          | MS / MSD                | RPD | LCS/LCSD | RPD |
| TPH(btex) <sup>f</sup>    | ND     | 0.60               | 112    | 97     | 13.9           | 102    | 108    | 5.89                           | 70 - 130                | 30  | 70 - 130 | 30  |
| MTBE                      | ND     | 0.10               | 111    | 120    | 7.88           | 107    | 105    | 1.86                           | 70 - 130                | 30  | 70 - 130 | 30  |
| Benzene                   | ND     | 0.10               | 95.2   | 102    | 6.79           | 93.9   | 92.5   | 1.47                           | 70 - 130                | 30  | 70 - 130 | 30  |
| Toluene                   | ND     | 0.10               | 90     | 90.2   | 0.181          | 86.2   | 84.8   | 1.62                           | 70 - 130                | 30  | 70 - 130 | 30  |
| Ethylbenzene              | ND     | 0.10               | 97.2   | 97.3   | 0.115          | 94.4   | 94.7   | 0.326                          | 70 - 130                | 30  | 70 - 130 | 30  |
| Xylenes                   | ND     | 0.30               | 94.4   | 87.7   | 7.25           | 91.3   | 92     | 0.727                          | 70 - 130                | 30  | 70 - 130 | 30  |
| %SS:                      | 79     | 0.10               | 87     | 107    | 20.3           | 97     | 102    | 4.46                           | 70 - 130                | 30  | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

### BATCH 27231 SUMMARY

| Sample ID    | Date Sampled      | Date Extracted | Date Analyzed    | Sample ID    | Date Sampled      | Date Extracted | Date Analyzed    |
|--------------|-------------------|----------------|------------------|--------------|-------------------|----------------|------------------|
| 0704022-010A | 04/02/07 11:15 AM | 04/02/07       | 04/04/07 2:27 AM | 0704022-011A | 04/02/07 11:20 AM | 04/02/07       | 04/04/07 2:53 AM |
| 0704022-013A | 04/02/07 11:35 AM | 04/02/07       | 04/04/07 3:27 AM | 0704022-016A | 04/02/07 12:20 PM | 04/02/07       | 04/04/07 4:00 AM |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

<sup>f</sup> TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.



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## QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0704022

| EPA Method SW8021B/8015Cm | Extraction SW5030B |        |        | BatchID: 27221 |       |        |        |       | Spiked Sample ID: 0704024-002A |                         |          |     |
|---------------------------|--------------------|--------|--------|----------------|-------|--------|--------|-------|--------------------------------|-------------------------|----------|-----|
|                           | Analyte            | Sample | Spiked | MS             | MSD   | MS-MSD | LCS    | LCSD  | LCS-LCSD                       | Acceptance Criteria (%) |          |     |
|                           | µg/L               | µg/L   | % Rec. | % Rec.         | % RPD | % Rec. | % Rec. | % RPD | MS / MSD                       | RPD                     | LCS/LCSD | RPD |
| TPH(btex) <sup>f</sup>    | ND                 | 60     | 97.8   | 98.2           | 0.470 | 110    | 110    | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |
| MTBE                      | ND                 | 10     | 81     | 89.2           | 9.70  | 119    | 124    | 4.05  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Benzene                   | ND                 | 10     | 88.1   | 94.3           | 6.75  | 95.7   | 102    | 5.94  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Toluene                   | ND                 | 10     | 88.3   | 95             | 7.27  | 106    | 111    | 4.87  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Ethylbenzene              | ND                 | 10     | 92.9   | 97.3           | 4.66  | 103    | 106    | 3.42  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Xylenes                   | ND                 | 30     | 103    | 110            | 6.25  | 113    | 117    | 2.90  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| %SS:                      | 90                 | 10     | 91     | 92             | 0.486 | 95     | 99     | 3.44  | 70 - 130                       | 30                      | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

### BATCH 27221 SUMMARY

| Sample ID    | Date Sampled      | Date Extracted | Date Analyzed    | Sample ID    | Date Sampled      | Date Extracted | Date Analyzed     |
|--------------|-------------------|----------------|------------------|--------------|-------------------|----------------|-------------------|
| 0704022-009A | 04/02/07 10:10 AM | 04/04/07       | 04/04/07 9:31 PM | 0704022-017A | 04/02/07 12:45 PM | 04/04/07       | 04/04/07 10:04 PM |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.



**QC SUMMARY REPORT FOR SW8260B**

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0704022

| EPA Method SW8260B            | Extraction SW5030B |        |        | BatchID: 27207 |       |        |        |       | Spiked Sample ID: 0703763-002A |                         |          |     |
|-------------------------------|--------------------|--------|--------|----------------|-------|--------|--------|-------|--------------------------------|-------------------------|----------|-----|
|                               | Analyte            | Sample | Spiked | MS             | MSD   | MS-MSD | LCS    | LCSD  | LCS-LCSD                       | Acceptance Criteria (%) |          |     |
|                               | mg/Kg              | mg/Kg  | % Rec. | % Rec.         | % RPD | % Rec. | % Rec. | % RPD | MS / MSD                       | RPD                     | LCS/LCSD | RPD |
| tert-Amyl methyl ether (TAME) | ND                 | 0.050  | 101    | 98.4           | 2.83  | 96.6   | 97.6   | 1.00  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Benzene                       | ND                 | 0.050  | 107    | 107            | 0     | 106    | 106    | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |
| t-Butyl alcohol (TBA)         | ND                 | 0.25   | 96     | 100            | 4.18  | 95.4   | 94.4   | 1.03  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Diisopropyl ether (DIPE)      | ND                 | 0.050  | 115    | 114            | 1.70  | 112    | 112    | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Ethyl tert-butyl ether (ETBE) | ND                 | 0.050  | 108    | 105            | 2.64  | 102    | 103    | 0.957 | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Methyl-t-butyl ether (MTBE)   | ND                 | 0.050  | 108    | 105            | 2.64  | 102    | 104    | 1.62  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Toluene                       | ND                 | 0.050  | 96.9   | 94.6           | 2.39  | 94.3   | 93.8   | 0.485 | 70 - 130                       | 30                      | 70 - 130 | 30  |
| %SS1:                         | 97                 | 0.050  | 97     | 97             | 0     | 97     | 98     | 0.162 | 70 - 130                       | 30                      | 70 - 130 | 30  |
| %SS2:                         | 102                | 0.050  | 100    | 99             | 0.926 | 99     | 99     | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |
| %SS3:                         | 93                 | 0.050  | 107    | 108            | 0.739 | 107    | 107    | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

**BATCH 27207 SUMMARY**

| Sample ID    | Date Sampled      | Date Extracted | Date Analyzed     | Sample ID    | Date Sampled      | Date Extracted | Date Analyzed    |
|--------------|-------------------|----------------|-------------------|--------------|-------------------|----------------|------------------|
| 0704022-001A | 04/02/07 9:00 AM  | 04/02/07       | 04/03/07 7:34 PM  | 0704022-003A | 04/02/07 9:10 AM  | 04/02/07       | 04/03/07 8:18 PM |
| 0704022-005A | 04/02/07 9:30 AM  | 04/02/07       | 04/03/07 9:04 PM  | 0704022-007A | 04/02/07 10:00 AM | 04/02/07       | 04/03/07 9:51 PM |
| 0704022-008A | 04/02/07 10:40 AM | 04/02/07       | 04/03/07 10:39 PM | 0704022-010A | 04/02/07 11:15 AM | 04/02/07       | 04/04/07 1:00 AM |
| 0704022-011A | 04/02/07 11:20 AM | 04/02/07       | 04/04/07 1:47 AM  | 0704022-013A | 04/02/07 11:35 AM | 04/02/07       | 04/04/07 2:35 AM |
| 0704022-016A | 04/02/07 12:20 PM | 04/02/07       | 04/04/07 3:21 AM  |              |                   |                |                  |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.





**QC SUMMARY REPORT FOR SW8260B**

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0704022

| EPA Method SW8260B            | Extraction SW5030B |        |        | BatchID: 27217 |       |        |        |       | Spiked Sample ID: 0704012-006B |                         |          |     |
|-------------------------------|--------------------|--------|--------|----------------|-------|--------|--------|-------|--------------------------------|-------------------------|----------|-----|
|                               | Analyte            | Sample | Spiked | MS             | MSD   | MS-MSD | LCS    | LCSD  | LCS-LCSD                       | Acceptance Criteria (%) |          |     |
|                               | µg/L               | µg/L   | % Rec. | % Rec.         | % RPD | % Rec. | % Rec. | % RPD | MS / MSD                       | RPD                     | LCS/LCSD | RPD |
| tert-Amyl methyl ether (TAME) | ND                 | 10     | 106    | 108            | 1.50  | 95.8   | 99.2   | 3.50  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Benzene                       | ND                 | 10     | 115    | 113            | 1.99  | 107    | 109    | 2.48  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| t-Butyl alcohol (TBA)         | ND                 | 50     | 98.6   | 94.2           | 4.49  | 96.3   | 93.6   | 2.91  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Diisopropyl ether (DIPE)      | ND                 | 10     | 122    | 122            | 0     | 112    | 115    | 2.10  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Ethanol                       | ND                 | 500    | 101    | 96.6           | 3.98  | 94.8   | 96.9   | 2.09  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Ethyl tert-butyl ether (ETBE) | ND                 | 10     | 114    | 114            | 0     | 103    | 107    | 3.85  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Methanol                      | ND                 | 2500   | 102    | 100            | 1.78  | 101    | 101    | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Methyl-t-butyl ether (MTBE)   | ND                 | 10     | 113    | 114            | 0.737 | 101    | 106    | 4.46  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Toluene                       | ND                 | 10     | 95.7   | 98             | 2.38  | 92.6   | 93.6   | 1.09  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| %SS1:                         | 101                | 10     | 104    | 98             | 5.29  | 98     | 98     | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |
| %SS2:                         | 100                | 10     | 98     | 98             | 0     | 98     | 98     | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |
| %SS3:                         | 110                | 10     | 106    | 107            | 1.14  | 108    | 108    | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 27217 SUMMARY

| Sample ID    | Date Sampled      | Date Extracted | Date Analyzed    | Sample ID    | Date Sampled      | Date Extracted | Date Analyzed    |
|--------------|-------------------|----------------|------------------|--------------|-------------------|----------------|------------------|
| 0704022-009B | 04/02/07 10:10 AM | 04/04/07       | 04/04/07 1:40 AM | 0704022-017B | 04/02/07 12:45 PM | 04/04/07       | 04/04/07 2:26 AM |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



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### QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0704022

| Analyte | Extraction SW3550C |        | BatchID: 27193 |        |        |        |        |          | Spiked Sample ID: 0703752-005A |     |          |     |
|---------|--------------------|--------|----------------|--------|--------|--------|--------|----------|--------------------------------|-----|----------|-----|
|         | Sample             | Spiked | MS             | MSD    | MS-MSD | LCS    | LCSD   | LCS-LCSD | Acceptance Criteria (%)        |     |          |     |
|         | mg/Kg              | mg/Kg  | % Rec.         | % Rec. | % RPD  | % Rec. | % Rec. | % RPD    | MS / MSD                       | RPD | LCS/LCSD | RPD |
| TPH(d)  | 6800               | 20     | NR             | NR     | NR     | 98.7   | 98.5   | 0.162    | 70 - 130                       | 30  | 70 - 130 | 30  |
| %SS:    | 104                | 50     | 105            | 93     | 12.4   | 100    | 100    | 0        | 70 - 130                       | 30  | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

#### BATCH 27193 SUMMARY

| Sample ID    | Date Sampled     | Date Extracted | Date Analyzed     | Sample ID    | Date Sampled     | Date Extracted | Date Analyzed    |
|--------------|------------------|----------------|-------------------|--------------|------------------|----------------|------------------|
| 0704022-001A | 04/02/07 9:00 AM | 04/02/07       | 04/04/07 12:33 AM | 0704022-003A | 04/02/07 9:10 AM | 04/02/07       | 04/03/07 7:56 PM |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery =  $100 * (MS - Sample) / (Amount Spiked)$ ; RPD =  $100 * (MS - MSD) / ((MS + MSD) / 2)$ .

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



**QC SUMMARY REPORT FOR SW8015C**

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0704022

| Analyte | Extraction SW3550C |        |        | BatchID: 27232 |        |        |        |          | Spiked Sample ID: 0704022-016A |     |          |     |
|---------|--------------------|--------|--------|----------------|--------|--------|--------|----------|--------------------------------|-----|----------|-----|
|         | Sample             | Spiked | MS     | MSD            | MS-MSD | LCS    | LCSD   | LCS-LCSD | Acceptance Criteria (%)        |     |          |     |
|         | mg/Kg              | mg/Kg  | % Rec. | % Rec.         | % RPD  | % Rec. | % Rec. | % RPD    | MS / MSD                       | RPD | LCS/LCSD | RPD |
| TPH(d)  | ND                 | 20     | 101    | 101            | 0      | 113    | 114    | 0.772    | 70 - 130                       | 30  | 70 - 130 | 30  |
| %SS:    | 103                | 50     | 103    | 103            | 0      | 114    | 122    | 7.15     | 70 - 130                       | 30  | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 27232 SUMMARY

| Sample ID    | Date Sampled      | Date Extracted | Date Analyzed     | Sample ID    | Date Sampled      | Date Extracted | Date Analyzed     |
|--------------|-------------------|----------------|-------------------|--------------|-------------------|----------------|-------------------|
| 0704022-005A | 04/02/07 9:30 AM  | 04/02/07       | 04/03/07 9:04 PM  | 0704022-007A | 04/02/07 10:00 AM | 04/02/07       | 04/03/07 10:12 PM |
| 0704022-008A | 04/02/07 10:40 AM | 04/02/07       | 04/03/07 11:21 PM | 0704022-010A | 04/02/07 11:15 AM | 04/02/07       | 04/04/07 12:29 AM |
| 0704022-011A | 04/02/07 11:20 AM | 04/02/07       | 04/04/07 1:37 AM  | 0704022-013A | 04/02/07 11:35 AM | 04/02/07       | 04/04/07 2:46 AM  |
| 0704022-016A | 04/02/07 12:20 PM | 04/02/07       | 04/04/07 12:29 AM |              |                   |                |                   |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



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### QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0704022

| Analyte | Extraction SW3510C |        | BatchID: 27211 |        |        |        |        |          | Spiked Sample ID: N/A   |     |          |     |
|---------|--------------------|--------|----------------|--------|--------|--------|--------|----------|-------------------------|-----|----------|-----|
|         | Sample             | Spiked | MS             | MSD    | MS-MSD | LCS    | LCSD   | LCS-LCSD | Acceptance Criteria (%) |     |          |     |
|         | µg/L               | µg/L   | % Rec.         | % Rec. | % RPD  | % Rec. | % Rec. | % RPD    | MS / MSD                | RPD | LCS/LCSD | RPD |
| TPH(d)  | N/A                | 1000   | N/A            | N/A    | N/A    | 114    | 111    | 2.50     | N/A                     | N/A | 70 - 130 | 30  |
| %SS:    | N/A                | 2500   | N/A            | N/A    | N/A    | 110    | 111    | 0.719    | N/A                     | N/A | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

#### BATCH 27211 SUMMARY

| Sample ID    | Date Sampled      | Date Extracted | Date Analyzed    | Sample ID    | Date Sampled      | Date Extracted | Date Analyzed     |
|--------------|-------------------|----------------|------------------|--------------|-------------------|----------------|-------------------|
| 0704022-009A | 04/02/07 10:10 AM | 04/02/07       | 04/04/07 2:54 AM | 0704022-017A | 04/02/07 12:45 PM | 04/02/07       | 04/03/07 11:21 PM |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



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|  |   |                          |
|--|---|--------------------------|
| Consolidated Engineering Laborat<br><br>2001 Crow Canyon Road, Suite<br>100<br>San Ramon, CA 94583 | Client Project ID: #81-01824-A; Livermore<br>Airport-Pipeline | Date Sampled: 04/02/07   |
|  |   | Date Received: 04/02/07  |
|  | Client Contact: Chris Palmer                                  | Date Reported: 04/06/07  |
|  | Client P.O.:  | Date Completed: 04/16/07 |

**WorkOrder: 0704022**

April 16, 2007

Dear Chris:

Enclosed are:

- 1). the results of 2 analyzed samples from your #81-01824-A; Livermore Airport-Pipeline project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions please contact me. McC Campbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Best regards,

Angela Rydelius, Lab Manager





**McC Campbell Analytical, Inc.**



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Pittsburg, CA 94565-1701  
(925) 252-9262

**CHAIN-OF-CUSTODY RECORD**

WorkOrder: 070402 **A** ClientID: CEL

EDF  Excel  Fax  Email  HardCopy  ThirdParty

Report to:

Chris Palmer  
Consolidated Engineering Laboratori  
2001 Crow Canyon Road, Suite 100  
San Ramon, CA 94583

Email: cp@ce-labs.com  
TEL: 925.485.5000 FAX: 925.485.5019  
ProjectNo: #81-01824-A; Livermore Airport-Pipelin  
PO:

Bill t

Accounts Payable  
Consolidated Engineering Laboratori  
2001 Crow Canyon Road, Suite 100  
San Ramon, CA 94583  
ap@ce-labs.com

Requested TA 5 days

Date Receive 04/02/2007

Date Add-On: 04/11/2007

Date Printed: 04/12/2007

| Sample ID   | ClientSampID       | Matrix | Collection Date | Hold                     | Requested Tests (See legend below) |   |   |   |   |   |   |   |   |    |    |    |  |
|-------------|--------------------|--------|-----------------|--------------------------|------------------------------------|---|---|---|---|---|---|---|---|----|----|----|--|
|             |                    |        |                 |                          | 1                                  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |  |
| 0704022-009 | B-1 Water 26-28'   | Water  | 4/2/07 10:10:00 | <input type="checkbox"/> | C                                  |   |   |   |   |   |   |   |   |    |    |    |  |
| 0704022-017 | B-2 Water @ 28-32' | Water  | 4/2/07 12:45:00 | <input type="checkbox"/> | C                                  |   |   |   |   |   |   |   |   |    |    |    |  |

Test Legend:

|    |          |    |  |   |  |   |  |    |  |
|----|----------|----|--|---|--|---|--|----|--|
| 1  | 9-OXYS_W | 2  |  | 3 |  | 4 |  | 5  |  |
| 6  |          | 7  |  | 8 |  | 9 |  | 10 |  |
| 11 |          | 12 |  |   |  |   |  |    |  |

Prepared by: Melissa Valles

Comments: Etoh, Meoh, and 1,2 DCA added 4/10/07 per C.P.

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.





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|  |   |                          |
|--|---|--------------------------|
| Consolidated Engineering Laboratories<br><br>2001 Crow Canyon Road, Suite 100<br><br>San Ramon, CA 94583 | Client Project ID: #81-01824-A;<br>Livermore Airport-Pipeline | Date Sampled: 04/02/07   |
|  | Client Contact: Chris Palmer                                  | Date Received: 04/02/07  |
|  | Client P.O.:  | Date Extracted: 04/12/07 |
|  |   | Date Analyzed 04/12/07   |

### Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704022

|           |                  |                    |  |  |                              |
|-----------|------------------|--------------------|--|--|------------------------------|
| Lab ID    | 0704022-009C     | 0704022-017C       |  |  | Reporting Limit for<br>DF =1 |
| Client ID | B-1 Water 26-28' | B-2 Water @ 28-32' |  |  |                              |
| Matrix    | W                | W                  |  |  |                              |
| DF        | 1                | 1                  |  |  |                              |

| Compound | Concentration                |    |    |  | ug/kg | ug/L |
|----------|------------------------------|----|----|--|-------|------|
|          | 1,2-Dichloroethane (1,2-DCA) | ND | ND |  |       | NA   |
| Ethanol  | ND                           | ND |    |  | NA    | 50   |
| Methanol | ND                           | ND |    |  | NA    | 500  |

### Surrogate Recoveries (%)

|          |    |    |  |  |  |
|----------|----|----|--|--|--|
| %SS1:    | 96 | 95 |  |  |  |
| Comments |    |    |  |  |  |

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; J) analyte detected below quantitation limits; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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|  |   |                                  |
|--|---|----------------------------------|
| Consolidated Engineering Laboratories<br>2001 Crow Canyon Road, Suite 100<br>San Ramon, CA 94583 | Client Project ID: #81-01824-A;<br>Livermore Airport-Pipeline | Date Sampled: 04/02/07           |
|  | Client Contact: Chris Palmer                                  | Date Received: 04/02/07          |
|  | Client P.O.:  | Date Analyzed: 04/03/07-04/04/07 |
|  |   | Date Extracted: 04/02/07         |

### Oxygenates and BTEX by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704022

|           |              |                 |                 |                 |                              |  |
|-----------|--------------|-----------------|-----------------|-----------------|------------------------------|--|
| Lab ID    | 0704022-001A | 0704022-003A    | 0704022-005A    | 0704022-007A    | Reporting Limit for<br>DF =1 |  |
| Client ID | B-1 @ 2-2.5  | B-1-3 @ 11.5-12 | B-1-5 @ 19.5-20 | B-1-7 @ 27.5-28 |                              |  |
| Matrix    | S            | S               | S               | S               |                              |  |
| DF        | 1            | 1               | 1               | 1               |                              |  |

| Compound                      | Concentration                 |    |    |    | mg/kg | ug/L  |
|-------------------------------|-------------------------------|----|----|----|-------|-------|
|                               | tert-Amyl methyl ether (TAME) | ND | ND | ND | ND    | 0.005 |
| Benzene                       | ND                            | ND | ND | ND | 0.005 | NA    |
| t-Butyl alcohol (TBA)         | ND                            | ND | ND | ND | 0.05  | NA    |
| 1,2-Dichloroethane (1,2-DCA)  | ND                            | ND | ND | ND | 0.005 | NA    |
| Diisopropyl ether (DIPE)      | ND                            | ND | ND | ND | 0.005 | NA    |
| Ethanol                       | ND                            | ND | ND | ND | 0.25  | NA    |
| Ethylbenzene                  | ND                            | ND | ND | ND | 0.005 | NA    |
| Ethyl tert-butyl ether (ETBE) | ND                            | ND | ND | ND | 0.005 | NA    |
| Methanol                      | ND                            | ND | ND | ND | 2.5   | NA    |
| Methyl-t-butyl ether (MTBE)   | ND                            | ND | ND | ND | 0.005 | NA    |
| Toluene                       | ND                            | ND | ND | ND | 0.005 | NA    |
| Xylenes                       | ND                            | ND | ND | ND | 0.005 | NA    |

### Surrogate Recoveries (%)

|          |     |     |     |     |  |
|----------|-----|-----|-----|-----|--|
| %SS1:    | 103 | 100 | 101 | 100 |  |
| %SS2:    | 108 | 107 | 107 | 106 |  |
| %SS3:    | 113 | 114 | 113 | 114 |  |
| Comments |     |     |     |     |  |

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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|  |   |                                  |
|--|---|----------------------------------|
| Consolidated Engineering Laboratories<br><br>2001 Crow Canyon Road, Suite 100<br><br>San Ramon, CA 94583 | Client Project ID: #81-01824-A;<br>Livermore Airport-Pipeline | Date Sampled: 04/02/07           |
|  | Client Contact: Chris Palmer                                  | Date Received: 04/02/07          |
|  | Client P.O.:  | Date Analyzed: 04/03/07-04/04/07 |
|  |   | Date Extracted: 04/02/07         |

### Oxygenates and BTEX by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704022

|           |                 |                 |                 |                   |                              |   |   |
|-----------|-----------------|-----------------|-----------------|-------------------|------------------------------|---|---|
| Lab ID    | 0704022-008A    | 0704022-010A    | 0704022-011A    | 0704022-013A      | Reporting Limit for<br>DF =1 |   |   |
| Client ID | B-1-8 @ 31.5-32 | B-2-1 @ 3.5-4.0 | B-2-2 @ 7.5-8.0 | B-2-4 @ 15.5-16.0 |                              | S | W |
| Matrix    | S               | S               | S               | S                 |                              |   |   |
| DF        | 1               | 1               | 1               | 1                 |                              |   |   |

| Compound                      | Concentration |    |    |    | mg/kg | ug/L |
|-------------------------------|---------------|----|----|----|-------|------|
| tert-Amyl methyl ether (TAME) | ND            | ND | ND | ND | 0.005 | NA   |
| Benzene                       | ND            | ND | ND | ND | 0.005 | NA   |
| t-Butyl alcohol (TBA)         | ND            | ND | ND | ND | 0.05  | NA   |
| 1,2-Dichloroethane (1,2-DCA)  | ND            | ND | ND | ND | 0.005 | NA   |
| Diisopropyl ether (DIPE)      | ND            | ND | ND | ND | 0.005 | NA   |
| Ethanol                       | ND            | ND | ND | ND | 0.25  | NA   |
| Ethylbenzene                  | ND            | ND | ND | ND | 0.005 | NA   |
| Ethyl tert-butyl ether (ETBE) | ND            | ND | ND | ND | 0.005 | NA   |
| Methanol                      | ND            | ND | ND | ND | 2.5   | NA   |
| Methyl-t-butyl ether (MTBE)   | ND            | ND | ND | ND | 0.005 | NA   |
| Toluene                       | ND            | ND | ND | ND | 0.005 | NA   |
| Xylenes                       | ND            | ND | ND | ND | 0.005 | NA   |

### Surrogate Recoveries (%)

|       |     |     |     |     |  |
|-------|-----|-----|-----|-----|--|
| %SS1: | 99  | 100 | 96  | 95  |  |
| %SS2: | 105 | 105 | 105 | 105 |  |
| %SS3: | 110 | 108 | 110 | 109 |  |

Comments

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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Telephone: 877-252-9262 Fax: 925-252-9269

|  |   |                                  |
|--|---|----------------------------------|
| Consolidated Engineering Laboratories<br><br>2001 Crow Canyon Road, Suite 100<br><br>San Ramon, CA 94583 | Client Project ID: #81-01824-A;<br>Livermore Airport-Pipeline | Date Sampled: 04/02/07           |
|  | Client Contact: Chris Palmer                                  | Date Received: 04/02/07          |
|  | Client P.O.:  | Date Analyzed: 04/03/07-04/04/07 |
|  |   |                                  |

### Oxygenates and BTEX by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704022

|           |                  |  |  |  |                              |
|-----------|------------------|--|--|--|------------------------------|
| Lab ID    | 0704022-016A     |  |  |  | Reporting Limit for<br>DF =1 |
| Client ID | B-2-7 @ 27.5-28' |  |  |  |                              |
| Matrix    | S                |  |  |  |                              |
| DF        | 1                |  |  |  |                              |

| Compound                      | Concentration |  |  |  | mg/kg | ug/L |
|-------------------------------|---------------|--|--|--|-------|------|
| tert-Amyl methyl ether (TAME) | ND            |  |  |  | 0.005 | NA   |
| Benzene                       | ND            |  |  |  | 0.005 | NA   |
| t-Butyl alcohol (TBA)         | ND            |  |  |  | 0.05  | NA   |
| 1,2-Dichloroethane (1,2-DCA)  | ND            |  |  |  | 0.005 | NA   |
| Diisopropyl ether (DIPE)      | ND            |  |  |  | 0.005 | NA   |
| Ethanol                       | ND            |  |  |  | 0.25  | NA   |
| Ethylbenzene                  | ND            |  |  |  | 0.005 | NA   |
| Ethyl tert-butyl ether (ETBE) | ND            |  |  |  | 0.005 | NA   |
| Methanol                      | ND            |  |  |  | 2.5   | NA   |
| Methyl-t-butyl ether (MTBE)   | ND            |  |  |  | 0.005 | NA   |
| Toluene                       | ND            |  |  |  | 0.005 | NA   |
| Xylenes                       | ND            |  |  |  | 0.005 | NA   |

### Surrogate Recoveries (%)

|       |     |  |  |  |
|-------|-----|--|--|--|
| %SS1: | 94  |  |  |  |
| %SS2: | 105 |  |  |  |
| %SS3: | 107 |  |  |  |

Comments

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



**QC SUMMARY REPORT FOR SW8260B**

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0704022

| EPA Method SW8260B            | Extraction SW5030B |        |        | BatchID: 27401 |       |        |        |       | Spiked Sample ID: 0704242-006B |                         |          |     |
|-------------------------------|--------------------|--------|--------|----------------|-------|--------|--------|-------|--------------------------------|-------------------------|----------|-----|
|                               | Analyte            | Sample | Spiked | MS             | MSD   | MS-MSD | LCS    | LCSD  | LCS-LCSD                       | Acceptance Criteria (%) |          |     |
|                               | µg/L               | µg/L   | % Rec. | % Rec.         | % RPD | % Rec. | % Rec. | % RPD | MS / MSD                       | RPD                     | LCS/LCSD | RPD |
| tert-Amyl methyl ether (TAME) | ND                 | 10     | 97.8   | 96.8           | 1.06  | 94.2   | 94.9   | 0.786 | 70 - 130                       | 30                      | 70 - 130 | 30  |
| t-Butyl alcohol (TBA)         | ND                 | 50     | 89     | 85.8           | 3.61  | 88.8   | 90.2   | 1.64  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| 1,2-Dibromoethane (EDB)       | ND                 | 10     | 87.6   | 87.4           | 0.254 | 88.2   | 88     | 0.189 | 70 - 130                       | 30                      | 70 - 130 | 30  |
| 1,2-Dichloroethane (1,2-DCA)  | ND                 | 10     | 105    | 105            | 0     | 102    | 102    | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Diisopropyl ether (DIPE)      | ND                 | 10     | 114    | 112            | 1.51  | 110    | 110    | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Ethanol                       | ND                 | 500    | 95.6   | 92.5           | 2.99  | 92.4   | 99.1   | 6.49  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Ethyl tert-butyl ether (ETBE) | ND                 | 10     | 105    | 104            | 0.490 | 101    | 101    | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Methanol                      | ND                 | 2500   | 101    | 100            | 0.792 | 101    | 100    | 0.435 | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Methyl-t-butyl ether (MTBE)   | ND                 | 10     | 103    | 103            | 0     | 99.7   | 101    | 1.08  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| %SS1:                         | 104                | 10     | 95     | 94             | 1.14  | 94     | 94     | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 27401 SUMMARY

| Sample ID    | Date Sampled      | Date Extracted | Date Analyzed    | Sample ID    | Date Sampled      | Date Extracted | Date Analyzed    |
|--------------|-------------------|----------------|------------------|--------------|-------------------|----------------|------------------|
| 0704022-009C | 04/02/07 10:10 AM | 04/12/07       | 04/12/07 8:14 PM | 0704022-017C | 04/02/07 12:45 PM | 04/12/07       | 04/12/07 8:57 PM |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



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Telephone: 877-252-9262 Fax: 925-252-9269

|  |                                |                          |
|--|--------------------------------|--------------------------|
| Consolidated Engineering Laborat<br>2001 Crow Canyon Road, Suite<br>100<br>San Ramon, CA 94583 | Client Project ID: #81-01824-A | Date Sampled: 04/02/07   |
|  |                                | Date Received: 04/03/07  |
|  | Client Contact: Chris Palmer   | Date Reported: 04/09/07  |
|  | Client P.O.:                   | Date Completed: 04/09/07 |

**WorkOrder: 0704059**

April 09, 2007

Dear Chris:

Enclosed are:

- 1). the results of 7 analyzed samples from your #81-01824-A project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions please contact me. McC Campbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Best regards,

Angela Rydelius, Lab Manager



**McC Campbell Analytical, Inc.**



1534 Willow Pass Rd  
Pittsburg, CA 94565-1701  
(925) 252-9262

**CHAIN-OF-CUSTODY RECORD**

WorkOrder: 0704059

ClientID: CEL

EDF

Fax

Email

HardCopy

ThirdParty

Report to:

Chris Palmer  
Consolidated Engineering Laboratori  
2001 Crow Canyon Road, Suite 100  
San Ramon, CA 94583

Email: cp@ce-labs.com  
TEL: 925.485.5000 FAX: 925.485.5019  
ProjectNo: #81-01824-A  
PO:

Bill to

Accounts Payable  
Consolidated Engineering Laboratori  
2001 Crow Canyon Road, Suite 100  
San Ramon, CA 94583  
ap@ce-labs.com

Requested TAT: 5 days

Date Received 04/03/2007

Date Printed: 04/04/2007

| Sample ID   | ClientSampID       | Matrix | Collection Date   | Hold                     | Requested Tests (See legend below) |   |   |   |   |   |   |   |   |    |    |    |  |
|-------------|--------------------|--------|-------------------|--------------------------|------------------------------------|---|---|---|---|---|---|---|---|----|----|----|--|
|             |                    |        |                   |                          | 1                                  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |  |
| 0704059-001 | B-3-1@ 2.5-3.0'    | Soil   | 4/2/07 2:05:00 PM | <input type="checkbox"/> | A                                  |   |   | A |   |   |   |   |   |    |    |    |  |
| 0704059-002 | B-3-2 @7.5-8.0'    | Soil   | 4/2/07 2:10:00 PM | <input type="checkbox"/> | A                                  |   |   | A |   |   |   |   |   |    |    |    |  |
| 0704059-003 | B-3-3 @ 11.5-12.0' | Soil   | 4/2/07 2:15:00 PM | <input type="checkbox"/> | A                                  |   |   | A |   |   |   |   |   |    |    |    |  |
| 0704059-004 | B-3-4 @ 15.5-16.0' | Soil   | 4/2/07 2:25:00 PM | <input type="checkbox"/> | A                                  |   |   | A |   |   |   |   |   |    |    |    |  |
| 0704059-005 | B-3-5 @ 19.5-20.0' | Soil   | 4/2/07 2:40:00 PM | <input type="checkbox"/> | A                                  |   |   | A |   |   |   |   |   |    |    |    |  |
| 0704059-006 | B-3-6 @ 23.5-24.0' | Soil   | 4/2/07 3:00:00 PM | <input type="checkbox"/> | A                                  |   |   | A |   |   |   |   |   |    |    |    |  |
| 0704059-008 | B-3 Water 25-27    | Water  | 4/2/07 3:50:00 PM | <input type="checkbox"/> |                                    | A | B |   |   |   |   |   |   |    |    |    |  |

Test Legend:

|    |          |    |          |   |               |   |                  |    |  |
|----|----------|----|----------|---|---------------|---|------------------|----|--|
| 1  | G-MBTX S | 2  | G-MBTX W | 3 | MBTEX-8260B W | 4 | MBTEXOXY-8260B S | 5  |  |
| 6  |          | 7  |          | 8 |               | 9 |                  | 10 |  |
| 11 |          | 12 |          |   |               |   |                  |    |  |

The following SampIDs: 0704059-001A, 0704059-002A, 0704059-003A, 0704059-004A, 0704059-005A, 0704059-006A, 0704059-008A contain testgroup.

Prepared by: Melissa Valles

Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.







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|  |                                |                          |
|--|--------------------------------|--------------------------|
| Consolidated Engineering Laboratories<br><br>2001 Crow Canyon Road, Suite 100<br><br>San Ramon, CA 94583 | Client Project ID: #81-01824-A | Date Sampled: 04/02/07   |
|  |                                | Date Received: 04/03/07  |
|  | Client Contact: Chris Palmer   | Date Extracted: 04/04/07 |
|  | Client P.O.:                   | Date Analyzed: 04/04/07  |

### Oxygenates and BTEX by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704059

|           |                 |  |  |  |                              |
|-----------|-----------------|--|--|--|------------------------------|
| Lab ID    | 0704059-008B    |  |  |  | Reporting Limit for<br>DF =1 |
| Client ID | B-3 Water 25-27 |  |  |  |                              |
| Matrix    | W               |  |  |  |                              |
| DF        | 1               |  |  |  |                              |

| Compound                      | Concentration |  |  |  | ug/kg | µg/L |
|-------------------------------|---------------|--|--|--|-------|------|
| tert-Amyl methyl ether (TAME) | ND            |  |  |  | NA    | 0.5  |
| Benzene                       | ND            |  |  |  | NA    | 0.5  |
| t-Butyl alcohol (TBA)         | ND            |  |  |  | NA    | 5.0  |
| Diisopropyl ether (DIPE)      | ND            |  |  |  | NA    | 0.5  |
| Ethylbenzene                  | ND            |  |  |  | NA    | 0.5  |
| Ethyl tert-butyl ether (ETBE) | ND            |  |  |  | NA    | 0.5  |
| Methyl-t-butyl ether (MTBE)   | ND            |  |  |  | NA    | 0.5  |
| Toluene                       | ND            |  |  |  | NA    | 0.5  |
| Xylenes                       | ND            |  |  |  | NA    | 0.5  |

### Surrogate Recoveries (%)

|          |     |  |  |  |
|----------|-----|--|--|--|
| %SS1:    | 122 |  |  |  |
| %SS2:    | 102 |  |  |  |
| %SS3:    | 110 |  |  |  |
| Comments | i   |  |  |  |

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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|  |                                |                          |
|--|--------------------------------|--------------------------|
| Consolidated Engineering Laboratories<br>2001 Crow Canyon Road, Suite 100<br>San Ramon, CA 94583 | Client Project ID: #81-01824-A | Date Sampled: 04/02/07   |
|  |                                | Date Received: 04/03/07  |
|  | Client Contact: Chris Palmer   | Date Extracted: 04/03/07 |
|  | Client P.O.:                   | Date Analyzed: 04/04/07  |

### Oxygenates and BTEX by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704059

|           |                 |                 |                    |                    |                              |  |
|-----------|-----------------|-----------------|--------------------|--------------------|------------------------------|--|
| Lab ID    | 0704059-001A    | 0704059-002A    | 0704059-003A       | 0704059-004A       | Reporting Limit for<br>DF =1 |  |
| Client ID | B-3-1@ 2.5-3.0' | B-3-2 @7.5-8.0' | B-3-3 @ 11.5-12.0' | B-3-4 @ 15.5-16.0' |                              |  |
| Matrix    | S               | S               | S                  | S                  |                              |  |
| DF        | 1               | 1               | 1                  | 1                  |                              |  |

| Compound                      | Concentration                 |    |    |    | mg/kg | ug/L  |
|-------------------------------|-------------------------------|----|----|----|-------|-------|
|                               | tert-Amyl methyl ether (TAME) | ND | ND | ND | ND    | 0.005 |
| Benzene                       | ND                            | ND | ND | ND | 0.005 | NA    |
| t-Butyl alcohol (TBA)         | ND                            | ND | ND | ND | 0.05  | NA    |
| Diisopropyl ether (DIPE)      | ND                            | ND | ND | ND | 0.005 | NA    |
| Ethylbenzene                  | ND                            | ND | ND | ND | 0.005 | NA    |
| Ethyl tert-butyl ether (ETBE) | ND                            | ND | ND | ND | 0.005 | NA    |
| Methyl-t-butyl ether (MTBE)   | ND                            | ND | ND | ND | 0.005 | NA    |
| Toluene                       | ND                            | ND | ND | ND | 0.005 | NA    |
| Xylenes                       | ND                            | ND | ND | ND | 0.005 | NA    |

### Surrogate Recoveries (%)

|       |     |     |     |     |
|-------|-----|-----|-----|-----|
| %SS1: | 102 | 100 | 100 | 101 |
| %SS2: | 105 | 105 | 105 | 105 |
| %SS3: | 103 | 105 | 104 | 107 |

Comments

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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|  |                                |                          |
|--|--------------------------------|--------------------------|
| Consolidated Engineering Laboratories<br><br>2001 Crow Canyon Road, Suite 100<br><br>San Ramon, CA 94583 | Client Project ID: #81-01824-A | Date Sampled: 04/02/07   |
|  |                                | Date Received: 04/03/07  |
|  | Client Contact: Chris Palmer   | Date Extracted: 04/03/07 |
|  | Client P.O.:                   | Date Analyzed: 04/04/07  |

### Oxygenates and BTEX by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704059

|           |                        |                        |  |  |                              |
|-----------|------------------------|------------------------|--|--|------------------------------|
| Lab ID    | 0704059-005A           | 0704059-006A           |  |  | Reporting Limit for<br>DF =1 |
| Client ID | B-3-5 @ 19.5-<br>20.0' | B-3-6 @ 23.5-<br>24.0' |  |  |                              |
| Matrix    | S                      | S                      |  |  |                              |
| DF        | 1                      | 1                      |  |  |                              |

| Compound                      | Concentration                 |    |    |  | mg/kg | ug/L  |
|-------------------------------|-------------------------------|----|----|--|-------|-------|
|                               | tert-Amyl methyl ether (TAME) | ND | ND |  |       | 0.005 |
| Benzene                       | ND                            | ND |    |  | 0.005 | NA    |
| t-Butyl alcohol (TBA)         | ND                            | ND |    |  | 0.05  | NA    |
| Diisopropyl ether (DIPE)      | ND                            | ND |    |  | 0.005 | NA    |
| Ethylbenzene                  | ND                            | ND |    |  | 0.005 | NA    |
| Ethyl tert-butyl ether (ETBE) | ND                            | ND |    |  | 0.005 | NA    |
| Methyl-t-butyl ether (MTBE)   | ND                            | ND |    |  | 0.005 | NA    |
| Toluene                       | ND                            | ND |    |  | 0.005 | NA    |
| Xylenes                       | ND                            | ND |    |  | 0.005 | NA    |

### Surrogate Recoveries (%)

|       |     |     |  |  |
|-------|-----|-----|--|--|
| %SS1: | 100 | 101 |  |  |
| %SS2: | 105 | 107 |  |  |
| %SS3: | 104 | 102 |  |  |

### Comments

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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|  |                                |                          |
|--|--------------------------------|--------------------------|
| Consolidated Engineering Laboratories<br><br>2001 Crow Canyon Road, Suite 100<br><br>San Ramon, CA 94583 | Client Project ID: #81-01824-A | Date Sampled: 04/02/07   |
|  |                                | Date Received: 04/03/07  |
|  | Client Contact: Chris Palmer   | Date Extracted: 04/03/07 |
|  | Client P.O.:                   | Date Analyzed: 04/04/07  |

### Diesel (C10-23) and Jet Fuel (C9-C18) Range Extractable Hydrocarbons as Diesel and Jet Fuel\*

Extraction method: SW3510C/SW3550C

Analytical methods: SW8015C

Work Order: 0704059

| Lab ID       | Client ID          | Matrix | TPH(d) | TPH(jf) | DF | % SS |
|--------------|--------------------|--------|--------|---------|----|------|
| 0704059-001A | B-3-1@ 2.5-3.0'    | S      | ND     | ND      | 1  | 99   |
| 0704059-002A | B-3-2 @7.5-8.0'    | S      | ND     | ND      | 1  | 99   |
| 0704059-003A | B-3-3 @ 11.5-12.0' | S      | ND     | ND      | 1  | 100  |
| 0704059-004A | B-3-4 @ 15.5-16.0' | S      | ND     | ND      | 1  | 112  |
| 0704059-005A | B-3-5 @ 19.5-20.0' | S      | ND     | ND      | 1  | 109  |
| 0704059-006A | B-3-6 @ 23.5-24.0' | S      | ND     | ND      | 1  | 112  |
| 0704059-008A | B-3 Water 25-27    | W      | ND,i   | ND      | 1  | 102  |
|              |                    |        |        |         |    |      |
|              |                    |        |        |         |    |      |
|              |                    |        |        |         |    |      |
|              |                    |        |        |         |    |      |
|              |                    |        |        |         |    |      |
|              |                    |        |        |         |    |      |
|              |                    |        |        |         |    |      |
|              |                    |        |        |         |    |      |
|              |                    |        |        |         |    |      |
|              |                    |        |        |         |    |      |
|              |                    |        |        |         |    |      |
|              |                    |        |        |         |    |      |
|              |                    |        |        |         |    |      |
|              |                    |        |        |         |    |      |
|              |                    |        |        |         |    |      |
|              |                    |        |        |         |    |      |
|              |                    |        |        |         |    |      |

|  |   |     |     |       |
|--|---|-----|-----|-------|
| Reporting Limit for DF =1;<br>ND means not detected at or<br>above the reporting limit | W | 50  | 50  | µg/L  |
|  | S | 1.0 | 1.0 | mg/Kg |

\* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

# cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; k) kerosene/kerosene range; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirit.



**QC SUMMARY REPORT FOR SW8260B**

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0704059

| EPA Method SW8260B            | Extraction SW5030B |        |        | BatchID: 27207 |       |        |        |       | Spiked Sample ID: 0703763-002A |                         |          |     |
|-------------------------------|--------------------|--------|--------|----------------|-------|--------|--------|-------|--------------------------------|-------------------------|----------|-----|
|                               | Analyte            | Sample | Spiked | MS             | MSD   | MS-MSD | LCS    | LCSD  | LCS-LCSD                       | Acceptance Criteria (%) |          |     |
|                               | mg/Kg              | mg/Kg  | % Rec. | % Rec.         | % RPD | % Rec. | % Rec. | % RPD | MS / MSD                       | RPD                     | LCS/LCSD | RPD |
| tert-Amyl methyl ether (TAME) | ND                 | 0.050  | 101    | 98.4           | 2.83  | 96.6   | 97.6   | 1.00  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Benzene                       | ND                 | 0.050  | 107    | 107            | 0     | 106    | 106    | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |
| t-Butyl alcohol (TBA)         | ND                 | 0.25   | 96     | 100            | 4.18  | 95.4   | 94.4   | 1.03  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Diisopropyl ether (DIPE)      | ND                 | 0.050  | 115    | 114            | 1.70  | 112    | 112    | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Ethyl tert-butyl ether (ETBE) | ND                 | 0.050  | 108    | 105            | 2.64  | 102    | 103    | 0.957 | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Methyl-t-butyl ether (MTBE)   | ND                 | 0.050  | 108    | 105            | 2.64  | 102    | 104    | 1.62  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Toluene                       | ND                 | 0.050  | 96.9   | 94.6           | 2.39  | 94.3   | 93.8   | 0.485 | 70 - 130                       | 30                      | 70 - 130 | 30  |
| %SS1:                         | 97                 | 0.050  | 97     | 97             | 0     | 97     | 98     | 0.162 | 70 - 130                       | 30                      | 70 - 130 | 30  |
| %SS2:                         | 102                | 0.050  | 100    | 99             | 0.926 | 99     | 99     | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |
| %SS3:                         | 93                 | 0.050  | 107    | 108            | 0.739 | 107    | 107    | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 27207 SUMMARY

| Sample ID    | Date Sampled     | Date Extracted | Date Analyzed    | Sample ID    | Date Sampled     | Date Extracted | Date Analyzed    |
|--------------|------------------|----------------|------------------|--------------|------------------|----------------|------------------|
| 0704059-001A | 04/02/07 2:05 PM | 04/03/07       | 04/04/07 3:11 PM | 0704059-002A | 04/02/07 2:10 PM | 04/03/07       | 04/04/07 3:55 PM |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



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## QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0704059

| EPA Method SW8015C |        | Extraction SW3510C |        |        | BatchID: 27211 |        |        |          | Spiked Sample ID: N/A   |     |          |     |
|--------------------|--------|--------------------|--------|--------|----------------|--------|--------|----------|-------------------------|-----|----------|-----|
| Analyte            | Sample | Spiked             | MS     | MSD    | MS-MSD         | LCS    | LCSD   | LCS-LCSD | Acceptance Criteria (%) |     |          |     |
|                    | µg/L   | µg/L               | % Rec. | % Rec. | % RPD          | % Rec. | % Rec. | % RPD    | MS / MSD                | RPD | LCS/LCSD | RPD |
| TPH(d)             | N/A    | 1000               | N/A    | N/A    | N/A            | 114    | 111    | 2.50     | N/A                     | N/A | 70 - 130 | 30  |
| %SS:               | N/A    | 2500               | N/A    | N/A    | N/A            | 110    | 111    | 0.719    | N/A                     | N/A | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

### BATCH 27211 SUMMARY

| Sample ID    | Date Sampled     | Date Extracted | Date Analyzed    | Sample ID | Date Sampled | Date Extracted | Date Analyzed |
|--------------|------------------|----------------|------------------|-----------|--------------|----------------|---------------|
| 0704059-008A | 04/02/07 3:50 PM | 04/03/07       | 04/04/07 8:14 PM |           |              |                |               |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



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## QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0704059

| EPA Method SW8021B/8015Cm | Extraction SW5030B |        |        | BatchID: 27231 |        |        |        |          | Spiked Sample ID: 0704022-016A |     |          |     |
|---------------------------|--------------------|--------|--------|----------------|--------|--------|--------|----------|--------------------------------|-----|----------|-----|
| Analyte                   | Sample             | Spiked | MS     | MSD            | MS-MSD | LCS    | LCSD   | LCS-LCSD | Acceptance Criteria (%)        |     |          |     |
|                           | mg/Kg              | mg/Kg  | % Rec. | % Rec.         | % RPD  | % Rec. | % Rec. | % RPD    | MS / MSD                       | RPD | LCS/LCSD | RPD |
| TPH(btex) <sup>£</sup>    | ND                 | 0.60   | 112    | 97             | 13.9   | 102    | 108    | 5.89     | 70 - 130                       | 30  | 70 - 130 | 30  |
| MTBE                      | ND                 | 0.10   | 111    | 120            | 7.88   | 107    | 105    | 1.86     | 70 - 130                       | 30  | 70 - 130 | 30  |
| Benzene                   | ND                 | 0.10   | 95.2   | 102            | 6.79   | 93.9   | 92.5   | 1.47     | 70 - 130                       | 30  | 70 - 130 | 30  |
| Toluene                   | ND                 | 0.10   | 90     | 90.2           | 0.181  | 86.2   | 84.8   | 1.62     | 70 - 130                       | 30  | 70 - 130 | 30  |
| Ethylbenzene              | ND                 | 0.10   | 97.2   | 97.3           | 0.115  | 94.4   | 94.7   | 0.326    | 70 - 130                       | 30  | 70 - 130 | 30  |
| Xylenes                   | ND                 | 0.30   | 94.4   | 87.7           | 7.25   | 91.3   | 92     | 0.727    | 70 - 130                       | 30  | 70 - 130 | 30  |
| %SS:                      | 79                 | 0.10   | 87     | 107            | 20.3   | 97     | 102    | 4.46     | 70 - 130                       | 30  | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

### BATCH 27231 SUMMARY

| Sample ID    | Date Sampled     | Date Extracted | Date Analyzed     | Sample ID    | Date Sampled     | Date Extracted | Date Analyzed    |
|--------------|------------------|----------------|-------------------|--------------|------------------|----------------|------------------|
| 0704059-001A | 04/02/07 2:05 PM | 04/03/07       | 04/05/07 8:04 AM  | 0704059-002A | 04/02/07 2:10 PM | 04/03/07       | 04/05/07 8:37 AM |
| 0704059-003A | 04/02/07 2:15 PM | 04/03/07       | 04/05/07 9:11 AM  | 0704059-004A | 04/02/07 2:25 PM | 04/03/07       | 04/05/07 9:44 AM |
| 0704059-005A | 04/02/07 2:40 PM | 04/03/07       | 04/05/07 10:17 AM | 0704059-006A | 04/02/07 3:00 PM | 04/03/07       | 04/05/07 1:17 PM |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.





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## QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0704059

| EPA Method SW8015C | Extraction SW3550C |        |        | BatchID: 27232 |       |        | Spiked Sample ID: 0704022-016A |       |          |                         |          |     |
|--------------------|--------------------|--------|--------|----------------|-------|--------|--------------------------------|-------|----------|-------------------------|----------|-----|
|                    | Analyte            | Sample | Spiked | MS             | MSD   | MS-MSD | LCS                            | LCSD  | LCS-LCSD | Acceptance Criteria (%) |          |     |
|                    | mg/Kg              | mg/Kg  | % Rec. | % Rec.         | % RPD | % Rec. | % Rec.                         | % RPD | MS / MSD | RPD                     | LCS/LCSD | RPD |
| TPH(d)             | ND                 | 20     | 101    | 101            | 0     | 113    | 114                            | 0.772 | 70 - 130 | 30                      | 70 - 130 | 30  |
| %SS:               | 103                | 50     | 103    | 103            | 0     | 114    | 122                            | 7.15  | 70 - 130 | 30                      | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

### BATCH 27232 SUMMARY

| Sample ID    | Date Sampled     | Date Extracted | Date Analyzed    | Sample ID    | Date Sampled     | Date Extracted | Date Analyzed    |
|--------------|------------------|----------------|------------------|--------------|------------------|----------------|------------------|
| 0704059-001A | 04/02/07 2:05 PM | 04/03/07       | 04/04/07 5:26 AM | 0704059-002A | 04/02/07 2:10 PM | 04/03/07       | 04/04/07 6:34 AM |
| 0704059-003A | 04/02/07 2:15 PM | 04/03/07       | 04/04/07 7:43 AM | 0704059-004A | 04/02/07 2:25 PM | 04/03/07       | 04/04/07 5:26 AM |
| 0704059-005A | 04/02/07 2:40 PM | 04/03/07       | 04/04/07 6:34 AM | 0704059-006A | 04/02/07 3:00 PM | 04/03/07       | 04/04/07 7:43 AM |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery =  $100 * (MS - Sample) / (Amount Spiked)$ ; RPD =  $100 * (MS - MSD) / ((MS + MSD) / 2)$ .

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



**QC SUMMARY REPORT FOR SW8260B**

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0704059

| EPA Method SW8260B          | Extraction SW5030B |        |        | BatchID: 27255 |       |        | Spiked Sample ID: 0704052-016B |       |          |                         |          |     |
|-----------------------------|--------------------|--------|--------|----------------|-------|--------|--------------------------------|-------|----------|-------------------------|----------|-----|
|                             | Analyte            | Sample | Spiked | MS             | MSD   | MS-MSD | LCS                            | LCSD  | LCS-LCSD | Acceptance Criteria (%) |          |     |
|                             | µg/L               | µg/L   | % Rec. | % Rec.         | % RPD | % Rec. | % Rec.                         | % RPD | MS / MSD | RPD                     | LCS/LCSD | RPD |
| Benzene                     | ND                 | 10     | 103    | 103            | 0     | 99.1   | 99.9                           | 0.838 | 70 - 130 | 30                      | 70 - 130 | 30  |
| Methyl-t-butyl ether (MTBE) | ND                 | 10     | 101    | 102            | 0.843 | 95.8   | 97.7                           | 2.01  | 70 - 130 | 30                      | 70 - 130 | 30  |
| Toluene                     | ND                 | 10     | 95.1   | 90.2           | 5.37  | 90.2   | 90.3                           | 0.110 | 70 - 130 | 30                      | 70 - 130 | 30  |
| %SS1:                       | 121                | 10     | 95     | 100            | 4.65  | 95     | 96                             | 1.09  | 70 - 130 | 30                      | 70 - 130 | 30  |
| %SS2:                       | 102                | 10     | 102    | 101            | 0.879 | 100    | 100                            | 0     | 70 - 130 | 30                      | 70 - 130 | 30  |
| %SS3:                       | 110                | 10     | 108    | 108            | 0     | 109    | 108                            | 0.583 | 70 - 130 | 30                      | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 27255 SUMMARY

| Sample ID    | Date Sampled     | Date Extracted | Date Analyzed    | Sample ID | Date Sampled | Date Extracted | Date Analyzed |
|--------------|------------------|----------------|------------------|-----------|--------------|----------------|---------------|
| 0704059-008B | 04/02/07 3:50 PM | 04/04/07       | 04/04/07 8:23 PM |           |              |                |               |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



**QC SUMMARY REPORT FOR SW8260B**

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0704059

| EPA Method SW8260B            |        | Extraction SW5030B |        |        | BatchID: 27259 |        |        | Spiked Sample ID: 0704059-006A |                         |     |          |     |
|-------------------------------|--------|--------------------|--------|--------|----------------|--------|--------|--------------------------------|-------------------------|-----|----------|-----|
| Analyte                       | Sample | Spiked             | MS     | MSD    | MS-MSD         | LCS    | LCSD   | LCS-LCSD                       | Acceptance Criteria (%) |     |          |     |
|                               | mg/Kg  | mg/Kg              | % Rec. | % Rec. | % RPD          | % Rec. | % Rec. | % RPD                          | MS / MSD                | RPD | LCS/LCSD | RPD |
| tert-Amyl methyl ether (TAME) | ND     | 0.050              | 96.5   | 95.4   | 1.12           | 96.8   | 96.1   | 0.733                          | 70 - 130                | 30  | 70 - 130 | 30  |
| Benzene                       | ND     | 0.050              | 101    | 101    | 0              | 98.2   | 101    | 2.66                           | 70 - 130                | 30  | 70 - 130 | 30  |
| t-Butyl alcohol (TBA)         | ND     | 0.25               | 84.5   | 86.1   | 1.86           | 94.2   | 95.9   | 1.76                           | 70 - 130                | 30  | 70 - 130 | 30  |
| Diisopropyl ether (DIPE)      | ND     | 0.050              | 109    | 108    | 0.420          | 107    | 108    | 0.735                          | 70 - 130                | 30  | 70 - 130 | 30  |
| Ethyl tert-butyl ether (ETBE) | ND     | 0.050              | 102    | 101    | 0.887          | 102    | 102    | 0                              | 70 - 130                | 30  | 70 - 130 | 30  |
| Methyl-t-butyl ether (MTBE)   | ND     | 0.050              | 102    | 101    | 0.846          | 104    | 102    | 1.92                           | 70 - 130                | 30  | 70 - 130 | 30  |
| Toluene                       | ND     | 0.050              | 91.4   | 91.6   | 0.175          | 89.3   | 91.8   | 2.80                           | 70 - 130                | 30  | 70 - 130 | 30  |
| %SS1:                         | 101    | 0.050              | 92     | 92     | 0              | 93     | 93     | 0                              | 70 - 130                | 30  | 70 - 130 | 30  |
| %SS2:                         | 107    | 0.050              | 100    | 100    | 0              | 101    | 100    | 0.591                          | 70 - 130                | 30  | 70 - 130 | 30  |
| %SS3:                         | 102    | 0.050              | 109    | 108    | 0.343          | 109    | 108    | 0.0728                         | 70 - 130                | 30  | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 27259 SUMMARY

| Sample ID    | Date Sampled     | Date Extracted | Date Analyzed    | Sample ID    | Date Sampled     | Date Extracted | Date Analyzed    |
|--------------|------------------|----------------|------------------|--------------|------------------|----------------|------------------|
| 0704059-003A | 04/02/07 2:15 PM | 04/03/07       | 04/04/07 4:42 PM | 0704059-004A | 04/02/07 2:25 PM | 04/03/07       | 04/04/07 5:29 PM |
| 0704059-005A | 04/02/07 2:40 PM | 04/03/07       | 04/04/07 6:16 PM | 0704059-006A | 04/02/07 3:00 PM | 04/03/07       | 04/04/07 7:00 PM |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



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### QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0704059

| Analyte                 | EPA Method SW8021B/8015Cm |        |        | Extraction SW5030B |        |        | BatchID: 27234 |          |                         | Spiked Sample ID: 0704052-008A |          |     |  |
|-------------------------|---------------------------|--------|--------|--------------------|--------|--------|----------------|----------|-------------------------|--------------------------------|----------|-----|--|
|                         | Sample                    | Spiked | MS     | MSD                | MS-MSD | LCS    | LCSD           | LCS-LCSD | Acceptance Criteria (%) |                                |          |     |  |
|                         | µg/L                      | µg/L   | % Rec. | % Rec.             | % RPD  | % Rec. | % Rec.         | % RPD    | MS / MSD                | RPD                            | LCS/LCSD | RPD |  |
| TPH(btex <sup>f</sup> ) | ND                        | 60     | 90     | 93.5               | 3.76   | 106    | 108            | 1.74     | 70 - 130                | 30                             | 70 - 130 | 30  |  |
| MTBE                    | ND                        | 10     | 82     | 87.4               | 6.44   | 115    | 109            | 5.08     | 70 - 130                | 30                             | 70 - 130 | 30  |  |
| Benzene                 | ND                        | 10     | 87.5   | 90.8               | 3.70   | 95.3   | 99.8           | 4.60     | 70 - 130                | 30                             | 70 - 130 | 30  |  |
| Toluene                 | ND                        | 10     | 87.3   | 91.1               | 4.34   | 103    | 110            | 6.71     | 70 - 130                | 30                             | 70 - 130 | 30  |  |
| Ethylbenzene            | ND                        | 10     | 92     | 95.2               | 3.37   | 96.4   | 107            | 10.1     | 70 - 130                | 30                             | 70 - 130 | 30  |  |
| Xylenes                 | ND                        | 30     | 103    | 107                | 3.17   | 100    | 120            | 18.2     | 70 - 130                | 30                             | 70 - 130 | 30  |  |
| %SS:                    | 95                        | 10     | 90     | 90                 | 0      | 93     | 98             | 5.29     | 70 - 130                | 30                             | 70 - 130 | 30  |  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 27234 SUMMARY

| Sample ID    | Date Sampled     | Date Extracted | Date Analyzed    | Sample ID | Date Sampled | Date Extracted | Date Analyzed |
|--------------|------------------|----------------|------------------|-----------|--------------|----------------|---------------|
| 0704059-008A | 04/02/07 3:50 PM | 04/06/07       | 04/06/07 2:59 AM |           |              |                |               |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

E TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.



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|  |                                |                          |
|--|--------------------------------|--------------------------|
| Consolidated Engineering Laborat<br>2001 Crow Canyon Road, Suite<br>100<br>San Ramon, CA 94583 | Client Project ID: #81-01824-A | Date Sampled: 04/02/07   |
|  |                                | Date Received: 04/03/07  |
|  | Client Contact: Chris Palmer   | Date Reported: 04/09/07  |
|  | Client P.O.:                   | Date Completed: 04/16/07 |

**WorkOrder: 0704059**

April 16, 2007

Dear Chris:

Enclosed are:

- 1). the results of 1 analyzed sample from your #81-01824-A project,
- 2). a QC report for the above sample
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions please contact me. McC Campbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Best regards,

Angela Rydelius, Lab Manager



**McC Campbell Analytical, Inc.**



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**CHAIN-OF-CUSTODY RECORD**

WorkOrder: 070405 **A** ClientID: CEL

EDF  Excel  Fax  Email  HardCopy  ThirdParty

Report to:

Chris Palmer  
Consolidated Engineering Laboratori  
2001 Crow Canyon Road, Suite 100  
San Ramon, CA 94583

Email: cp@ce-labs.com  
TEL: 925.485.5000 FAX: 925.485.5019  
ProjectNo: #81-01824-A  
PO:

Bill t

Accounts Payable  
Consolidated Engineering Laboratori  
2001 Crow Canyon Road, Suite 100  
San Ramon, CA 94583  
ap@ce-labs.com

Requested TA 5 days

Date Receive 04/03/2007

Date Add-On: 04/11/2007

Date Printed: 04/11/2007

| Sample ID   | ClientSampID    | Matrix | Collection Date   | Hold                     | Requested Tests (See legend below) |   |   |   |   |   |   |   |   |    |    |    |  |  |  |
|-------------|-----------------|--------|-------------------|--------------------------|------------------------------------|---|---|---|---|---|---|---|---|----|----|----|--|--|--|
|             |                 |        |                   |                          | 1                                  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |  |  |  |
| 0704059-008 | B-3 Water 25-27 | Water  | 4/2/07 3:50:00 PM | <input type="checkbox"/> | C                                  |   |   |   |   |   |   |   |   |    |    |    |  |  |  |

Test Legend:

|    |          |    |  |   |  |   |  |    |  |
|----|----------|----|--|---|--|---|--|----|--|
| 1  | 9-OXYS W | 2  |  | 3 |  | 4 |  | 5  |  |
| 6  |          | 7  |  | 8 |  | 9 |  | 10 |  |
| 11 |          | 12 |  |   |  |   |  |    |  |

Prepared by: Melissa Valles

Comments: Etoh, Meoh, and 1,2 DCA added 4/10 per C.P

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.



# McC Campbell Analytical, Inc.

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Web: www.mcccampbell.com E-mail: main@mcccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

|  |                                |                          |
|--|--------------------------------|--------------------------|
| Consolidated Engineering Laboratories<br><br>2001 Crow Canyon Road, Suite 100<br><br>San Ramon, CA 94583 | Client Project ID: #81-01824-A | Date Sampled: 04/02/07   |
|  |                                | Date Received: 04/03/07  |
|  | Client Contact: Chris Palmer   | Date Extracted: 04/12/07 |
|  | Client P.O.:                   | Date Analyzed: 04/12/07  |

### Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704059

|           |                 |  |  |  |                              |
|-----------|-----------------|--|--|--|------------------------------|
| Lab ID    | 0704059-008C    |  |  |  | Reporting Limit for<br>DF =1 |
| Client ID | B-3 Water 25-27 |  |  |  |                              |
| Matrix    | W               |  |  |  |                              |
| DF        | 1               |  |  |  |                              |

| Compound                     | Concentration |  |  |  | ug/kg | ug/L |
|------------------------------|---------------|--|--|--|-------|------|
| 1,2-Dichloroethane (1,2-DCA) | ND            |  |  |  | NA    | 0.5  |
| Ethanol                      | ND            |  |  |  | NA    | 50   |
| Methanol                     | ND            |  |  |  | NA    | 500  |

### Surrogate Recoveries (%)

|          |    |  |  |  |  |
|----------|----|--|--|--|--|
| %SS1:    | 96 |  |  |  |  |
| Comments | i  |  |  |  |  |

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; J) analyte detected below quantitation limits; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.





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|  |                                |                          |
|--|--------------------------------|--------------------------|
| Consolidated Engineering Laboratories<br><br>2001 Crow Canyon Road, Suite 100<br><br>San Ramon, CA 94583 | Client Project ID: #81-01824-A | Date Sampled: 04/02/07   |
|  |                                | Date Received: 04/03/07  |
|  | Client Contact: Chris Palmer   | Date Extracted: 04/03/07 |
|  | Client P.O.:                   | Date Analyzed: 04/04/07  |

### Oxygenates and BTEX by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704059

|           |                 |                 |                    |                    |                              |  |
|-----------|-----------------|-----------------|--------------------|--------------------|------------------------------|--|
| Lab ID    | 0704059-001A    | 0704059-002A    | 0704059-003A       | 0704059-004A       | Reporting Limit for<br>DF =1 |  |
| Client ID | B-3-1@ 2.5-3.0' | B-3-2 @7.5-8.0' | B-3-3 @ 11.5-12.0' | B-3-4 @ 15.5-16.0' |                              |  |
| Matrix    | S               | S               | S                  | S                  |                              |  |
| DF        | 1               | 1               | 1                  | 1                  |                              |  |

| Compound                      | Concentration |    |    |    | mg/kg | ug/L |
|-------------------------------|---------------|----|----|----|-------|------|
| tert-Amyl methyl ether (TAME) | ND            | ND | ND | ND | 0.005 | NA   |
| Benzene                       | ND            | ND | ND | ND | 0.005 | NA   |
| t-Butyl alcohol (TBA)         | ND            | ND | ND | ND | 0.05  | NA   |
| 1,2-Dichloroethane (1,2-DCA)  | ND            | ND | ND | ND | 0.005 | NA   |
| Diisopropyl ether (DIPE)      | ND            | ND | ND | ND | 0.005 | NA   |
| Ethanol                       | ND            | ND | ND | ND | 0.25  | NA   |
| Ethylbenzene                  | ND            | ND | ND | ND | 0.005 | NA   |
| Ethyl tert-butyl ether (ETBE) | ND            | ND | ND | ND | 0.005 | NA   |
| Methanol                      | ND            | ND | ND | ND | 2.5   | NA   |
| Methyl-t-butyl ether (MTBE)   | ND            | ND | ND | ND | 0.005 | NA   |
| Toluene                       | ND            | ND | ND | ND | 0.005 | NA   |
| Xylenes                       | ND            | ND | ND | ND | 0.005 | NA   |

### Surrogate Recoveries (%)

|       |     |     |     |     |  |
|-------|-----|-----|-----|-----|--|
| %SS1: | 102 | 100 | 100 | 101 |  |
| %SS2: | 105 | 105 | 105 | 105 |  |
| %SS3: | 103 | 105 | 104 | 107 |  |

**Comments**

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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Telephone: 877-252-9262 Fax: 925-252-9269

|  |                                |                          |
|--|--------------------------------|--------------------------|
| Consolidated Engineering Laboratories<br>2001 Crow Canyon Road, Suite 100<br>San Ramon, CA 94583 | Client Project ID: #81-01824-A | Date Sampled: 04/02/07   |
|  |                                | Date Received: 04/03/07  |
|  | Client Contact: Chris Palmer   | Date Extracted: 04/03/07 |
|  | Client P.O.:                   | Date Analyzed: 04/04/07  |

### Oxygenates and BTEX by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704059

|           |                    |                    |  |  |                              |
|-----------|--------------------|--------------------|--|--|------------------------------|
| Lab ID    | 0704059-005A       | 0704059-006A       |  |  | Reporting Limit for<br>DF =1 |
| Client ID | B-3-5 @ 19.5-20.0' | B-3-6 @ 23.5-24.0' |  |  |                              |
| Matrix    | S                  | S                  |  |  |                              |
| DF        | 1                  | 1                  |  |  |                              |

| Compound                      | Concentration                 |    |    | mg/kg | ug/L  |
|-------------------------------|-------------------------------|----|----|-------|-------|
|                               | tert-Amyl methyl ether (TAME) | ND | ND |       | 0.005 |
| Benzene                       | ND                            | ND |    | 0.005 | NA    |
| t-Butyl alcohol (TBA)         | ND                            | ND |    | 0.05  | NA    |
| 1,2-Dichloroethane (1,2-DCA)  | ND                            | ND |    | 0.005 | NA    |
| Diisopropyl ether (DIPE)      | ND                            | ND |    | 0.005 | NA    |
| Ethanol                       | ND                            | ND |    | 0.25  | NA    |
| Ethylbenzene                  | ND                            | ND |    | 0.005 | NA    |
| Ethyl tert-butyl ether (ETBE) | ND                            | ND |    | 0.005 | NA    |
| Methanol                      | ND                            | ND |    | 2.5   | NA    |
| Methyl-t-butyl ether (MTBE)   | ND                            | ND |    | 0.005 | NA    |
| Toluene                       | ND                            | ND |    | 0.005 | NA    |
| Xylenes                       | ND                            | ND |    | 0.005 | NA    |

### Surrogate Recoveries (%)

|       |     |     |  |  |
|-------|-----|-----|--|--|
| %SS1: | 100 | 101 |  |  |
| %SS2: | 105 | 107 |  |  |
| %SS3: | 104 | 102 |  |  |

**Comments**

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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### QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0704059

| EPA Method SW8260B            | Extraction SW5030B |        |        | BatchID: 27401 |       |        | Spiked Sample ID: 0704242-006B |       |          |                         |          |     |
|-------------------------------|--------------------|--------|--------|----------------|-------|--------|--------------------------------|-------|----------|-------------------------|----------|-----|
|                               | Analyte            | Sample | Spiked | MS             | MSD   | MS-MSD | LCS                            | LCSD  | LCS-LCSD | Acceptance Criteria (%) |          |     |
|                               | µg/L               | µg/L   | % Rec. | % Rec.         | % RPD | % Rec. | % Rec.                         | % RPD | MS / MSD | RPD                     | LCS/LCSD | RPD |
| tert-Amyl methyl ether (TAME) | ND                 | 10     | 97.8   | 96.8           | 1.06  | 94.2   | 94.9                           | 0.786 | 70 - 130 | 30                      | 70 - 130 | 30  |
| t-Butyl alcohol (TBA)         | ND                 | 50     | 89     | 85.8           | 3.61  | 88.8   | 90.2                           | 1.64  | 70 - 130 | 30                      | 70 - 130 | 30  |
| 1,2-Dibromoethane (EDB)       | ND                 | 10     | 87.6   | 87.4           | 0.254 | 88.2   | 88                             | 0.189 | 70 - 130 | 30                      | 70 - 130 | 30  |
| 1,2-Dichloroethane (1,2-DCA)  | ND                 | 10     | 105    | 105            | 0     | 102    | 102                            | 0     | 70 - 130 | 30                      | 70 - 130 | 30  |
| Diisopropyl ether (DIPE)      | ND                 | 10     | 114    | 112            | 1.51  | 110    | 110                            | 0     | 70 - 130 | 30                      | 70 - 130 | 30  |
| Ethanol                       | ND                 | 500    | 95.6   | 92.5           | 2.99  | 92.4   | 99.1                           | 6.49  | 70 - 130 | 30                      | 70 - 130 | 30  |
| Ethyl tert-butyl ether (ETBE) | ND                 | 10     | 105    | 104            | 0.490 | 101    | 101                            | 0     | 70 - 130 | 30                      | 70 - 130 | 30  |
| Methanol                      | ND                 | 2500   | 101    | 100            | 0.792 | 101    | 100                            | 0.435 | 70 - 130 | 30                      | 70 - 130 | 30  |
| Methyl-t-butyl ether (MTBE)   | ND                 | 10     | 103    | 103            | 0     | 99.7   | 101                            | 1.08  | 70 - 130 | 30                      | 70 - 130 | 30  |
| %SS1:                         | 104                | 10     | 95     | 94             | 1.14  | 94     | 94                             | 0     | 70 - 130 | 30                      | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 27401 SUMMARY

| Sample ID    | Date Sampled     | Date Extracted | Date Analyzed     | Sample ID | Date Sampled | Date Extracted | Date Analyzed |
|--------------|------------------|----------------|-------------------|-----------|--------------|----------------|---------------|
| 0704059-008C | 04/02/07 3:50 PM | 04/12/07       | 04/12/07 11:12 PM |           |              |                |               |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery =  $100 * (MS - Sample) / (Amount Spiked)$ ; RPD =  $100 * (MS - MSD) / ((MS + MSD) / 2)$ .

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



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Telephone: 877-252-9262 Fax: 925-252-9269

|  |   |                          |
|--|---|--------------------------|
| Consolidated Engineering Laborat<br>2001 Crow Canyon Road, Suite<br>100<br>San Ramon, CA 94583 | Client Project ID: #81-01824-A;Livemore<br>Airport UST/pipeline | Date Sampled: 04/03/07   |
|  |   | Date Received: 04/03/07  |
|  | Client Contact: Chris Palmer                                    | Date Reported: 04/10/07  |
|  | Client P.O.:  | Date Completed: 04/10/07 |

**WorkOrder: 0704052**

April 10, 2007

Dear Chris:

Enclosed are:

- 1). the results of 12 analyzed samples from your #81-01824-A;Livemore Airport UST/pipeline project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions please contact me. McC Campbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Best regards,

Angela Rydelius, Lab Manager

0704052-

CEL

Consolidated Engineering Laboratories, Inc.  
2001 Crow Canyon Road, Suite 100  
San Ramon, CA 94583

Ph. 925/314-7100  
Fx. 925/855-7140

# Chain of Custody

Date: April 3, 2007

Proj. No. 81-01824-A

Page 1 of 2

Project name: Livermore Airport UST/pipeline

Relinquished by: CM Palmer  
Print name: CM Palmer  
Company name: Consolidated Eng Lab

Received by: Denk Carter  
Print name: Denk Carter  
Lab name: MECAMPELL

Date received: 4/3/07  
Time received: ~~1500~~ 16:20

### Special Instructions

N-5 day turn  
Please check for Jet Fuel in  
TPWD waste

Received in good condition

Yes  No

Total # of Samples

Comments

| Sample I.D.        | Date   | Time | Matrix | Number of samples | Turn Around Time | Analysis Requested | TPHC/BTEX/MTBE<br>KYS: 8015, 8200B | TAM Diesel 8015 |  |  |  |  |  |  |  |  |  |  |  |      |
|--------------------|--------|------|--------|-------------------|------------------|--------------------|------------------------------------|-----------------|--|--|--|--|--|--|--|--|--|--|--|------|
| B-4-1 @ 2.0-2.5'   | 4/3/07 | 0800 | Soil   | 1                 | N                |                    | /                                  | /               |  |  |  |  |  |  |  |  |  |  |  |      |
| B-4-2 @ 7.5-8.0'   |        | 0810 |        | 1                 | N                |                    | /                                  | /               |  |  |  |  |  |  |  |  |  |  |  |      |
| B-4-3 @ 11.5-12.0' |        | 0815 |        | 1                 | W                |                    | /                                  | /               |  |  |  |  |  |  |  |  |  |  |  | HOLD |
| B-4-4 @ 15.5-16.0' |        | 0825 |        | 1                 | N                |                    | /                                  | /               |  |  |  |  |  |  |  |  |  |  |  |      |
| B-4-5 @ 19.5-20.0' |        | 0845 |        | 1                 | N                |                    | /                                  | /               |  |  |  |  |  |  |  |  |  |  |  |      |
| B-4-6 @ 23.5-24.0' |        | 0900 |        | 1                 | W                |                    | /                                  | /               |  |  |  |  |  |  |  |  |  |  |  |      |
| B-4-7 @ 27.5-28.0' |        | 0920 |        | 1                 | N                |                    | /                                  | /               |  |  |  |  |  |  |  |  |  |  |  | HOLD |
| B-4 water          | 4/3/07 | 1015 | water  | 4                 | N                |                    | /                                  | /               |  |  |  |  |  |  |  |  |  |  |  |      |

RECEIVED IN GOOD CONDITION  
 CONTAINERS PRESENT  
 APPROPRIATE CONTAINERS  
 PRESERVATION (KYS) O&G METALS OTHER

**Consolidated Engineering Laboratories, Inc.**  
 2001 Crow Canyon Road, Suite 100  
 San Ramon, CA 94583

Ph. 925/314-7100  
 Fx. 925/855-7140

# Chain of Custody

Date: April 3, 2007

Proj. No. 81-01824-A

Page 2 of 2

Project name: Livermore Airport UST/Pipeline

Relinquished by: CM Palmer  
 Print name: CM Palmer  
 Company name: Consolidated Eng. Labs

Received by: Denk Co  
 Print name: DELIK CAETAN  
 Lab name: MCCAMBELL

Date received: 4/3/07  
 Time received: 1300

Denk Co 4/3/07 16:20

**Special Instructions**

N-5 day turn.  
 please check fuel tank in  
 Diesel range

Received in good condition  
 Yes  No   
 Total # of Samples       

| Sample I.D.       | Date   | Time | Matrix | Number of samples | Turn Around Time | Analysis Requested | TPH | TEX | MTBE | ET | OXYS | BZ | Lead | TPH Diesel | Comments |
|-------------------|--------|------|--------|-------------------|------------------|--------------------|-----|-----|------|----|------|----|------|------------|----------|
| B-5-1c 3.5-4.0'   | 4/3/07 | 1005 | Soil   | 1                 | N                |                    | /   | /   |      |    |      |    |      |            |          |
| B-5-2c 7.5-8.0'   |        | 1110 |        | 1                 | N                |                    | /   | /   |      |    |      |    |      |            |          |
| B-5-3c 11.5-12.0' |        | 1115 |        | 1                 | N                |                    | /   | /   |      |    |      |    |      |            |          |
| B-5-4c 15.5-16.0' |        | 1125 |        | 1                 | N                |                    | /   | /   |      |    |      |    |      |            |          |
| B-5-5@19.5-20.0'  |        | 1140 |        | 1                 | N                |                    | /   | /   |      |    |      |    |      |            | HOLD     |
| B-5-6@23.5-25'    |        | 1155 |        | 1                 | N                |                    | /   | /   |      |    |      |    |      |            |          |
| B-5-7c 27.5-28'   |        | 1215 |        | 1                 | N                |                    | /   | /   |      |    |      |    |      |            | HOLD     |
| B-5 water         | 4/3/07 | 1230 | water  | 4                 | N                |                    | /   | /   |      |    |      |    |      |            |          |

**McC Campbell Analytical, Inc.**



1534 Willow Pass Rd  
Pittsburg, CA 94565-1701  
(925) 252-9262

**CHAIN-OF-CUSTODY RECORD**

WorkOrder: 0704052

ClientID: CEL

EDF

Fax

Email

HardCopy

ThirdParty

Report to:

Chris Palmer  
Consolidated Engineering Laboratori  
2001 Crow Canyon Road, Suite 100  
San Ramon, CA 94583

Email: cp@ce-labs.com  
TEL: 925.485.5000 FAX: 925.485.5019  
ProjectNo: #81-01824-A;Livmore Airport UST/pip  
PO:

Bill to:

Accounts Payable  
Consolidated Engineering Laboratori  
2001 Crow Canyon Road, Suite 100  
San Ramon, CA 94583  
ap@ce-labs.com

Requested TAT: 5 days

Date Received 04/03/2007

Date Printed: 04/03/2007

| Sample ID   | ClientSampleID   | Matrix | Collection Date   | Hold                     | Requested Tests (See legend below) |   |   |   |   |   |   |   |   |    |    |    |  |
|-------------|------------------|--------|-------------------|--------------------------|------------------------------------|---|---|---|---|---|---|---|---|----|----|----|--|
|             |                  |        |                   |                          | 1                                  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |  |
| 0704052-001 | B-4-1@2.0-2.5'   | Soil   | 04/03/07 8:00:00  | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704052-002 | B-4-2@7.5-8.0'   | Soil   | 04/03/07 8:01:00  | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704052-004 | B-4-4@15.5-16.0' | Soil   | 04/03/07 8:25:00  | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704052-005 | B-4-5@19.5-20.0' | Soil   | 04/03/07 8:45:00  | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704052-006 | B-4-6@23.5-24.0' | Soil   | 04/03/07 9:00:00  | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704052-008 | B-4 water        | Water  | 04/03/07 10:15:00 | <input type="checkbox"/> |                                    | A |   | B |   |   |   |   |   |    |    |    |  |
| 0704052-009 | B-5-1@3.5-4.0'   | Soil   | 04/03/07 11:05:00 | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704052-010 | B-5-2@7.5-8.0'   | Soil   | 04/03/07 11:10:00 | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704052-011 | B-5-3@11.5-12.0' | Soil   | 04/03/07 11:15:00 | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704052-012 | B-5-4@15.5-16.0' | Soil   | 04/03/07 11:25:00 | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704052-014 | B-5-6@23.5-25'   | Soil   | 04/03/07 11:55:00 | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704052-016 | B-5 Water        | Water  | 04/03/07 12:30:00 | <input type="checkbox"/> |                                    | A |   | B |   |   |   |   |   |    |    |    |  |

Test Legend:

|    |           |    |           |   |                  |   |                  |    |  |
|----|-----------|----|-----------|---|------------------|---|------------------|----|--|
| 1  | G-MBTEX S | 2  | G-MBTEX W | 3 | MBTEXOXY-8260B S | 4 | MBTEXOXY-8260B W | 5  |  |
| 6  |           | 7  |           | 8 |                  | 9 |                  | 10 |  |
| 11 |           | 12 |           |   |                  |   |                  |    |  |

The following SampleIDs: 0704052-001A, 0704052-002A, 0704052-004A, 0704052-005A, 0704052-006A, 0704052-008A, 0704052-009A, 0704052-010A, 0704052-011A, 0704052-012A, 0704052-014A, 0704052-016A contain testgroup.

Prepared by: Chloe Lam

Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.



**Sample Receipt Checklist**

Client Name: **Consolidated Engineering Laboratories** Date and Time Received: **04/03/07 6:24:33 PM**  
Project Name: **#81-01824-A;Livemore Airport UST/pipeline** Checklist completed and reviewed by: **Chloe Lam**  
WorkOrder N°: **0704052** Matrix Soil/Water Carrier: Client Drop-In

**Chain of Custody (COC) Information**

Chain of custody present? Ye  No   
Chain of custody signed when relinquished and received? Ye  No   
Chain of custody agrees with sample labels? Ye  No   
Sample IDs noted by Client on COC? Ye  No   
Date and Time of collection noted by Client on COC? Ye  No   
Sampler's name noted on COC? Ye  No

**Sample Receipt Information**

Custody seals intact on shipping container/cooler? Ye  No  NA   
Shipping container/cooler in good condition? Ye  No   
Samples in proper containers/bottles? Ye  No   
Sample containers intact? Ye  No   
Sufficient sample volume for indicated test? Ye  No

**Sample Preservation and Hold Time (HT) Information**

All samples received within holding time? Ye  No   
Container/Temp Blank temperature Cooler Temp: 9.6°C NA   
Water - VOA vials have zero headspace / no bubbles? Ye  No  No VOA vials submitted   
Sample labels checked for correct preservation? Ye  No

-----  
Client contacted: Date contacted: Contacted by:  
Comments:





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|  |   |                                   |
|--|---|-----------------------------------|
| Consolidated Engineering Laboratories<br><br>2001 Crow Canyon Road, Suite 100<br><br>San Ramon, CA 94583 | Client Project ID: #81-01824-A; Livemore Airport UST/pipeline | Date Sampled: 04/03/07            |
|  | Client Contact: Chris Palmer                                  | Date Received: 04/03/07           |
|  | Client P.O.:  | Date Extracted: 04/03/07-04/06/07 |
|  |   | Date Analyzed: 04/04/07-04/06/07  |

### Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline\*

Extraction method: SW5030B

Analytical methods: SW8015Cm

Work Order: 0704052

| Lab ID | Client ID        | Matrix | TPH(g) | DF | % SS |
|--------|------------------|--------|--------|----|------|
| 001A   | B-4-1@2.0-2.5'   | S      | ND     | 1  | 90   |
| 002A   | B-4-2@7.5-8.0'   | S      | ND     | 1  | 86   |
| 004A   | B-4-4@15.5-16.0' | S      | ND     | 1  | 86   |
| 005A   | B-4-5@19.5-20.0' | S      | ND     | 1  | 88   |
| 006A   | B-4-6@23.5-24.0' | S      | ND     | 1  | 87   |
| 008A   | B-4 water        | W      | ND     | 1  | 95   |
| 009A   | B-5-1@3.5-4.0'   | S      | ND     | 1  | 86   |
| 010A   | B-5-2@7.5-8.0'   | S      | ND     | 1  | 85   |
| 011A   | B-5-3@11.5-12.0' | S      | ND     | 1  | 86   |
| 012A   | B-5-4@15.5-16.0' | S      | ND     | 1  | 85   |
| 014A   | B-5-6@23.5-25'   | S      | ND     | 1  | 85   |
| 016A   | B-5 Water        | W      | ND     | 1  | 88   |
|        |                  |        |        |    |      |
|        |                  |        |        |    |      |
|        |                  |        |        |    |      |
|        |                  |        |        |    |      |

|  |   |     |       |
|--|---|-----|-------|
| Reporting Limit for DF =1;<br>ND means not detected at or<br>above the reporting limit | W | 50  | µg/L  |
|  | S | 1.0 | mg/Kg |

\* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) value derived using a client specified carbon range; o) results are reported on a dry weight basis; p) see attached narrative.

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|  |   |                                   |
|--|---|-----------------------------------|
| Consolidated Engineering Laboratories<br>2001 Crow Canyon Road, Suite 100<br>San Ramon, CA 94583 | Client Project ID: #81-01824-A; Livemore Airport UST/pipeline | Date Sampled: 04/03/07            |
|  | Client Contact: Chris Palmer                                  | Date Received: 04/03/07           |
|  | Client P.O.:  | Date Extracted: 04/03/07-04/05/07 |
|  |   | Date Analyzed: 04/04/07-04/05/07  |

**Oxygenates and BTEX by GC/MS\***

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704052

|           |                |                |                  |                  |                           |  |
|-----------|----------------|----------------|------------------|------------------|---------------------------|--|
| Lab ID    | 0704052-001A   | 0704052-002A   | 0704052-004A     | 0704052-005A     | Reporting Limit for DF =1 |  |
| Client ID | B-4-1@2.0-2.5' | B-4-2@7.5-8.0' | B-4-4@15.5-16.0' | B-4-5@19.5-20.0' |                           |  |
| Matrix    | S              | S              | S                | S                |                           |  |
| DF        | 1              | 1              | 1                | 1                |                           |  |

| Compound                      | Concentration                 |    |    |    | mg/kg | µg/L  |
|-------------------------------|-------------------------------|----|----|----|-------|-------|
|                               | tert-Amyl methyl ether (TAME) | ND | ND | ND | ND    | 0.005 |
| Benzene                       | ND                            | ND | ND | ND | 0.005 | 0.5   |
| t-Butyl alcohol (TBA)         | ND                            | ND | ND | ND | 0.05  | 5.0   |
| Diisopropyl ether (DIPE)      | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Ethylbenzene                  | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Ethyl tert-butyl ether (ETBE) | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Methyl-t-butyl ether (MTBE)   | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Toluene                       | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Xylenes                       | ND                            | ND | ND | ND | 0.005 | 0.5   |

**Surrogate Recoveries (%)**

|       |     |     |     |     |
|-------|-----|-----|-----|-----|
| %SS1: | 103 | 101 | 99  | 95  |
| %SS2: | 105 | 105 | 107 | 105 |
| %SS3: | 102 | 101 | 111 | 107 |

**Comments**

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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|  |   |                                   |
|--|---|-----------------------------------|
| Consolidated Engineering Laboratories<br>2001 Crow Canyon Road, Suite 100<br>San Ramon, CA 94583 | Client Project ID: #81-01824-A; Livemore Airport UST/pipeline | Date Sampled: 04/03/07            |
|  | Client Contact: Chris Palmer                                  | Date Received: 04/03/07           |
|  | Client P.O.:  | Date Extracted: 04/03/07-04/05/07 |
|  |   | Date Analyzed: 04/04/07-04/05/07  |

### Oxygenates and BTEX by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704052

| Lab ID    | 0704052-006A     | 0704052-008B | 0704052-009A   | 0704052-010A   | Reporting Limit for DF=1 |   |
|-----------|------------------|--------------|----------------|----------------|--------------------------|---|
| Client ID | B-4-6@23.5-24.0' | B-4 water    | B-5-1@3.5-4.0' | B-5-2@7.5-8.0' |                          |   |
| Matrix    | S                | W            | S              | S              |                          |   |
| DF        | 1                | 1            | 1              | 1              | S                        | W |

| Compound                      | Concentration |    |    |    | mg/kg | µg/L |
|-------------------------------|---------------|----|----|----|-------|------|
| tert-Amyl methyl ether (TAME) | ND            | ND | ND | ND | 0.005 | 0.5  |
| Benzene                       | ND            | ND | ND | ND | 0.005 | 0.5  |
| t-Butyl alcohol (TBA)         | ND            | ND | ND | ND | 0.05  | 5.0  |
| Diisopropyl ether (DIPE)      | ND            | ND | ND | ND | 0.005 | 0.5  |
| Ethylbenzene                  | ND            | ND | ND | ND | 0.005 | 0.5  |
| Ethyl tert-butyl ether (ETBE) | ND            | ND | ND | ND | 0.005 | 0.5  |
| Methyl-t-butyl ether (MTBE)   | ND            | ND | ND | ND | 0.005 | 0.5  |
| Toluene                       | ND            | ND | ND | ND | 0.005 | 0.5  |
| Xylenes                       | ND            | ND | ND | ND | 0.005 | 0.5  |

### Surrogate Recoveries (%)

|       |     |     |     |     |  |
|-------|-----|-----|-----|-----|--|
| %SS1: | 97  | 120 | 98  | 98  |  |
| %SS2: | 104 | 101 | 106 | 104 |  |
| %SS3: | 107 | 109 | 105 | 105 |  |

### Comments

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

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|  |   |                                   |
|--|---|-----------------------------------|
| Consolidated Engineering Laboratories<br>2001 Crow Canyon Road, Suite 100<br>San Ramon, CA 94583 | Client Project ID: #81-01824-A; Livemore Airport UST/pipeline | Date Sampled: 04/03/07            |
|  |   | Date Received: 04/03/07           |
|  | Client Contact: Chris Palmer                                  | Date Extracted: 04/03/07-04/05/07 |
|  | Client P.O.:  | Date Analyzed: 04/04/07-04/05/07  |

**Oxygenates and BTEX by GC/MS\***

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704052

| Lab ID    | 0704052-011A     | 0704052-012A     | 0704052-014A   | 0704052-016B | Reporting Limit for DF=1 |   |
|-----------|------------------|------------------|----------------|--------------|--------------------------|---|
| Client ID | B-5-3@11.5-12.0' | B-5-4@15.5-16.0' | B-5-6@23.5-25' | B-5 Water    | S                        | W |
| Matrix    | S                | S                | S              | W            |                          |   |
| DF        | 1                | 1                | 1              | 1            |                          |   |

| Compound                      | Concentration                 |    |    |    | mg/kg | µg/L  |
|-------------------------------|-------------------------------|----|----|----|-------|-------|
|                               | tert-Amyl methyl ether (TAME) | ND | ND | ND | ND    | 0.005 |
| Benzene                       | ND                            | ND | ND | ND | 0.005 | 0.5   |
| t-Butyl alcohol (TBA)         | ND                            | ND | ND | ND | 0.05  | 5.0   |
| Diisopropyl ether (DIPE)      | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Ethylbenzene                  | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Ethyl tert-butyl ether (ETBE) | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Methyl-t-butyl ether (MTBE)   | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Toluene                       | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Xylenes                       | ND                            | ND | ND | ND | 0.005 | 0.5   |

**Surrogate Recoveries (%)**

|       |     |     |     |     |  |
|-------|-----|-----|-----|-----|--|
| %SS1: | 104 | 105 | 95  | 121 |  |
| %SS2: | 108 | 106 | 104 | 102 |  |
| %SS3: | 106 | 106 | 105 | 110 |  |

**Comments**

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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|  |   |                                  |
|--|---|----------------------------------|
| Consolidated Engineering Laboratories<br>2001 Crow Canyon Road, Suite 100<br>San Ramon, CA 94583 | Client Project ID: #81-01824-A; Livemore Airport UST/pipeline | Date Sampled: 04/03/07           |
|  | Client Contact: Chris Palmer                                  | Date Received: 04/03/07          |
|  | Client P.O.:  | Date Extracted: 04/03/07         |
|  |   | Date Analyzed: 04/04/07-04/09/07 |

### Diesel (C10-23) and Jet Fuel (C9-C18) Range Extractable Hydrocarbons as Diesel and Jet Fuel\*

Extraction method: SW3510C/SW3550C

Analytical methods: SW8015C

Work Order: 0704052

| Lab ID       | Client ID        | Matrix | TPH(d)  | TPH(jf) | DF | % SS |
|--------------|------------------|--------|---------|---------|----|------|
| 0704052-001A | B-4-1@2.0-2.5'   | S      | ND      | ND      | 1  | 101  |
| 0704052-002A | B-4-2@7.5-8.0'   | S      | ND      | ND      | 1  | 91   |
| 0704052-004A | B-4-4@15.5-16.0' | S      | ND      | ND      | 1  | 102  |
| 0704052-005A | B-4-5@19.5-20.0' | S      | ND      | ND      | 1  | 102  |
| 0704052-006A | B-4-6@23.5-24.0' | S      | ND      | ND      | 1  | 93   |
| 0704052-008A | B-4 water        | W      | 110,g,b | 86      | 1  | 117  |
| 0704052-009A | B-5-1@3.5-4.0'   | S      | ND      | ND      | 1  | 93   |
| 0704052-010A | B-5-2@7.5-8.0'   | S      | ND      | ND      | 1  | 106  |
| 0704052-011A | B-5-3@11.5-12.0' | S      | ND      | ND      | 1  | 109  |
| 0704052-012A | B-5-4@15.5-16.0' | S      | ND      | ND      | 1  | 99   |
| 0704052-014A | B-5-6@23.5-25'   | S      | ND      | ND      | 1  | 91   |
| 0704052-016A | B-5 Water        | W      | ND      | ND      | 1  | 102  |
|              |                  |        |         |         |    |      |
|              |                  |        |         |         |    |      |
|              |                  |        |         |         |    |      |
|              |                  |        |         |         |    |      |

|  |   |     |     |       |
|--|---|-----|-----|-------|
| Reporting Limit for DF =1;<br>ND means not detected at or<br>above the reporting limit | W | 50  | 50  | µg/L  |
|  | S | 1.0 | 1.0 | mg/Kg |

\* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

# cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant; d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; k) kerosene/kerosene range; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirit.



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## QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0704052

| EPA Method SW8021B/8015Cm |        | Extraction SW5030B |        |        | BatchID: 27231 |        |        | Spiked Sample ID: 0704022-016A |                         |     |          |     |
|---------------------------|--------|--------------------|--------|--------|----------------|--------|--------|--------------------------------|-------------------------|-----|----------|-----|
| Analyte                   | Sample | Spiked             | MS     | MSD    | MS-MSD         | LCS    | LCSD   | LCS-LCSD                       | Acceptance Criteria (%) |     |          |     |
|                           | mg/Kg  | mg/Kg              | % Rec. | % Rec. | % RPD          | % Rec. | % Rec. | % RPD                          | MS / MSD                | RPD | LCS/LCSD | RPD |
| TPH(btex) <sup>f</sup>    | ND     | 0.60               | 112    | 97     | 13.9           | 102    | 108    | 5.89                           | 70 - 130                | 30  | 70 - 130 | 30  |
| MTBE                      | ND     | 0.10               | 111    | 120    | 7.88           | 107    | 105    | 1.86                           | 70 - 130                | 30  | 70 - 130 | 30  |
| Benzene                   | ND     | 0.10               | 95.2   | 102    | 6.79           | 93.9   | 92.5   | 1.47                           | 70 - 130                | 30  | 70 - 130 | 30  |
| Toluene                   | ND     | 0.10               | 90     | 90.2   | 0.181          | 86.2   | 84.8   | 1.62                           | 70 - 130                | 30  | 70 - 130 | 30  |
| Ethylbenzene              | ND     | 0.10               | 97.2   | 97.3   | 0.115          | 94.4   | 94.7   | 0.326                          | 70 - 130                | 30  | 70 - 130 | 30  |
| Xylenes                   | ND     | 0.30               | 94.4   | 87.7   | 7.25           | 91.3   | 92     | 0.727                          | 70 - 130                | 30  | 70 - 130 | 30  |
| %SS:                      | 79     | 0.10               | 87     | 107    | 20.3           | 97     | 102    | 4.46                           | 70 - 130                | 30  | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

### BATCH 27231 SUMMARY

| Sample ID    | Date Sampled      | Date Extracted | Date Analyzed     | Sample ID    | Date Sampled      | Date Extracted | Date Analyzed    |
|--------------|-------------------|----------------|-------------------|--------------|-------------------|----------------|------------------|
| 0704052-001A | 04/03/07 8:00 AM  | 04/03/07       | 04/05/07 2:06 AM  | 0704052-002A | 04/03/07 8:01 AM  | 04/03/07       | 04/05/07 2:37 AM |
| 0704052-004A | 04/03/07 8:25 AM  | 04/03/07       | 04/05/07 3:07 AM  | 0704052-005A | 04/03/07 8:45 AM  | 04/03/07       | 04/05/07 3:38 AM |
| 0704052-006A | 04/03/07 9:00 AM  | 04/03/07       | 04/05/07 4:08 AM  | 0704052-009A | 04/03/07 11:05 AM | 04/03/07       | 04/05/07 2:54 PM |
| 0704052-010A | 04/03/07 11:10 AM | 04/03/07       | 04/05/07 6:40 AM  | 0704052-011A | 04/03/07 11:15 AM | 04/03/07       | 04/04/07 9:31 PM |
| 0704052-012A | 04/03/07 11:25 AM | 04/03/07       | 04/04/07 10:01 PM |              |                   |                |                  |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.



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## QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0704052

| EPA Method SW8015C |        | Extraction SW3550C |        |        | BatchID: 27232 |        |        | Spiked Sample ID: 0704022-016A |                         |     |          |     |
|--------------------|--------|--------------------|--------|--------|----------------|--------|--------|--------------------------------|-------------------------|-----|----------|-----|
| Analyte            | Sample | Spiked             | MS     | MSD    | MS-MSD         | LCS    | LCSD   | LCS-LCSD                       | Acceptance Criteria (%) |     |          |     |
|                    | mg/Kg  | mg/Kg              | % Rec. | % Rec. | % RPD          | % Rec. | % Rec. | % RPD                          | MS / MSD                | RPD | LCS/LCSD | RPD |
| TPH(d)             | ND     | 20                 | 101    | 101    | 0              | 113    | 114    | 0.772                          | 70 - 130                | 30  | 70 - 130 | 30  |
| %SS:               | 103    | 50                 | 103    | 103    | 0              | 114    | 122    | 7.15                           | 70 - 130                | 30  | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

### BATCH 27232 SUMMARY

| Sample ID    | Date Sampled     | Date Extracted | Date Analyzed    | Sample ID    | Date Sampled      | Date Extracted | Date Analyzed    |
|--------------|------------------|----------------|------------------|--------------|-------------------|----------------|------------------|
| 0704052-001A | 04/03/07 8:00 AM | 04/03/07       | 04/04/07 4:19 PM | 0704052-002A | 04/03/07 8:01 AM  | 04/03/07       | 04/05/07 2:51 AM |
| 0704052-004A | 04/03/07 8:25 AM | 04/03/07       | 04/04/07 5:27 PM | 0704052-005A | 04/03/07 8:45 AM  | 04/03/07       | 04/04/07 6:36 PM |
| 0704052-006A | 04/03/07 9:00 AM | 04/03/07       | 04/04/07 4:14 PM | 0704052-009A | 04/03/07 11:05 AM | 04/03/07       | 04/04/07 5:26 PM |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery =  $100 * (MS - Sample) / (Amount Spiked)$ ; RPD =  $100 * (MS - MSD) / ((MS + MSD) / 2)$ .

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



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### QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0704052

| EPA Method SW8021B/8015Cm | Extraction SW5030B |        |        | BatchID: 27234 |        |        |        |        | Spiked Sample ID: 0704052-008A |                         |          |          |
|---------------------------|--------------------|--------|--------|----------------|--------|--------|--------|--------|--------------------------------|-------------------------|----------|----------|
|                           | Analyte            | Sample | Spiked | MS             | MSD    | MS-MSD | LCS    | LCSD   | LCS-LCSD                       | Acceptance Criteria (%) |          |          |
|                           |                    | µg/L   | µg/L   | % Rec.         | % Rec. | % RPD  | % Rec. | % Rec. | % RPD                          | MS / MSD                | RPD      | LCS/LCSD |
| TPH(btex <sup>f</sup> )   | ND                 | 60     | 90     | 93.5           | 3.76   | 106    | 108    | 1.74   | 70 - 130                       | 30                      | 70 - 130 | 30       |
| MTBE                      | ND                 | 10     | 82     | 87.4           | 6.44   | 115    | 109    | 5.08   | 70 - 130                       | 30                      | 70 - 130 | 30       |
| Benzene                   | ND                 | 10     | 87.5   | 90.8           | 3.70   | 95.3   | 99.8   | 4.60   | 70 - 130                       | 30                      | 70 - 130 | 30       |
| Toluene                   | ND                 | 10     | 87.3   | 91.1           | 4.34   | 103    | 110    | 6.71   | 70 - 130                       | 30                      | 70 - 130 | 30       |
| Ethylbenzene              | ND                 | 10     | 92     | 95.2           | 3.37   | 96.4   | 107    | 10.1   | 70 - 130                       | 30                      | 70 - 130 | 30       |
| Xylenes                   | ND                 | 30     | 103    | 107            | 3.17   | 100    | 120    | 18.2   | 70 - 130                       | 30                      | 70 - 130 | 30       |
| %SS:                      | 95                 | 10     | 90     | 90             | 0      | 93     | 98     | 5.29   | 70 - 130                       | 30                      | 70 - 130 | 30       |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 27234 SUMMARY

| Sample ID    | Date Sampled      | Date Extracted | Date Analyzed    | Sample ID    | Date Sampled      | Date Extracted | Date Analyzed    |
|--------------|-------------------|----------------|------------------|--------------|-------------------|----------------|------------------|
| 0704052-008A | 04/03/07 10:15 AM | 04/06/07       | 04/06/07 1:52 AM | 0704052-016A | 04/03/07 12:30 PM | 04/06/07       | 04/06/07 2:25 AM |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.





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## QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0704052

| EPA Method SW8260B            | Extraction SW5030B |        |        | BatchID: 27255 |       |        |        |       | Spiked Sample ID: 0704052-016B |                         |          |     |
|-------------------------------|--------------------|--------|--------|----------------|-------|--------|--------|-------|--------------------------------|-------------------------|----------|-----|
|                               | Analyte            | Sample | Spiked | MS             | MSD   | MS-MSD | LCS    | LCSD  | LCS-LCSD                       | Acceptance Criteria (%) |          |     |
|                               | µg/L               | µg/L   | % Rec. | % Rec.         | % RPD | % Rec. | % Rec. | % RPD | MS / MSD                       | RPD                     | LCS/LCSD | RPD |
| tert-Amyl methyl ether (TAME) | ND                 | 10     | 94.6   | 95.3           | 0.701 | 90.2   | 92.3   | 2.29  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Benzene                       | ND                 | 10     | 103    | 103            | 0     | 99.1   | 99.9   | 0.838 | 70 - 130                       | 30                      | 70 - 130 | 30  |
| t-Butyl alcohol (TBA)         | ND                 | 50     | 93.8   | 93.1           | 0.777 | 91.4   | 89.6   | 2.00  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Diisopropyl ether (DIPE)      | ND                 | 10     | 109    | 110            | 0.395 | 105    | 106    | 1.27  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Ethanol                       | ND                 | 500    | 105    | 100            | 4.98  | 91     | 93     | 1.99  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Ethyl tert-butyl ether (ETBE) | ND                 | 10     | 101    | 102            | 0.542 | 96.1   | 98     | 1.88  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Methanol                      | ND                 | 2500   | 102    | 101            | 0.476 | 100    | 100    | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Methyl-t-butyl ether (MTBE)   | ND                 | 10     | 101    | 102            | 0.843 | 95.8   | 97.7   | 2.01  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Toluene                       | ND                 | 10     | 95.1   | 90.2           | 5.37  | 90.2   | 90.3   | 0.110 | 70 - 130                       | 30                      | 70 - 130 | 30  |
| %SS1:                         | 121                | 10     | 95     | 100            | 4.65  | 95     | 96     | 1.09  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| %SS2:                         | 102                | 10     | 102    | 101            | 0.879 | 100    | 100    | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |
| %SS3:                         | 110                | 10     | 108    | 108            | 0     | 109    | 108    | 0.583 | 70 - 130                       | 30                      | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

### BATCH 27255 SUMMARY

| Sample ID    | Date Sampled      | Date Extracted | Date Analyzed    | Sample ID    | Date Sampled      | Date Extracted | Date Analyzed    |
|--------------|-------------------|----------------|------------------|--------------|-------------------|----------------|------------------|
| 0704052-008B | 04/03/07 10:15 AM | 04/04/07       | 04/04/07 6:54 PM | 0704052-016B | 04/03/07 12:30 PM | 04/04/07       | 04/04/07 7:39 PM |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery =  $100 * (MS - Sample) / (Amount Spiked)$ ; RPD =  $100 * (MS - MSD) / ((MS + MSD) / 2)$ .

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



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### QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0704052

| EPA Method SW8015C |        | Extraction SW3550C |        |        | BatchID: 27260 |        |        |          | Spiked Sample ID: 0704052-010A |     |          |     |
|--------------------|--------|--------------------|--------|--------|----------------|--------|--------|----------|--------------------------------|-----|----------|-----|
| Analyte            | Sample | Spiked             | MS     | MSD    | MS-MSD         | LCS    | LCSD   | LCS-LCSD | Acceptance Criteria (%)        |     |          |     |
|                    | mg/Kg  | mg/Kg              | % Rec. | % Rec. | % RPD          | % Rec. | % Rec. | % RPD    | MS / MSD                       | RPD | LCS/LCSD | RPD |
| TPH(d)             | ND     | 20                 | 114    | 114    | 0              | 101    | 102    | 0.338    | 70 - 130                       | 30  | 70 - 130 | 30  |
| %SS:               | 106    | 50                 | 115    | 115    | 0              | 87     | 87     | 0        | 70 - 130                       | 30  | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 27260 SUMMARY

| Sample ID    | Date Sampled      | Date Extracted | Date Analyzed    | Sample ID    | Date Sampled      | Date Extracted | Date Analyzed    |
|--------------|-------------------|----------------|------------------|--------------|-------------------|----------------|------------------|
| 0704052-010A | 04/03/07 11:10 AM | 04/03/07       | 04/04/07 4:19 PM | 0704052-011A | 04/03/07 11:15 AM | 04/03/07       | 04/04/07 1:57 PM |
| 0704052-012A | 04/03/07 11:25 AM | 04/03/07       | 04/04/07 1:57 PM | 0704052-014A | 04/03/07 11:55 AM | 04/03/07       | 04/04/07 6:37 PM |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



**QC SUMMARY REPORT FOR SW8021B/8015Cm**

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0704052

| EPA Method SW8021B/8015Cm | Extraction SW5030B |        |        | BatchID: 27261 |        |        |        |       | Spiked Sample ID: 0704052-014A |                         |          |     |
|---------------------------|--------------------|--------|--------|----------------|--------|--------|--------|-------|--------------------------------|-------------------------|----------|-----|
|                           | Analyte            | Sample | Spiked | MS             | MSD    | MS-MSD | LCS    | LCSD  | LCS-LCSD                       | Acceptance Criteria (%) |          |     |
|                           | mg/Kg              | mg/Kg  | % Rec. | % Rec.         | % RPD  | % Rec. | % Rec. | % RPD | MS / MSD                       | RPD                     | LCS/LCSD | RPD |
| TPH(btex <sup>f</sup> )   | ND                 | 0.60   | 94.8   | 93             | 1.93   | 102    | 108    | 5.94  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| MTBE                      | ND                 | 0.10   | 97.6   | 97.5           | 0.0785 | 104    | 107    | 2.75  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Benzene                   | ND                 | 0.10   | 92.9   | 91.8           | 1.24   | 102    | 104    | 2.15  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Toluene                   | ND                 | 0.10   | 85.2   | 85.2           | 0      | 94.6   | 95.4   | 0.861 | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Ethylbenzene              | ND                 | 0.10   | 90.4   | 92.1           | 1.85   | 100    | 99.8   | 0.192 | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Xylenes                   | ND                 | 0.30   | 86.3   | 86.7           | 0.385  | 95.7   | 95.3   | 0.349 | 70 - 130                       | 30                      | 70 - 130 | 30  |
| %SS:                      | 85                 | 0.10   | 86     | 85             | 1.21   | 94     | 95     | 1.57  | 70 - 130                       | 30                      | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

**BATCH 27261 SUMMARY**

| Sample ID    | Date Sampled      | Date Extracted | Date Analyzed    | Sample ID | Date Sampled | Date Extracted | Date Analyzed |
|--------------|-------------------|----------------|------------------|-----------|--------------|----------------|---------------|
| 0704052-014A | 04/03/07 11:55 AM | 04/03/07       | 04/05/07 7:41 AM |           |              |                |               |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.



**QC SUMMARY REPORT FOR SW8260B**

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0704052

| EPA Method SW8260B            | Extraction SW5030B |        |        | BatchID: 27207 |       |        |        |       | Spiked Sample ID: 0703763-002A |                         |          |     |
|-------------------------------|--------------------|--------|--------|----------------|-------|--------|--------|-------|--------------------------------|-------------------------|----------|-----|
|                               | Analyte            | Sample | Spiked | MS             | MSD   | MS-MSD | LCS    | LCSD  | LCS-LCSD                       | Acceptance Criteria (%) |          |     |
|                               | mg/Kg              | mg/Kg  | % Rec. | % Rec.         | % RPD | % Rec. | % Rec. | % RPD | MS / MSD                       | RPD                     | LCS/LCSD | RPD |
| tert-Amyl methyl ether (TAME) | ND                 | 0.050  | 101    | 98.4           | 2.83  | 96.6   | 97.6   | 1.00  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Benzene                       | ND                 | 0.050  | 107    | 107            | 0     | 106    | 106    | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |
| t-Butyl alcohol (TBA)         | ND                 | 0.25   | 96     | 100            | 4.18  | 95.4   | 94.4   | 1.03  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Diisopropyl ether (DIPE)      | ND                 | 0.050  | 115    | 114            | 1.70  | 112    | 112    | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Ethyl tert-butyl ether (ETBE) | ND                 | 0.050  | 108    | 105            | 2.64  | 102    | 103    | 0.957 | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Methyl-t-butyl ether (MTBE)   | ND                 | 0.050  | 108    | 105            | 2.64  | 102    | 104    | 1.62  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Toluene                       | ND                 | 0.050  | 96.9   | 94.6           | 2.39  | 94.3   | 93.8   | 0.485 | 70 - 130                       | 30                      | 70 - 130 | 30  |
| %SS1:                         | 97                 | 0.050  | 97     | 97             | 0     | 97     | 98     | 0.162 | 70 - 130                       | 30                      | 70 - 130 | 30  |
| %SS2:                         | 102                | 0.050  | 100    | 99             | 0.926 | 99     | 99     | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |
| %SS3:                         | 93                 | 0.050  | 107    | 108            | 0.739 | 107    | 107    | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

**BATCH 27207 SUMMARY**

| Sample ID    | Date Sampled     | Date Extracted | Date Analyzed     | Sample ID    | Date Sampled     | Date Extracted | Date Analyzed    |
|--------------|------------------|----------------|-------------------|--------------|------------------|----------------|------------------|
| 0704052-001A | 04/03/07 8:00 AM | 04/03/07       | 04/04/07 7:46 PM  | 0704052-002A | 04/03/07 8:01 AM | 04/03/07       | 04/04/07 8:32 PM |
| 0704052-004A | 04/03/07 8:25 AM | 04/03/07       | 04/04/07 10:07 PM |              |                  |                |                  |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



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## QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder 0704052

| EPA Method SW8260B            |        | Extraction SW5030B |        |        | BatchID: 27259 |        |        | Spiked Sample ID: 0704059-006A |                         |     |          |     |
|-------------------------------|--------|--------------------|--------|--------|----------------|--------|--------|--------------------------------|-------------------------|-----|----------|-----|
| Analyte                       | Sample | Spiked             | MS     | MSD    | MS-MSD         | LCS    | LCSD   | LCS-LCSD                       | Acceptance Criteria (%) |     |          |     |
|                               | mg/Kg  | mg/Kg              | % Rec. | % Rec. | % RPD          | % Rec. | % Rec. | % RPD                          | MS / MSD                | RPD | LCS/LCSD | RPD |
| tert-Amyl methyl ether (TAME) | ND     | 0.050              | 96.5   | 95.4   | 1.12           | 96.8   | 96.1   | 0.733                          | 70 - 130                | 30  | 70 - 130 | 30  |
| Benzene                       | ND     | 0.050              | 101    | 101    | 0              | 98.2   | 101    | 2.66                           | 70 - 130                | 30  | 70 - 130 | 30  |
| t-Butyl alcohol (TBA)         | ND     | 0.25               | 84.5   | 86.1   | 1.86           | 94.2   | 95.9   | 1.76                           | 70 - 130                | 30  | 70 - 130 | 30  |
| Diisopropyl ether (DIPE)      | ND     | 0.050              | 109    | 108    | 0.420          | 107    | 108    | 0.735                          | 70 - 130                | 30  | 70 - 130 | 30  |
| Ethyl tert-butyl ether (ETBE) | ND     | 0.050              | 102    | 101    | 0.887          | 102    | 102    | 0                              | 70 - 130                | 30  | 70 - 130 | 30  |
| Methyl-t-butyl ether (MTBE)   | ND     | 0.050              | 102    | 101    | 0.846          | 104    | 102    | 1.92                           | 70 - 130                | 30  | 70 - 130 | 30  |
| Toluene                       | ND     | 0.050              | 91.4   | 91.6   | 0.175          | 89.3   | 91.8   | 2.80                           | 70 - 130                | 30  | 70 - 130 | 30  |
| %SS1:                         | 101    | 0.050              | 92     | 92     | 0              | 93     | 93     | 0                              | 70 - 130                | 30  | 70 - 130 | 30  |
| %SS2:                         | 107    | 0.050              | 100    | 100    | 0              | 101    | 100    | 0.591                          | 70 - 130                | 30  | 70 - 130 | 30  |
| %SS3:                         | 102    | 0.050              | 109    | 108    | 0.343          | 109    | 108    | 0.0728                         | 70 - 130                | 30  | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

### BATCH 27259 SUMMARY

| Sample ID    | Date Sampled      | Date Extracted | Date Analyzed    | Sample ID    | Date Sampled      | Date Extracted | Date Analyzed     |
|--------------|-------------------|----------------|------------------|--------------|-------------------|----------------|-------------------|
| 0704052-005A | 04/03/07 8:45 AM  | 04/03/07       | 04/05/07 3:39 AM | 0704052-006A | 04/03/07 9:00 AM  | 04/03/07       | 04/05/07 12:24 AM |
| 0704052-009A | 04/03/07 11:05 AM | 04/03/07       | 04/05/07 1:11 AM | 0704052-010A | 04/03/07 11:10 AM | 04/03/07       | 04/05/07 2:00 AM  |
| 0704052-011A | 04/03/07 11:15 AM | 04/03/07       | 04/04/07 1:39 PM | 0704052-012A | 04/03/07 11:25 AM | 04/03/07       | 04/04/07 2:25 PM  |
| 0704052-014A | 04/03/07 11:55 AM | 04/03/07       | 04/05/07 2:49 AM |              |                   |                |                   |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery =  $100 * (MS - Sample) / (Amount Spiked)$ ; RPD =  $100 * (MS - MSD) / ((MS + MSD) / 2)$ .

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



### QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder 0704052

| Analyte | Extraction SW3510C |        | BatchID: 27211 |        |        |        |        |          | Spiked Sample ID: N/A   |     |          |     |
|---------|--------------------|--------|----------------|--------|--------|--------|--------|----------|-------------------------|-----|----------|-----|
|         | Sample             | Spiked | MS             | MSD    | MS-MSD | LCS    | LCSD   | LCS-LCSD | Acceptance Criteria (%) |     |          |     |
|         | µg/L               | µg/L   | % Rec.         | % Rec. | % RPD  | % Rec. | % Rec. | % RPD    | MS / MSD                | RPD | LCS/LCSD | RPD |
| TPH(d)  | N/A                | 1000   | N/A            | N/A    | N/A    | 114    | 111    | 2.50     | N/A                     | N/A | 70 - 130 | 30  |
| %SS:    | N/A                | 2500   | N/A            | N/A    | N/A    | 110    | 111    | 0.719    | N/A                     | N/A | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 27211 SUMMARY

| Sample ID    | Date Sampled      | Date Extracted | Date Analyzed    | Sample ID    | Date Sampled      | Date Extracted | Date Analyzed    |
|--------------|-------------------|----------------|------------------|--------------|-------------------|----------------|------------------|
| 0704052-008A | 04/03/07 10:15 AM | 04/03/07       | 04/09/07 5:34 PM | 0704052-016A | 04/03/07 12:30 PM | 04/03/07       | 04/04/07 9:32 PM |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery =  $100 * (MS - Sample) / (Amount Spiked)$ ; RPD =  $100 * (MS - MSD) / ((MS + MSD) / 2)$ .

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



**McC Campbell Analytical, Inc.**

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Web: www.mcccampbell.com E-mail: main@mcccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

|  |   |                          |
|--|---|--------------------------|
| Consolidated Engineering Laborat<br>2001 Crow Canyon Road, Suite<br>100<br>San Ramon, CA 94583 | Client Project ID: #81-01824-A;Livemore<br>Airport UST/pipeline | Date Sampled: 04/03/07   |
|  |   | Date Received: 04/03/07  |
|  | Client Contact: Chris Palmer                                    | Date Reported: 04/10/07  |
|  | Client P.O.:  | Date Completed: 04/16/07 |

**WorkOrder: 0704052**

April 16, 2007

Dear Chris:

Enclosed are:

- 1). the results of 3 analyzed samples from your #81-01824-A;Livemore Airport UST/pipeline project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions please contact me. McC Campbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Best regards,

Angela Rydelius, Lab Manager

0704052- CRL

**Consolidated Engineering Laboratories, Inc.**  
 2001 Crow Canyon Road, Suite 100  
 San Ramon, CA 94583

Ph. 925/314-7100  
 Fx. 925/855-7140

# Chain of Custody

Date: April 3, 2007

Proj. No. 81-01824-A

Page 1 of 2

Project name: Livermore Airport UST/pipeline

Relinquished by: CM Palmer  
 Print name: C M Palmer  
 Company name: Consolidated Eng Lab

Received by: Denk Carter  
 Print name: JELIK CARTER  
 Lab name: MECAMPEL

Date received: 4/3/07  
 Time received: 1500

**Special Instructions**  
 N-5 day turn  
 Please check for Jet Fuel in  
 TPAD waste

Received in good condition  
 Yes  No   
 Total # of Samples       

| Sample I.D.        | Date   | Time | Matrix | Number of samples | Turn Around Time | Analysis Requested | TPH | BTEX | VOC | MTBE | OPYS | BOIS | BP | DBP | PCB | DDCA | PAH | Other |
|--------------------|--------|------|--------|-------------------|------------------|--------------------|-----|------|-----|------|------|------|----|-----|-----|------|-----|-------|
| B-4-1 @ 2.0-2.5'   | 4/3/07 | 0800 | Soil   | 1                 | N                |                    | /   | /    |     |      |      |      |    |     |     |      |     |       |
| B-4-2 @ 7.5-8.0'   |        | 0810 |        | 1                 | N                |                    | /   | /    |     |      |      |      |    |     |     |      |     |       |
| B-4-3 @ 11.5-12.0' |        | 0815 |        | 1                 | W                |                    |     |      |     |      |      |      |    |     |     |      |     |       |
| B-4-4 @ 15.5-16.0' |        | 0825 |        | 1                 | N                |                    | /   | /    |     |      |      |      |    |     |     |      |     |       |
| B-4-5 @ 19.5-20.0' |        | 0845 |        | 1                 | N                |                    | /   | /    |     |      |      |      |    |     |     |      |     |       |
| B-4-6 @ 23.5-24.0' |        | 0900 |        | 1                 | N                |                    | /   | /    |     |      |      |      |    |     |     |      |     |       |
| B-4-7 @ 27.5-28.0' |        | 0920 |        | 1                 | N                |                    | /   | /    |     |      |      |      |    |     |     |      |     |       |
| B-4 water          | 4/3/07 | 1015 | water  | 4                 | N                |                    | /   | /    |     |      |      |      |    |     |     |      |     |       |

4/3/07  
 RECEIVED IN GOOD CONDITION  
 PREPARED BY: [Signature]  
 APPROPRIATE CONTAINERS PROVIDED IN LAB  
 PRESERVED IN LAB  
 METALS/OTHER

HOLD  
 HOLD





**McC Campbell Analytical, Inc.**



1534 Willow Pass Rd  
 Pittsburg, CA 94565-1701  
 (925) 252-9262

**CHAIN-OF-CUSTODY RECORD**

WorkOrder: 070405 **A** ClientID: CEL

EDF  Excel  Fax  Email  HardCopy  ThirdParty

Report to:

Chris Palmer  
 Consolidated Engineering Laboratori  
 2001 Crow Canyon Road, Suite 100  
 San Ramon, CA 94583

Email: cp@ce-labs.com  
 TEL: 925.485.5000 FAX: 925.485.5019  
 ProjectNo: #81-01824-A; Livemore Airport UST/pip  
 PO:

Bill to

Accounts Payable  
 Consolidated Engineering Laboratori  
 2001 Crow Canyon Road, Suite 100  
 San Ramon, CA 94583  
 ap@ce-labs.com

Requested TA 5 days

Date Receive 04/03/2007  
 Date Add-On: 04/11/2007  
 Date Printed: 04/11/2007

| Sample ID   | ClientSampID     | Matrix | Collection Date   | Hold                     | Requested Tests (See legend below) |   |   |   |   |   |   |   |   |    |    |    |  |
|-------------|------------------|--------|-------------------|--------------------------|------------------------------------|---|---|---|---|---|---|---|---|----|----|----|--|
|             |                  |        |                   |                          | 1                                  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |  |
| 0704052-004 | B-4-4@15.5-16.0' | Soil   | 4/3/07 8:25:00 AM | <input type="checkbox"/> | A                                  |   |   |   |   |   |   |   |   |    |    |    |  |
| 0704052-008 | B-4 water        | Water  | 4/3/07 10:15:00   | <input type="checkbox"/> |                                    | C |   |   |   |   |   |   |   |    |    |    |  |
| 0704052-016 | B-5 Water        | Water  | 4/3/07 12:30:00   | <input type="checkbox"/> |                                    | C |   |   |   |   |   |   |   |    |    |    |  |

Test Legend:

|    |          |    |          |   |  |   |  |    |  |
|----|----------|----|----------|---|--|---|--|----|--|
| 1  | 9-OXYS S | 2  | 9-OXYS W | 3 |  | 4 |  | 5  |  |
| 6  |          | 7  |          | 8 |  | 9 |  | 10 |  |
| 11 |          | 12 |          |   |  |   |  |    |  |

Prepared by: Chloe Lam

Comments: Meoh, Etoh, and 1,2 DCA added 4/10/07 per C.P.

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.



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|  |   |                                   |
|--|---|-----------------------------------|
| Consolidated Engineering Laboratories<br>2001 Crow Canyon Road, Suite 100<br>San Ramon, CA 94583 | Client Project ID: #81-01824-A; Livemore Airport UST/pipeline | Date Sampled: 04/03/07            |
|  | Client Contact: Chris Palmer                                  | Date Received: 04/03/07           |
|  | Client P.O.:  | Date Extracted: 04/11/07-04/12/07 |
|  |   | Date Analyzed: 04/12/07           |

### Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704052

|           |                  |              |              |  |                            |  |
|-----------|------------------|--------------|--------------|--|----------------------------|--|
| Lab ID    | 0704052-004B     | 0704052-008C | 0704052-016C |  | Reporting Limit for DF = 1 |  |
| Client ID | B-4-4@15.5-16.0' | B-4 water    | B-5 Water    |  |                            |  |
| Matrix    | S                | W            | W            |  |                            |  |
| DF        | 1                | 1            | 1            |  |                            |  |

| Compound                     | Concentration |    |    |  | mg/kg | µg/L |
|------------------------------|---------------|----|----|--|-------|------|
| 1,2-Dichloroethane (1,2-DCA) | ND            | ND | ND |  | 0.005 | 0.5  |
| Ethanol                      | ND            | ND | ND |  | 0.25  | 50   |
| Methanol                     | ND            | ND | ND |  | 2.5   | 500  |

### Surrogate Recoveries (%)

|          |    |    |    |  |  |
|----------|----|----|----|--|--|
| %SS1:    | 95 | 99 | 97 |  |  |
| Comments |    |    |    |  |  |

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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|  |   |                                  |
|--|---|----------------------------------|
| Consolidated Engineering Laboratories<br><br>2001 Crow Canyon Road, Suite 100<br><br>San Ramon, CA 94583 | Client Project ID: #81-01824-A; Livemore Airport UST/pipeline | Date Sampled: 04/03/07           |
|  | Client Contact: Chris Palmer                                  | Date Received: 04/03/07          |
|  | Client P.O.:  | Date Extracted: 04/03/07         |
|  |   | Date Analyzed: 04/04/07-04/05/07 |

### Oxygenates and BTEX by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704052

|           |                |                |                  |                  |                               |   |   |
|-----------|----------------|----------------|------------------|------------------|-------------------------------|---|---|
| Lab ID    | 0704052-001A   | 0704052-002A   | 0704052-005A     | 0704052-006A     | Reporting Limit for<br>DF = 1 | S | W |
| Client ID | B-4-1@2.0-2.5' | B-4-2@7.5-8.0' | B-4-5@19.5-20.0' | B-4-6@23.5-24.0' |                               |   |   |
| Matrix    | S              | S              | S                | S                |                               |   |   |
| DF        | 1              | 1              | 1                | 1                |                               |   |   |

| Compound                      | Concentration |    |    |    | mg/kg | ug/L |
|-------------------------------|---------------|----|----|----|-------|------|
| tert-Amyl methyl ether (TAME) | ND            | ND | ND | ND | 0.005 | NA   |
| Benzene                       | ND            | ND | ND | ND | 0.005 | NA   |
| t-Butyl alcohol (TBA)         | ND            | ND | ND | ND | 0.05  | NA   |
| 1,2-Dichloroethane (1,2-DCA)  | ND            | ND | ND | ND | 0.005 | NA   |
| Diisopropyl ether (DIPE)      | ND            | ND | ND | ND | 0.005 | NA   |
| Ethanol                       | ND            | ND | ND | ND | 0.25  | NA   |
| Ethylbenzene                  | ND            | ND | ND | ND | 0.005 | NA   |
| Ethyl tert-butyl ether (ETBE) | ND            | ND | ND | ND | 0.005 | NA   |
| Methanol                      | ND            | ND | ND | ND | 2.5   | NA   |
| Methyl-t-butyl ether (MTBE)   | ND            | ND | ND | ND | 0.005 | NA   |
| Toluene                       | ND            | ND | ND | ND | 0.005 | NA   |
| Xylenes                       | ND            | ND | ND | ND | 0.005 | NA   |

### Surrogate Recoveries (%)

|          |     |     |     |     |
|----------|-----|-----|-----|-----|
| %SS1:    | 103 | 101 | 95  | 97  |
| %SS2:    | 105 | 105 | 105 | 104 |
| %SS3:    | 102 | 101 | 107 | 107 |
| Comments |     |     |     |     |

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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|  |   |                                  |
|--|---|----------------------------------|
| Consolidated Engineering Laboratories<br>2001 Crow Canyon Road, Suite 100<br>San Ramon, CA 94583 | Client Project ID: #81-01824-A; Livemore Airport UST/pipeline | Date Sampled: 04/03/07           |
|  | Client Contact: Chris Palmer                                  | Date Received: 04/03/07          |
|  | Client P.O.:  | Date Extracted: 04/03/07         |
|  |   | Date Analyzed: 04/04/07-04/05/07 |

### Oxygenates and BTEX by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704052

|           |                |                |                  |                  |                              |   |   |
|-----------|----------------|----------------|------------------|------------------|------------------------------|---|---|
| Lab ID    | 0704052-009A   | 0704052-010A   | 0704052-011A     | 0704052-012A     | Reporting Limit for<br>DF =1 | S | W |
| Client ID | B-5-1@3.5-4.0' | B-5-2@7.5-8.0' | B-5-3@11.5-12.0' | B-5-4@15.5-16.0' |                              |   |   |
| Matrix    | S              | S              | S                | S                |                              |   |   |
| DF        | 1              | 1              | 1                | 1                |                              |   |   |

| Compound                      | Concentration |    |    |    | mg/kg | ug/L |
|-------------------------------|---------------|----|----|----|-------|------|
| tert-Amyl methyl ether (TAME) | ND            | ND | ND | ND | 0.005 | NA   |
| Benzene                       | ND            | ND | ND | ND | 0.005 | NA   |
| t-Butyl alcohol (TBA)         | ND            | ND | ND | ND | 0.05  | NA   |
| 1,2-Dichloroethane (1,2-DCA)  | ND            | ND | ND | ND | 0.005 | NA   |
| Diisopropyl ether (DIPE)      | ND            | ND | ND | ND | 0.005 | NA   |
| Ethanol                       | ND            | ND | ND | ND | 0.25  | NA   |
| Ethylbenzene                  | ND            | ND | ND | ND | 0.005 | NA   |
| Ethyl tert-butyl ether (ETBE) | ND            | ND | ND | ND | 0.005 | NA   |
| Methanol                      | ND            | ND | ND | ND | 2.5   | NA   |
| Methyl-t-butyl ether (MTBE)   | ND            | ND | ND | ND | 0.005 | NA   |
| Toluene                       | ND            | ND | ND | ND | 0.005 | NA   |
| Xylenes                       | ND            | ND | ND | ND | 0.005 | NA   |

### Surrogate Recoveries (%)

|       |     |     |     |     |
|-------|-----|-----|-----|-----|
| %SS1: | 98  | 98  | 104 | 105 |
| %SS2: | 106 | 104 | 108 | 106 |
| %SS3: | 105 | 105 | 106 | 106 |

Comments

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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|  |   |                                  |
|--|---|----------------------------------|
| Consolidated Engineering Laboratories<br>2001 Crow Canyon Road, Suite 100<br>San Ramon, CA 94583 | Client Project ID: #81-01824-A; Livemore Airport UST/pipeline | Date Sampled: 04/03/07           |
|  | Client Contact: Chris Palmer                                  | Date Received: 04/03/07          |
|  | Client P.O.:  | Date Analyzed: 04/04/07-04/05/07 |
|  |   | Date Extracted: 04/03/07         |

### Oxygenates and BTEX by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704052

|           |                |  |  |  |                              |
|-----------|----------------|--|--|--|------------------------------|
| Lab ID    | 0704052-014A   |  |  |  | Reporting Limit for<br>DF =1 |
| Client ID | B-5-6@23.5-25' |  |  |  |                              |
| Matrix    | S              |  |  |  |                              |
| DF        | 1              |  |  |  |                              |

| Compound                      | Concentration |  |  |  | mg/kg | ug/L |
|-------------------------------|---------------|--|--|--|-------|------|
| tert-Amyl methyl ether (TAME) | ND            |  |  |  | 0.005 | NA   |
| Benzene                       | ND            |  |  |  | 0.005 | NA   |
| t-Butyl alcohol (TBA)         | ND            |  |  |  | 0.05  | NA   |
| 1,2-Dichloroethane (1,2-DCA)  | ND            |  |  |  | 0.005 | NA   |
| Diisopropyl ether (DIPE)      | ND            |  |  |  | 0.005 | NA   |
| Ethanol                       | ND            |  |  |  | 0.25  | NA   |
| Ethylbenzene                  | ND            |  |  |  | 0.005 | NA   |
| Ethyl tert-butyl ether (ETBE) | ND            |  |  |  | 0.005 | NA   |
| Methanol                      | ND            |  |  |  | 2.5   | NA   |
| Methyl-t-butyl ether (MTBE)   | ND            |  |  |  | 0.005 | NA   |
| Toluene                       | ND            |  |  |  | 0.005 | NA   |
| Xylenes                       | ND            |  |  |  | 0.005 | NA   |

### Surrogate Recoveries (%)

|       |     |  |  |  |
|-------|-----|--|--|--|
| %SS1: | 95  |  |  |  |
| %SS2: | 104 |  |  |  |
| %SS3: | 105 |  |  |  |

Comments

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



**QC SUMMARY REPORT FOR SW8260B**

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0704052

| EPA Method SW8260B            | Extraction SW5030B |        |        | BatchID: 27323 |       |        |        |       | Spiked Sample ID: 0704151-001B |                         |          |     |
|-------------------------------|--------------------|--------|--------|----------------|-------|--------|--------|-------|--------------------------------|-------------------------|----------|-----|
|                               | Analyte            | Sample | Spiked | MS             | MSD   | MS-MSD | LCS    | LCSD  | LCS-LCSD                       | Acceptance Criteria (%) |          |     |
|                               | mg/Kg              | mg/Kg  | % Rec. | % Rec.         | % RPD | % Rec. | % Rec. | % RPD | MS / MSD                       | RPD                     | LCS/LCSD | RPD |
| tert-Amyl methyl ether (TAME) | ND                 | 0.050  | 96.7   | 95.3           | 1.48  | 94.6   | 101    | 6.29  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| t-Butyl alcohol (TBA)         | ND                 | 0.25   | 93.2   | 93.4           | 0.167 | 88.7   | 95.9   | 7.85  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| 1,2-Dibromoethane (EDB)       | ND                 | 0.050  | 89.3   | 90.3           | 1.07  | 88.5   | 93.3   | 5.29  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| 1,2-Dichloroethane (1,2-DCA)  | ND                 | 0.050  | 102    | 102            | 0     | 102    | 107    | 5.28  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Diisopropyl ether (DIPE)      | ND                 | 0.050  | 112    | 111            | 0.150 | 110    | 116    | 4.69  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Ethanol                       | ND                 | 2.5    | 102    | 102            | 0     | 95.7   | 95.4   | 0.301 | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Ethyl tert-butyl ether (ETBE) | ND                 | 0.050  | 102    | 102            | 0     | 102    | 108    | 5.72  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Methanol                      | ND                 | 12.5   | 101    | 102            | 0.457 | 101    | 102    | 0.991 | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Methyl-t-butyl ether (MTBE)   | ND                 | 0.050  | 102    | 101            | 0.524 | 101    | 106    | 5.26  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| %SS1:                         | 95                 | 0.050  | 92     | 92             | 0     | 96     | 94     | 1.50  | 70 - 130                       | 30                      | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 27323 SUMMARY

| Sample ID    | Date Sampled     | Date Extracted | Date Analyzed    | Sample ID | Date Sampled | Date Extracted | Date Analyzed |
|--------------|------------------|----------------|------------------|-----------|--------------|----------------|---------------|
| 0704052-004B | 04/03/07 8:25 AM | 04/11/07       | 04/12/07 2:53 AM |           |              |                |               |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



**QC SUMMARY REPORT FOR SW8260B**

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0704052

| EPA Method SW8260B            |        | Extraction SW5030B |        |        | BatchID: 27401 |        |        |          | Spiked Sample ID: 0704242-006B |     |          |     |
|-------------------------------|--------|--------------------|--------|--------|----------------|--------|--------|----------|--------------------------------|-----|----------|-----|
| Analyte                       | Sample | Spiked             | MS     | MSD    | MS-MSD         | LCS    | LCSD   | LCS-LCSD | Acceptance Criteria (%)        |     |          |     |
|                               | µg/L   | µg/L               | % Rec. | % Rec. | % RPD          | % Rec. | % Rec. | % RPD    | MS / MSD                       | RPD | LCS/LCSD | RPD |
| tert-Amyl methyl ether (TAME) | ND     | 10                 | 97.8   | 96.8   | 1.06           | 94.2   | 94.9   | 0.786    | 70 - 130                       | 30  | 70 - 130 | 30  |
| t-Butyl alcohol (TBA)         | ND     | 50                 | 89     | 85.8   | 3.61           | 88.8   | 90.2   | 1.64     | 70 - 130                       | 30  | 70 - 130 | 30  |
| 1,2-Dibromoethane (EDB)       | ND     | 10                 | 87.6   | 87.4   | 0.254          | 88.2   | 88     | 0.189    | 70 - 130                       | 30  | 70 - 130 | 30  |
| 1,2-Dichloroethane (1,2-DCA)  | ND     | 10                 | 105    | 105    | 0              | 102    | 102    | 0        | 70 - 130                       | 30  | 70 - 130 | 30  |
| Diisopropyl ether (DIPE)      | ND     | 10                 | 114    | 112    | 1.51           | 110    | 110    | 0        | 70 - 130                       | 30  | 70 - 130 | 30  |
| Ethanol                       | ND     | 500                | 95.6   | 92.5   | 2.99           | 92.4   | 99.1   | 6.49     | 70 - 130                       | 30  | 70 - 130 | 30  |
| Ethyl tert-butyl ether (ETBE) | ND     | 10                 | 105    | 104    | 0.490          | 101    | 101    | 0        | 70 - 130                       | 30  | 70 - 130 | 30  |
| Methanol                      | ND     | 2500               | 101    | 100    | 0.792          | 101    | 100    | 0.435    | 70 - 130                       | 30  | 70 - 130 | 30  |
| Methyl-t-butyl ether (MTBE)   | ND     | 10                 | 103    | 103    | 0              | 99.7   | 101    | 1.08     | 70 - 130                       | 30  | 70 - 130 | 30  |
| %SS1:                         | 104    | 10                 | 95     | 94     | 1.14           | 94     | 94     | 0        | 70 - 130                       | 30  | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 27401 SUMMARY

| Sample ID    | Date Sampled      | Date Extracted | Date Analyzed    | Sample ID    | Date Sampled      | Date Extracted | Date Analyzed     |
|--------------|-------------------|----------------|------------------|--------------|-------------------|----------------|-------------------|
| 0704052-008C | 04/03/07 10:15 AM | 04/12/07       | 04/12/07 9:42 PM | 0704052-016C | 04/03/07 12:30 PM | 04/12/07       | 04/12/07 10:27 PM |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.





**McC Campbell Analytical, Inc.**

"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701  
Web: [www.mcccampbell.com](http://www.mcccampbell.com) E-mail: [main@mcccampbell.com](mailto:main@mcccampbell.com)  
Telephone: 877-252-9262 Fax: 925-252-9269

|  |   |                                 |
|--|---|---------------------------------|
| Consolidated Engineering Laborat<br>2001 Crow Canyon Road, Suite<br>100<br>San Ramon, CA 94583 | Client Project ID: #81-01824-A; Livermore<br>Airport UST/Pipeline | Date Sampled: 04/03/07-04/04/07 |
|  |   | Date Received: 04/04/07         |
|  | Client Contact: Chris Palmer                                      | Date Reported: 04/11/07         |
|  | Client P.O.:  | Date Completed: 04/11/07        |

**WorkOrder: 0704083**

April 11, 2007

Dear Chris:

Enclosed are:

- 1). the results of 23 analyzed samples from your #81-01824-A; Livermore Airport UST/Pipeline project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions please contact me. McC Campbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Best regards,

Angela Rydelius, Lab Manager

cel 0704083

**Consolidated Engineering Laboratories, Inc.**  
 2001 Crow Canyon Road, Suite 100  
 San Ramon, CA 94583

Ph. 925/314-7100  
 Fx. 925/855-7140

# Chain of Custody

Date: April 3, 2007

Proj. No. 81-01824-A

Page 1 of 5

Project name: Livermore Airport UST/Pipeline

Relinquished by: C. Palmer Received by: Deak Cast Date received: April 4, 2007  
 Print name: C. Palmer Print name: DEAK O'NEAL  
 Company name: Consolidated Eng Labs Lab name: McCampbell Time received: 17:55  
Deak Cast 4/4 1620 No Vol 4/1/07

Special Instructions  
 N - 5 day turnaround  
 Please check TPHD range for jet fuel

Received in good condition  
 Yes \_\_\_ No \_\_\_  
 Total # of Samples \_\_\_

| Sample I.D.      | Date   | Time | Matrix | Number of samples | Turn Around Time | Analysis Requested | TPH G/BTEX/MTBET<br>OXY S 8015/8060 B | TPH Diesel 8015 |
|------------------|--------|------|--------|-------------------|------------------|--------------------|---------------------------------------|-----------------|
| B-6-1c 3.5-4.0   | 4/3/07 | 1335 | Soil   | 1                 | N                |                    | /                                     | /               |
| B-6-2c 7.5-8.0   |        | 1340 |        | 1                 | N                |                    | /                                     | /               |
| B-6-3c 11.5-12.0 |        | 1350 |        | 1                 | N                |                    | /                                     | /               |
| B-6-4c 15.5-16.0 |        | 1400 |        | 1                 | N                |                    | /                                     | /               |
| B-6-5c 19.5-20.0 |        | 1415 |        | 1                 | W                |                    | /                                     | /               |
| B-6-6c 23.5-24   |        | 1440 |        | 1                 | N                |                    | /                                     | /               |
| B-6-7c 27.5-28   |        | 1520 |        | 1                 | N                |                    | /                                     | /               |
| B-6-8c 31.5-32   |        | 1545 |        | 1                 | N                |                    | /                                     | /               |
| +10 B-6 water    | 4/3/07 | 1625 | water  | 4                 |                  |                    | /                                     | /               |

REV 1620  
 GOOD CONDITION   
 HEAD SPACE ABSENT   
 DECHLORINATED IN LAB   
 PRESERVATION  VOL  O&G METALS OTHER

APPROPRIATE CONTAINERS   
 PRESERVED IN LAB







Consolidated Engineering Laboratories, Inc.  
 2001 Crow Canyon Road, Suite 100  
 San Ramon, CA 94583

Ph. 925/314-7100  
 Fx. 925/855-7140

# Chain of Custody

Date: April 4, 2007

Proj. No. 81-01824-A

Page 5 of 5

Project name: Livermore Airport, UST/Pipeline

Relinquished by: CM Palmer  
 Print name: CM Palmer  
 Company name: Consolidated Engr. Labs

Received by: Derek Carter  
 Print name: Derek Carter  
 Lab name: MECAMPERU

Date received: April 4, 2007  
 Time received: 1755

Special Instructions  
 N - 5 day turnaround  
 Please check TPHD range for jet fuel

Received in good condition  
 Yes \_\_\_ No \_\_\_  
 Total # of Samples \_\_\_

| Sample I.D.       | Date   | Time | Matrix | Number of samples | Turn Around Time | Analysis Requested | TPHS/STEX/MTBE +<br>OXS by 3015B 4/13/07 | TPHD. used by 8015B<br>4/4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------|--------|------|--------|-------------------|------------------|--------------------|--|----------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| B-10-1 @ 3.5-40'  | 4/4/07 | 1120 | Soil   | 1                 | N                |                    | /  | /                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| B-10-2 @ 7.5-80'  | 4/4/07 | 1140 | Soil   | 1                 | N                |                    |  |                            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| B-10-3 @ 11.5-12' | 4/4/07 | 1205 | Soil   | 1                 | N                |                    |  |                            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| B-10-4 @ 15.5-16' | 4/4/07 | 1210 | Soil   | 1                 | N                |                    | /  | /                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| B-10-5 @ 19.5-20' | 4/4/07 | 1220 | Soil   | 1                 | N                |                    | /  | /                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| B-10-6 @ 23.5-24' | 4/4/07 | 1235 | Soil   | 1                 | N                |                    | /  | /                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 130 B-10 water    | 4/4/07 | 1400 | water  | 4                 | N                |                    | /  | /                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Comments

HOLD

HOLD

HOLD

**McC Campbell Analytical, Inc.**



1534 Willow Pass Rd  
Pittsburg, CA 94565-1701  
(925) 252-9262

**CHAIN-OF-CUSTODY RECORD**

WorkOrder: 0704083

ClientID: CEL

EDF     Excel     Fax     Email     HardCopy     ThirdParty

Report to:

Chris Palmer  
Consolidated Engineering Laboratori  
2001 Crow Canyon Road, Suite 100  
San Ramon, CA 94583

Email: cp@ce-labs.com  
TEL: 925.485.5000    FAX: 925.485.5019  
ProjectNo: #81-01824-A; Livermore Airport UST/PI  
PO:

Bill to

Accounts Payable  
Consolidated Engineering Laboratori  
2001 Crow Canyon Road, Suite 100  
San Ramon, CA 94583  
ap@ce-labs.com

Requested TAT: 5 days

Date Received 04/04/2007

Date Printed: 04/10/2007

| Sample ID   | ClientSampID      | Matrix | Collection Date   | Hold                     | Requested Tests (See legend below) |   |   |   |   |   |   |   |   |    |    |    |  |
|-------------|-------------------|--------|-------------------|--------------------------|------------------------------------|---|---|---|---|---|---|---|---|----|----|----|--|
|             |                   |        |                   |                          | 1                                  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |  |
| 0704083-001 | B-6-1 @ 3.5-4.0   | Soil   | 4/3/07 1:35:00 PM | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704083-002 | B-6-2 @ 7.5-8.0   | Soil   | 4/3/07 1:40:00 PM | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704083-004 | B-6-4 @ 15.5-16.0 | Soil   | 4/3/07 2:00:00 PM | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704083-006 | B-6-6 @ 23.5-24   | Soil   | 4/3/07 2:40:00 PM | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704083-008 | B-6-8 @ 31.5-32   | Soil   | 4/3/07 3:45:00 PM | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704083-009 | B-6 Water         | Water  | 4/3/07 4:25:00 PM | <input type="checkbox"/> |                                    | A |   | B |   |   |   |   |   |    |    |    |  |
| 0704083-010 | B-7-3 @ 11.5-12.0 | Soil   | 4/3/07 5:00:00 PM | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704083-011 | B-7-4 @ 15.5-16.0 | Soil   | 4/3/07 5:15:00 PM | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704083-012 | B-7-5 @ 19.5-20.0 | Soil   | 4/3/07 5:35:00 PM | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704083-013 | B-7-6 @ 23.5-24.0 | Soil   | 4/3/07 5:50:00 PM | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704083-015 | B-7 Water         | Water  | 4/3/07 6:45:00 PM | <input type="checkbox"/> |                                    | A |   | B |   |   |   |   |   |    |    |    |  |
| 0704083-016 | B-8-1 @ 3.5-4.0   | Soil   | 4/4/07 8:05:00 AM | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704083-019 | B-8-4 @ 15.5-16.0 | Soil   | 4/4/07 8:30:00 AM | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704083-021 | B-8-6 @ 23.5-24   | Soil   | 4/4/07 8:55:00 AM | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704083-022 | B-8-Water         | Water  | 4/4/07 1:10:00 PM | <input type="checkbox"/> |                                    | A |   | B |   |   |   |   |   |    |    |    |  |

Test Legend:

|    |          |    |          |   |                  |   |                  |    |  |
|----|----------|----|----------|---|------------------|---|------------------|----|--|
| 1  | G-MBTX S | 2  | G-MBTX W | 3 | MBTEXOXY-8260B S | 4 | MBTEXOXY-8260B W | 5  |  |
| 6  |          | 7  |          | 8 |                  | 9 |                  | 10 |  |
| 11 |          | 12 |          |   |                  |   |                  |    |  |

The following SampIDs: 0704083-001A, 0704083-002A, 0704083-004A, 0704083-006A, 0704083-008A, 0704083-009A, 0704083-010A, 0704083-011A, 0704083-012A, 0704083-013A, 0704083-015A, 0704083-016A, 0704083-019A, 0704083-021A, 0704083-022A,

Prepared by: Melissa Valles

Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

**McC Campbell Analytical, Inc.**



1534 Willow Pass Rd  
Pittsburg, CA 94565-1701  
(925) 252-9262

**CHAIN-OF-CUSTODY RECORD**

WorkOrder: 0704083

ClientID: CEL

EDF     Excel     Fax     Email     HardCopy     ThirdParty

Report to:

Chris Palmer  
Consolidated Engineering Laboratori  
2001 Crow Canyon Road, Suite 100  
San Ramon, CA 94583

Email: cp@ce-labs.com  
TEL: 925.485.5000    FAX: 925.485.5019  
ProjectNo: #81-01824-A; Livermore Airport UST/Pi  
PO:

Bill t

Accounts Payable  
Consolidated Engineering Laboratori  
2001 Crow Canyon Road, Suite 100  
San Ramon, CA 94583  
ap@ce-labs.com

Requested TAT: 5 days

Date Received 04/04/2007

Date Printed: 04/10/2007

| Sample ID   | ClientSampID      | Matrix | Collection Date   | Hold                     | Requested Tests (See legend below) |   |   |   |   |   |   |   |   |    |    |    |  |
|-------------|-------------------|--------|-------------------|--------------------------|------------------------------------|---|---|---|---|---|---|---|---|----|----|----|--|
|             |                   |        |                   |                          | 1                                  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |  |
| 0704083-023 | B-9-1 @ 3.5-4.0   | Soil   | 4/4/07 9:35:00 AM | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704083-026 | B-9-4 @ 15.5-16.0 | Soil   | 4/4/07 10:15:00   | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704083-028 | B-9-6 @ 23.5-24   | Soil   | 4/4/07 10:35:00   | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704083-029 | B-9 Water         | Water  | 4/4/07 2:25:00 PM | <input type="checkbox"/> |                                    | A |   | B |   |   |   |   |   |    |    |    |  |
| 0704083-030 | B-10-1 @ 3.5-4.0  | Soil   | 4/4/07 11:20:00   | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704083-033 | B-10-4 @ 15.5-16  | Soil   | 4/4/07 12:10:00   | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704083-035 | B-10-6 @ 23.5-24  | Soil   | 4/4/07 12:35:00   | <input type="checkbox"/> | A                                  |   | A |   |   |   |   |   |   |    |    |    |  |
| 0704083-036 | B-10 Water        | Water  | 4/4/07 2:00:00 PM | <input type="checkbox"/> |                                    | A |   | B |   |   |   |   |   |    |    |    |  |

Test Legend:

|    |           |    |           |   |                  |   |                  |    |  |
|----|-----------|----|-----------|---|------------------|---|------------------|----|--|
| 1  | G-MBTEX S | 2  | G-MBTEX W | 3 | MBTEXOXY-8260B S | 4 | MBTEXOXY-8260B W | 5  |  |
| 6  |           | 7  |           | 8 |                  | 9 |                  | 10 |  |
| 11 |           | 12 |           |   |                  |   |                  |    |  |

The following SampIDs: 0704083-001A, 0704083-002A, 0704083-004A, 0704083-006A, 0704083-008A, 0704083-009A, 0704083-010A, 0704083-011A, 0704083-012A, 0704083-013A, 0704083-015A, 0704083-016A, 0704083-019A, 0704083-021A, 0704083-022A,

Prepared by: Melissa Valles

Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.





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"When Quality Counts"

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Web: www.mcccampbell.com E-mail: main@mcccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

## Sample Receipt Checklist

Client Name: **Consolidated Engineering Laboratories** Date and Time Received: **4/4/07 6:25:18 PM**  
 Project Name: **#81-01824-A; Livermore Airport UST/Pipeline** Checklist completed and reviewed by: **Melissa Valles**  
 WorkOrder N°: **0704083** Matrix Soil/Water Carrier: Courier

### Chain of Custody (COC) Information

Chain of custody present? Ye  No   
 Chain of custody signed when relinquished and received? Ye  No   
 Chain of custody agrees with sample labels? Ye  No   
 Sample IDs noted by Client on COC? Ye  No   
 Date and Time of collection noted by Client on COC? Ye  No   
 Sampler's name noted on COC? Ye  No

### Sample Receipt Information

Custody seals intact on shipping container/cooler? Ye  No  NA   
 Shipping container/cooler in good condition? Ye  No   
 Samples in proper containers/bottles? Ye  No   
 Sample containers intact? Ye  No   
 Sufficient sample volume for indicated test? Ye  No

### Sample Preservation and Hold Time (HT) Information

All samples received within holding time? Ye  No   
 Container/Temp Blank temperature Cooler Temp: 6.3°C NA   
 Water - VOA vials have zero headspace / no bubbles? Ye  No  No VOA vials submitted   
 Sample labels checked for correct preservation? Ye  No

Client contacted: \_\_\_\_\_ Date contacted: \_\_\_\_\_ Contacted by: \_\_\_\_\_

Comments:



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Web: www.mccampbell.com E-mail: main@mccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

|  |   |                                   |
|--|---|-----------------------------------|
| Consolidated Engineering Laboratories<br>2001 Crow Canyon Road, Suite 100<br>San Ramon, CA 94583 | Client Project ID: #81-01824-A;<br>Livermore Airport UST/Pipeline | Date Sampled: 04/03/07-04/04/07   |
|  | Client Contact: Chris Palmer                                      | Date Received: 04/04/07           |
|  | Client P.O.:  | Date Extracted: 04/04/07-04/07/07 |
|  |   | Date Analyzed 04/06/07-04/07/07   |

## Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline\*

Extraction method: SW5030B

Analytical methods: SW8015Cm

Work Order: 0704083

| Lab ID | Client ID         | Matrix | TPH(g) | DF | % SS |
|--------|-------------------|--------|--------|----|------|
| 001A   | B-6-1 @ 3.5-4.0   | S      | ND     | 1  | 85   |
| 002A   | B-6-2 @ 7.5-8.0   | S      | ND     | 1  | 90   |
| 004A   | B-6-4 @ 15.5-16.0 | S      | ND     | 1  | 88   |
| 006A   | B-6-6 @ 23.5-24   | S      | ND     | 1  | 99   |
| 008A   | B-6-8 @ 31.5-32   | S      | ND     | 1  | 92   |
| 009A   | B-6 Water         | W      | ND,i   | 1  | 97   |
| 010A   | B-7-3 @ 11.5-12.0 | S      | ND     | 1  | 90   |
| 011A   | B-7-4 @ 15.5-16.0 | S      | ND     | 1  | 94   |
| 012A   | B-7-5 @ 19.5-20.0 | S      | ND     | 1  | 89   |
| 013A   | B-7-6 @ 23.5-24.0 | S      | ND     | 1  | 91   |
| 015A   | B-7 Water         | W      | ND,i   | 1  | 95   |
| 016A   | B-8-1 @ 3.5-4.0   | S      | ND     | 1  | 87   |
| 019A   | B-8-4 @ 15.5-16.0 | S      | ND     | 1  | 90   |
| 021A   | B-8-6 @ 23.5-24   | S      | ND     | 1  | 85   |
| 022A   | B-8-Water         | W      | ND,i   | 1  | 97   |
| 023A   | B-9-1 @ 3.5-4.0   | S      | ND     | 1  | 82   |

|  |   |     |       |
|--|---|-----|-------|
| Reporting Limit for DF =1;<br>ND means not detected at or<br>above the reporting limit | W | 50  | µg/L  |
|  | S | 1.0 | mg/Kg |

\* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) value derived using a client specified carbon range; o) results are reported on a dry weight basis; p) see attached narrative.





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Web: www.mccampbell.com E-mail: main@mccampbell.com  
Telephone: 877-252-9262 Fax: 925-252-9269

|  |   |                                   |
|--|---|-----------------------------------|
| Consolidated Engineering Laboratories<br><br>2001 Crow Canyon Road, Suite 100<br><br>San Ramon, CA 94583 | Client Project ID: #81-01824-A;<br>Livermore Airport UST/Pipeline | Date Sampled: 04/03/07-04/04/07   |
|  | Client Contact: Chris Palmer                                      | Date Received: 04/04/07           |
|  | Client P.O.:  | Date Extracted: 04/04/07-04/06/07 |
|  |   | Date Analyzed: 04/05/07-04/06/07  |

### Oxygenates and BTEX by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704083

|           |                 |                 |                   |                 |                              |  |
|-----------|-----------------|-----------------|-------------------|-----------------|------------------------------|--|
| Lab ID    | 0704083-001A    | 0704083-002A    | 0704083-004A      | 0704083-006A    | Reporting Limit for<br>DF =1 |  |
| Client ID | B-6-1 @ 3.5-4.0 | B-6-2 @ 7.5-8.0 | B-6-4 @ 15.5-16.0 | B-6-6 @ 23.5-24 |                              |  |
| Matrix    | S               | S               | S                 | S               |                              |  |
| DF        | 1               | 1               | 1                 | 1               |                              |  |

| Compound                      | Concentration                 |    |    |    | mg/kg | µg/L  |
|-------------------------------|-------------------------------|----|----|----|-------|-------|
|                               | tert-Amyl methyl ether (TAME) | ND | ND | ND | ND    | 0.005 |
| Benzene                       | ND                            | ND | ND | ND | 0.005 | 0.5   |
| t-Butyl alcohol (TBA)         | ND                            | ND | ND | ND | 0.05  | 5.0   |
| Diisopropyl ether (DIPE)      | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Ethylbenzene                  | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Ethyl tert-butyl ether (ETBE) | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Methyl-t-butyl ether (MTBE)   | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Toluene                       | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Xylenes                       | ND                            | ND | ND | ND | 0.005 | 0.5   |

### Surrogate Recoveries (%)

|       |     |     |     |     |
|-------|-----|-----|-----|-----|
| %SS1: | 105 | 106 | 104 | 107 |
| %SS2: | 106 | 106 | 104 | 103 |
| %SS3: | 106 | 103 | 106 | 102 |

### Comments

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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|  |   |                                   |
|--|---|-----------------------------------|
| Consolidated Engineering Laboratories<br><br>2001 Crow Canyon Road, Suite 100<br><br>San Ramon, CA 94583 | Client Project ID: #81-01824-A;<br>Livermore Airport UST/Pipeline | Date Sampled: 04/03/07-04/04/07   |
|  | Client Contact: Chris Palmer                                      | Date Received: 04/04/07           |
|  | Client P.O.:  | Date Extracted: 04/04/07-04/06/07 |
|  |   | Date Analyzed: 04/05/07-04/06/07  |

### Oxygenates and BTEX by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704083

|           |                 |              |                   |                   |                              |
|-----------|-----------------|--------------|-------------------|-------------------|------------------------------|
| Lab ID    | 0704083-008A    | 0704083-009B | 0704083-010A      | 0704083-011A      | Reporting Limit for<br>DF =1 |
| Client ID | B-6-8 @ 31.5-32 | B-6 Water    | B-7-3 @ 11.5-12.0 | B-7-4 @ 15.5-16.0 |                              |
| Matrix    | S               | W            | S                 | S                 |                              |
| DF        | 1               | 1            | 1                 | 1                 |                              |

| Compound                      | Concentration                 |    |    |    | mg/kg | µg/L  |
|-------------------------------|-------------------------------|----|----|----|-------|-------|
|                               | tert-Amyl methyl ether (TAME) | ND | ND | ND | ND    | 0.005 |
| Benzene                       | ND                            | ND | ND | ND | 0.005 | 0.5   |
| t-Butyl alcohol (TBA)         | ND                            | ND | ND | ND | 0.05  | 5.0   |
| Diisopropyl ether (DIPE)      | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Ethylbenzene                  | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Ethyl tert-butyl ether (ETBE) | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Methyl-t-butyl ether (MTBE)   | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Toluene                       | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Xylenes                       | ND                            | ND | ND | ND | 0.005 | 0.5   |

### Surrogate Recoveries (%)

|          |     |     |     |     |
|----------|-----|-----|-----|-----|
| %SS1:    | 105 | 115 | 103 | 102 |
| %SS2:    | 103 | 105 | 104 | 104 |
| %SS3:    | 102 | 107 | 103 | 103 |
| Comments | i   |     |     |     |

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPL extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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|  |   |                                   |
|--|---|-----------------------------------|
| Consolidated Engineering Laboratories<br><br>2001 Crow Canyon Road, Suite 100<br><br>San Ramon, CA 94583 | Client Project ID: #81-01824-A;<br>Livermore Airport UST/Pipeline | Date Sampled: 04/03/07-04/04/07   |
|  |   | Date Received: 04/04/07           |
|  | Client Contact: Chris Palmer                                      | Date Extracted: 04/04/07-04/06/07 |
|  | Client P.O.:  | Date Analyzed: 04/05/07-04/06/07  |

### Oxygenates and BTEX by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704083

|           |                       |                       |              |                 |                              |  |
|-----------|-----------------------|-----------------------|--------------|-----------------|------------------------------|--|
| Lab ID    | 0704083-012A          | 0704083-013A          | 0704083-015B | 0704083-016A    | Reporting Limit for<br>DF =1 |  |
| Client ID | B-7-5 @ 19.5-<br>20.0 | B-7-6 @ 23.5-<br>24.0 | B-7 Water    | B-8-1 @ 3.5-4.0 |                              |  |
| Matrix    | S                     | S                     | W            | S               |                              |  |
| DF        | 1                     | 1                     | 1            | 1               |                              |  |

| Compound                      | Concentration                 |    |    |    | mg/kg | µg/L  |
|-------------------------------|-------------------------------|----|----|----|-------|-------|
|                               | tert-Amyl methyl ether (TAME) | ND | ND | ND | ND    | 0.005 |
| Benzene                       | ND                            | ND | ND | ND | 0.005 | 0.5   |
| t-Butyl alcohol (TBA)         | ND                            | ND | ND | ND | 0.05  | 5.0   |
| Diisopropyl ether (DIPE)      | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Ethylbenzene                  | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Ethyl tert-butyl ether (ETBE) | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Methyl-t-butyl ether (MTBE)   | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Toluene                       | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Xylenes                       | ND                            | ND | ND | ND | 0.005 | 0.5   |

### Surrogate Recoveries (%)

|       |     |     |     |     |
|-------|-----|-----|-----|-----|
| %SS1: | 102 | 102 | 115 | 102 |
| %SS2: | 104 | 104 | 104 | 104 |
| %SS3: | 102 | 103 | 109 | 103 |

Comments

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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|  |   |                                   |
|--|---|-----------------------------------|
| Consolidated Engineering Laboratories<br><br>2001 Crow Canyon Road, Suite 100<br><br>San Ramon, CA 94583 | Client Project ID: #81-01824-A;<br>Livermore Airport UST/Pipeline | Date Sampled: 04/03/07-04/04/07   |
|  | Client Contact: Chris Palmer                                      | Date Received: 04/04/07           |
|  | Client P.O.:  | Date Extracted: 04/04/07-04/06/07 |
|  |   | Date Analyzed: 04/05/07-04/06/07  |

### Oxygenates and BTEX by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704083

|           |                   |                 |              |                 |                              |   |   |
|-----------|-------------------|-----------------|--------------|-----------------|------------------------------|---|---|
| Lab ID    | 0704083-019A      | 0704083-021A    | 0704083-022B | 0704083-023A    | Reporting Limit for<br>DF =1 | S | W |
| Client ID | B-8-4 @ 15.5-16.0 | B-8-6 @ 23.5-24 | B-8-Water    | B-9-1 @ 3.5-4.0 |                              |   |   |
| Matrix    | S                 | S               | W            | S               |                              |   |   |
| DF        | 1                 | 1               | 1            | 1               |                              |   |   |

| Compound                      | Concentration                 |    |    |    | mg/kg | µg/L  |
|-------------------------------|-------------------------------|----|----|----|-------|-------|
|                               | tert-Amyl methyl ether (TAME) | ND | ND | ND | ND    | 0.005 |
| Benzene                       | ND                            | ND | ND | ND | 0.005 | 0.5   |
| t-Butyl alcohol (TBA)         | ND                            | ND | ND | ND | 0.05  | 5.0   |
| Diisopropyl ether (DIPE)      | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Ethylbenzene                  | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Ethyl tert-butyl ether (ETBE) | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Methyl-t-butyl ether (MTBE)   | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Toluene                       | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Xylenes                       | ND                            | ND | ND | ND | 0.005 | 0.5   |

### Surrogate Recoveries (%)

|       |     |     |     |     |
|-------|-----|-----|-----|-----|
| %SS1: | 100 | 97  | 115 | 97  |
| %SS2: | 104 | 107 | 105 | 105 |
| %SS3: | 102 | 104 | 108 | 103 |

### Comments

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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|  |   |                                   |
|--|---|-----------------------------------|
| Consolidated Engineering Laboratories<br><br>2001 Crow Canyon Road, Suite 100<br><br>San Ramon, CA 94583 | Client Project ID: #81-01824-A;<br>Livermore Airport UST/Pipeline | Date Sampled: 04/03/07-04/04/07   |
|  | Client Contact: Chris Palmer                                      | Date Received: 04/04/07           |
|  | Client P.O.:  | Date Extracted: 04/04/07-04/06/07 |
|  |   | Date Analyzed: 04/05/07-04/06/07  |

### Oxygenates and BTEX by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704083

|           |                   |                 |              |                  |                              |
|-----------|-------------------|-----------------|--------------|------------------|------------------------------|
| Lab ID    | 0704083-026A      | 0704083-028A    | 0704083-029B | 0704083-030A     | Reporting Limit for<br>DF =1 |
| Client ID | B-9-4 @ 15.5-16.0 | B-9-6 @ 23.5-24 | B-9 Water    | B-10-1 @ 3.5-4.0 |                              |
| Matrix    | S                 | S               | W            | S                |                              |
| DF        | 1                 | 1               | 1            | 1                |                              |

| Compound                      | Concentration                 |    |    |    | mg/kg | µg/L  |
|-------------------------------|-------------------------------|----|----|----|-------|-------|
|                               | tert-Amyl methyl ether (TAME) | ND | ND | ND | ND    | 0.005 |
| Benzene                       | ND                            | ND | ND | ND | 0.005 | 0.5   |
| t-Butyl alcohol (TBA)         | ND                            | ND | ND | ND | 0.05  | 5.0   |
| Diisopropyl ether (DIPE)      | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Ethylbenzene                  | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Ethyl tert-butyl ether (ETBE) | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Methyl-t-butyl ether (MTBE)   | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Toluene                       | ND                            | ND | ND | ND | 0.005 | 0.5   |
| Xylenes                       | ND                            | ND | ND | ND | 0.005 | 0.5   |

### Surrogate Recoveries (%)

|          |     |     |     |     |
|----------|-----|-----|-----|-----|
| %SS1:    | 95  | 93  | 109 | 96  |
| %SS2:    | 106 | 104 | 105 | 104 |
| %SS3:    | 101 | 102 | 106 | 102 |
| Comments |     |     | i   |     |

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.





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|  |   |                                   |
|--|---|-----------------------------------|
| Consolidated Engineering Laboratories<br><br>2001 Crow Canyon Road, Suite 100<br><br>San Ramon, CA 94583 | Client Project ID: #81-01824-A;<br>Livermore Airport UST/Pipeline | Date Sampled: 04/03/07-04/04/07   |
|  |   | Date Received: 04/04/07           |
|  | Client Contact: Chris Palmer                                      | Date Extracted: 04/04/07-04/06/07 |
|  | Client P.O.:  | Date Analyzed: 04/05/07-04/06/07  |

### Oxygenates and BTEX by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704083

|           |                  |                  |              |  |                              |
|-----------|------------------|------------------|--------------|--|------------------------------|
| Lab ID    | 0704083-033A     | 0704083-035A     | 0704083-036B |  | Reporting Limit for<br>DF =1 |
| Client ID | B-10-4 @ 15.5-16 | B-10-6 @ 23.5-24 | B-10 Water   |  |                              |
| Matrix    | S                | S                | W            |  |                              |
| DF        | 1                | 1                | 1            |  |                              |

| Compound                      | Concentration                 |    |    | mg/kg | µg/L  |
|-------------------------------|-------------------------------|----|----|-------|-------|
|                               | tert-Amyl methyl ether (TAME) | ND | ND | ND    | 0.005 |
| Benzene                       | ND                            | ND | ND | 0.005 | 0.5   |
| t-Butyl alcohol (TBA)         | ND                            | ND | ND | 0.05  | 5.0   |
| Diisopropyl ether (DIPE)      | ND                            | ND | ND | 0.005 | 0.5   |
| Ethylbenzene                  | ND                            | ND | ND | 0.005 | 0.5   |
| Ethyl tert-butyl ether (ETBE) | ND                            | ND | ND | 0.005 | 0.5   |
| Methyl-t-butyl ether (MTBE)   | ND                            | ND | ND | 0.005 | 0.5   |
| Toluene                       | ND                            | ND | ND | 0.005 | 0.5   |
| Xylenes                       | ND                            | ND | ND | 0.005 | 0.5   |

### Surrogate Recoveries (%)

|       |     |     |     |  |
|-------|-----|-----|-----|--|
| %SS1: | 95  | 94  | 112 |  |
| %SS2: | 104 | 103 | 106 |  |
| %SS3: | 104 | 102 | 108 |  |

### Comments

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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|  |   |                                  |
|--|---|----------------------------------|
| Consolidated Engineering Laboratories<br>2001 Crow Canyon Road, Suite 100<br>San Ramon, CA 94583 | Client Project ID: #81-01824-A;<br>Livermore Airport UST/Pipeline | Date Sampled: 04/03/07-04/04/07  |
|  | Client Contact: Chris Palmer                                      | Date Received: 04/04/07          |
|  | Client P.O.:  | Date Analyzed: 04/05/07-04/10/07 |
|  |   | Date Extracted: 04/04/07         |

### Diesel (C10-23) and Jet Fuel (C9-C18) Range Extractable Hydrocarbons as Diesel and Jet Fuel\*

Extraction method: SW3510C/SW3550C

Analytical methods: SW8015C

Work Order: 0704083

| Lab ID       | Client ID         | Matrix | TPH(d)  | TPH(jf) | DF | % SS |
|--------------|-------------------|--------|---------|---------|----|------|
| 0704083-001A | B-6-1 @ 3.5-4.0   | S      | ND      | ND      | 1  | 112  |
| 0704083-002A | B-6-2 @ 7.5-8.0   | S      | ND      | ND      | 1  | 89   |
| 0704083-004A | B-6-4 @ 15.5-16.0 | S      | ND      | ND      | 1  | 114  |
| 0704083-006A | B-6-6 @ 23.5-24   | S      | ND      | ND      | 1  | 111  |
| 0704083-008A | B-6-8 @ 31.5-32   | S      | ND      | ND      | 1  | 98   |
| 0704083-009A | B-6 Water         | W      | ND,i    | ND      | 1  | 100  |
| 0704083-010A | B-7-3 @ 11.5-12.0 | S      | ND      | ND      | 1  | 107  |
| 0704083-011A | B-7-4 @ 15.5-16.0 | S      | ND      | ND      | 1  | 111  |
| 0704083-012A | B-7-5 @ 19.5-20.0 | S      | ND      | ND      | 1  | 113  |
| 0704083-013A | B-7-6 @ 23.5-24.0 | S      | ND      | ND      | 1  | 114  |
| 0704083-015A | B-7 Water         | W      | 55,b,i  | ND      | 1  | 103  |
| 0704083-016A | B-8-1 @ 3.5-4.0   | S      | ND      | ND      | 1  | 116  |
| 0704083-019A | B-8-4 @ 15.5-16.0 | S      | ND      | ND      | 1  | 111  |
| 0704083-021A | B-8-6 @ 23.5-24   | S      | ND      | ND      | 1  | 113  |
| 0704083-022A | B-8-Water         | W      | 110,b,i | 94      | 1  | 98   |
| 0704083-023A | B-9-1 @ 3.5-4.0   | S      | ND      | ND      | 1  | 101  |

|  |   |     |     |       |
|--|---|-----|-----|-------|
| Reporting Limit for DF =1;<br>ND means not detected at or<br>above the reporting limit | W | 50  | 50  | µg/L  |
|  | S | 1.0 | 1.0 | mg/Kg |

\* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPL / TCLP extracts are reported in µg/L.

# cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant; d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; k) kerosene/kerosene range; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirit.



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|  |   |                                  |
|--|---|----------------------------------|
| Consolidated Engineering Laboratories<br><br>2001 Crow Canyon Road, Suite 100<br><br>San Ramon, CA 94583 | Client Project ID: #81-01824-A;<br>Livermore Airport UST/Pipeline | Date Sampled: 04/03/07-04/04/07  |
|  | Client Contact: Chris Palmer                                      | Date Received: 04/04/07          |
|  | Client P.O.:  | Date Analyzed: 04/05/07-04/10/07 |
|  |   |                                  |

### Diesel (C10-23) and Jet Fuel (C9-C18) Range Extractable Hydrocarbons as Diesel and Jet Fuel\*

Extraction method: SW3510C/SW3550C

Analytical methods: SW8015C

Work Order: 0704083

| Lab ID       | Client ID         | Matrix | TPH(d) | TPH(jf) | DF | % SS |
|--------------|-------------------|--------|--------|---------|----|------|
| 0704083-026A | B-9-4 @ 15.5-16.0 | S      | ND     | ND      | 1  | 104  |
| 0704083-028A | B-9-6 @ 23.5-24   | S      | ND     | ND      | 1  | 103  |
| 0704083-029A | B-9 Water         | W      | ND,i   | ND      | 1  | 100  |
| 0704083-030A | B-10-1 @ 3.5-4.0  | S      | ND     | ND      | 1  | 100  |
| 0704083-033A | B-10-4 @ 15.5-16  | S      | ND     | ND      | 1  | 101  |
| 0704083-035A | B-10-6 @ 23.5-24  | S      | ND     | ND      | 1  | 100  |
| 0704083-036A | B-10 Water        | W      | ND,i   | ND      | 1  | 98   |
|              |                   |        |        |         |    |      |
|              |                   |        |        |         |    |      |
|              |                   |        |        |         |    |      |
|              |                   |        |        |         |    |      |
|              |                   |        |        |         |    |      |
|              |                   |        |        |         |    |      |
|              |                   |        |        |         |    |      |
|              |                   |        |        |         |    |      |
|              |                   |        |        |         |    |      |
|              |                   |        |        |         |    |      |
|              |                   |        |        |         |    |      |
|              |                   |        |        |         |    |      |
|              |                   |        |        |         |    |      |

|  |   |     |     |       |
|--|---|-----|-----|-------|
| Reporting Limit for DF =1;<br>ND means not detected at or<br>above the reporting limit | W | 50  | 50  | µg/L  |
|  | S | 1.0 | 1.0 | mg/Kg |

\* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

# cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant; d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; k) kerosene/kerosene range; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirit.



### QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0704083

| EPA Method SW8260B            | Extraction SW5030B |        |        | BatchID: 27259 |       |        | Spiked Sample ID: 0704059-006A |        |          |                         |          |     |
|-------------------------------|--------------------|--------|--------|----------------|-------|--------|--------------------------------|--------|----------|-------------------------|----------|-----|
|                               | Analyte            | Sample | Spiked | MS             | MSD   | MS-MSD | LCS                            | LCSD   | LCS-LCSD | Acceptance Criteria (%) |          |     |
|                               | mg/Kg              | mg/Kg  | % Rec. | % Rec.         | % RPD | % Rec. | % Rec.                         | % RPD  | MS / MSD | RPD                     | LCS/LCSD | RPD |
| tert-Amyl methyl ether (TAME) | ND                 | 0.050  | 96.5   | 95.4           | 1.12  | 96.8   | 96.1                           | 0.733  | 70 - 130 | 30                      | 70 - 130 | 30  |
| Benzene                       | ND                 | 0.050  | 101    | 101            | 0     | 98.2   | 101                            | 2.66   | 70 - 130 | 30                      | 70 - 130 | 30  |
| t-Butyl alcohol (TBA)         | ND                 | 0.25   | 84.5   | 86.1           | 1.86  | 94.2   | 95.9                           | 1.76   | 70 - 130 | 30                      | 70 - 130 | 30  |
| Diisopropyl ether (DIPE)      | ND                 | 0.050  | 109    | 108            | 0.420 | 107    | 108                            | 0.735  | 70 - 130 | 30                      | 70 - 130 | 30  |
| Ethyl tert-butyl ether (ETBE) | ND                 | 0.050  | 102    | 101            | 0.887 | 102    | 102                            | 0      | 70 - 130 | 30                      | 70 - 130 | 30  |
| Methyl-t-butyl ether (MTBE)   | ND                 | 0.050  | 102    | 101            | 0.846 | 104    | 102                            | 1.92   | 70 - 130 | 30                      | 70 - 130 | 30  |
| Toluene                       | ND                 | 0.050  | 91.4   | 91.6           | 0.175 | 89.3   | 91.8                           | 2.80   | 70 - 130 | 30                      | 70 - 130 | 30  |
| %SS1:                         | 101                | 0.050  | 92     | 92             | 0     | 93     | 93                             | 0      | 70 - 130 | 30                      | 70 - 130 | 30  |
| %SS2:                         | 107                | 0.050  | 100    | 100            | 0     | 101    | 100                            | 0.591  | 70 - 130 | 30                      | 70 - 130 | 30  |
| %SS3:                         | 102                | 0.050  | 109    | 108            | 0.343 | 109    | 108                            | 0.0728 | 70 - 130 | 30                      | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 27259 SUMMARY

| Sample ID    | Date Sampled     | Date Extracted | Date Analyzed    | Sample ID    | Date Sampled     | Date Extracted | Date Analyzed    |
|--------------|------------------|----------------|------------------|--------------|------------------|----------------|------------------|
| 0704083-001A | 04/03/07 1:35 PM | 04/04/07       | 04/05/07 2:44 PM | 0704083-002A | 04/03/07 1:40 PM | 04/04/07       | 04/05/07 3:29 PM |
| 0704083-004A | 04/03/07 2:00 PM | 04/04/07       | 04/05/07 4:14 PM | 0704083-006A | 04/03/07 2:40 PM | 04/04/07       | 04/05/07 5:00 PM |
| 0704083-008A | 04/03/07 3:45 PM | 04/04/07       | 04/05/07 5:44 PM | 0704083-010A | 04/03/07 5:00 PM | 04/04/07       | 04/05/07 6:30 PM |
| 0704083-011A | 04/03/07 5:15 PM | 04/04/07       | 04/05/07 7:14 PM | 0704083-012A | 04/03/07 5:35 PM | 04/04/07       | 04/05/07 8:00 PM |
| 0704083-013A | 04/03/07 5:50 PM | 04/04/07       | 04/05/07 8:45 PM |              |                  |                |                  |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



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### QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0704083

| Analyte | Extraction SW3550C |                 | BatchID: 27260 |               |                 |               |                |                   | Spiked Sample ID: 0704052-010A |     |          |     |
|---------|--------------------|-----------------|----------------|---------------|-----------------|---------------|----------------|-------------------|--------------------------------|-----|----------|-----|
|         | Sample<br>mg/Kg    | Spiked<br>mg/Kg | MS<br>% Rec.   | MSD<br>% Rec. | MS-MSD<br>% RPD | LCS<br>% Rec. | LCSD<br>% Rec. | LCS-LCSD<br>% RPD | Acceptance Criteria (%)        |     |          |     |
| TPH(d)  | ND                 | 20              | 114            | 114           | 0               | 101           | 102            | 0.338             | MS / MSD                       | RPD | LCS/LCSD | RPD |
| %SS:    | 106                | 50              | 115            | 115           | 0               | 87            | 87             | 0                 | 70 - 130                       | 30  | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 27260 SUMMARY

| Sample ID    | Date Sampled      | Date Extracted | Date Analyzed     | Sample ID    | Date Sampled      | Date Extracted | Date Analyzed     |
|--------------|-------------------|----------------|-------------------|--------------|-------------------|----------------|-------------------|
| 0704083-001A | 04/03/07 1:35 PM  | 04/04/07       | 04/05/07 5:34 PM  | 0704083-002A | 04/03/07 1:40 PM  | 04/04/07       | 04/05/07 7:55 PM  |
| 0704083-004A | 04/03/07 2:00 PM  | 04/04/07       | 04/05/07 7:50 PM  | 0704083-006A | 04/03/07 2:40 PM  | 04/04/07       | 04/05/07 8:59 PM  |
| 0704083-008A | 04/03/07 3:45 PM  | 04/04/07       | 04/10/07          | 0704083-010A | 04/03/07 5:00 PM  | 04/04/07       | 04/05/07 11:16 PM |
| 0704083-011A | 04/03/07 5:15 PM  | 04/04/07       | 04/06/07 12:24 AM | 0704083-012A | 04/03/07 5:35 PM  | 04/04/07       | 04/06/07 3:49 AM  |
| 0704083-013A | 04/03/07 5:50 PM  | 04/04/07       | 04/06/07 4:57 AM  | 0704083-016A | 04/04/07 8:05 AM  | 04/04/07       | 04/06/07 6:06 AM  |
| 0704083-019A | 04/04/07 8:30 AM  | 04/04/07       | 04/06/07 7:14 AM  | 0704083-021A | 04/04/07 8:55 AM  | 04/04/07       | 04/06/07 8:22 AM  |
| 0704083-023A | 04/04/07 9:35 AM  | 04/04/07       | 04/05/07 6:42 PM  | 0704083-026A | 04/04/07 10:15 AM | 04/04/07       | 04/05/07 5:34 PM  |
| 0704083-028A | 04/04/07 10:35 AM | 04/04/07       | 04/05/07 7:50 PM  |              |                   |                |                   |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



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### QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0704083

| EPA Method SW8021B/8015Cm |        | Extraction SW5030B |        |        | BatchID: 27261 |        |        |          | Spiked Sample ID: 0704052-014A |     |          |     |
|---------------------------|--------|--------------------|--------|--------|----------------|--------|--------|----------|--------------------------------|-----|----------|-----|
| Analyte                   | Sample | Spiked             | MS     | MSD    | MS-MSD         | LCS    | LCSD   | LCS-LCSD | Acceptance Criteria (%)        |     |          |     |
|                           | mg/Kg  | mg/Kg              | % Rec. | % Rec. | % RPD          | % Rec. | % Rec. | % RPD    | MS / MSD                       | RPD | LCS/LCSD | RPD |
| TPH(btex) <sup>f</sup>    | ND     | 0.60               | 94.8   | 93     | 1.93           | 102    | 108    | 5.94     | 70 - 130                       | 30  | 70 - 130 | 30  |
| MTBE                      | ND     | 0.10               | 97.6   | 97.5   | 0.0785         | 104    | 107    | 2.75     | 70 - 130                       | 30  | 70 - 130 | 30  |
| Benzene                   | ND     | 0.10               | 92.9   | 91.8   | 1.24           | 102    | 104    | 2.15     | 70 - 130                       | 30  | 70 - 130 | 30  |
| Toluene                   | ND     | 0.10               | 85.2   | 85.2   | 0              | 94.6   | 95.4   | 0.861    | 70 - 130                       | 30  | 70 - 130 | 30  |
| Ethylbenzene              | ND     | 0.10               | 90.4   | 92.1   | 1.85           | 100    | 99.8   | 0.192    | 70 - 130                       | 30  | 70 - 130 | 30  |
| Xylenes                   | ND     | 0.30               | 86.3   | 86.7   | 0.385          | 95.7   | 95.3   | 0.349    | 70 - 130                       | 30  | 70 - 130 | 30  |
| %SS:                      | 85     | 0.10               | 86     | 85     | 1.21           | 94     | 95     | 1.57     | 70 - 130                       | 30  | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

#### BATCH 27261 SUMMARY

| Sample ID    | Date Sampled      | Date Extracted | Date Analyzed     | Sample ID    | Date Sampled      | Date Extracted | Date Analyzed     |
|--------------|-------------------|----------------|-------------------|--------------|-------------------|----------------|-------------------|
| 0704083-001A | 04/03/07 1:35 PM  | 04/04/07       | 04/06/07 12:42 PM | 0704083-002A | 04/03/07 1:40 PM  | 04/04/07       | 04/06/07 4:05 AM  |
| 0704083-004A | 04/03/07 2:00 PM  | 04/04/07       | 04/06/07 5:05 AM  | 0704083-006A | 04/03/07 2:40 PM  | 04/04/07       | 04/06/07 5:35 AM  |
| 0704083-008A | 04/03/07 3:45 PM  | 04/04/07       | 04/06/07 6:05 AM  | 0704083-010A | 04/03/07 5:00 PM  | 04/04/07       | 04/06/07 6:35 AM  |
| 0704083-011A | 04/03/07 5:15 PM  | 04/04/07       | 04/06/07 7:05 AM  | 0704083-012A | 04/03/07 5:35 PM  | 04/04/07       | 04/06/07 7:35 AM  |
| 0704083-013A | 04/03/07 5:50 PM  | 04/04/07       | 04/06/07 7:25 AM  | 0704083-016A | 04/04/07 8:05 AM  | 04/04/07       | 04/06/07 8:05 AM  |
| 0704083-019A | 04/04/07 8:30 AM  | 04/04/07       | 04/06/07 8:32 AM  | 0704083-021A | 04/04/07 8:55 AM  | 04/04/07       | 04/06/07 9:06 AM  |
| 0704083-023A | 04/04/07 9:35 AM  | 04/04/07       | 04/06/07 9:40 AM  | 0704083-026A | 04/04/07 10:15 AM | 04/04/07       | 04/06/07 10:13 AM |
| 0704083-028A | 04/04/07 10:35 AM | 04/04/07       | 04/06/07 10:47 AM | 0704083-030A | 04/04/07 11:20 AM | 04/04/07       | 04/06/07 4:53 PM  |
| 0704083-033A | 04/04/07 12:10 PM | 04/04/07       | 04/06/07 9:06 AM  | 0704083-035A | 04/04/07 12:35 PM | 04/04/07       | 04/06/07 9:36 AM  |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.



**QC SUMMARY REPORT FOR SW8260B**

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0704083

| EPA Method SW8260B            | Extraction SW5030B |        |        | BatchID: 27273 |       |        |        |       | Spiked Sample ID: 0704076-001B |                         |          |     |
|-------------------------------|--------------------|--------|--------|----------------|-------|--------|--------|-------|--------------------------------|-------------------------|----------|-----|
|                               | Analyte            | Sample | Spiked | MS             | MSD   | MS-MSD | LCS    | LCSD  | LCS-LCSD                       | Acceptance Criteria (%) |          |     |
|                               | µg/L               | µg/L   | % Rec. | % Rec.         | % RPD | % Rec. | % Rec. | % RPD | MS / MSD                       | RPD                     | LCS/LCSD | RPD |
| tert-Amyl methyl ether (TAME) | ND                 | 10     | 96.4   | 98.7           | 2.33  | 96.2   | 97.4   | 1.15  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Benzene                       | ND                 | 10     | 107    | 108            | 0.352 | 107    | 107    | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |
| t-Butyl alcohol (TBA)         | ND                 | 50     | 92.5   | 94.8           | 2.43  | 88.4   | 91.8   | 3.75  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Diisopropyl ether (DIPE)      | ND                 | 10     | 113    | 115            | 1.66  | 113    | 114    | 0.814 | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Ethanol                       | ND                 | 500    | 106    | 105            | 1.43  | 93.4   | 99.6   | 5.94  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Ethyl tert-butyl ether (ETBE) | ND                 | 10     | 103    | 106            | 2.28  | 103    | 105    | 1.28  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Methanol                      | ND                 | 2500   | 102    | 100            | 2.07  | 102    | 101    | 0.972 | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Methyl-t-butyl ether (MTBE)   | 1.2                | 10     | 104    | 106            | 1.37  | 102    | 104    | 2.01  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Toluene                       | ND                 | 10     | 93.1   | 96.2           | 3.23  | 91.8   | 94.1   | 2.52  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| %SS1:                         | 107                | 10     | 98     | 95             | 2.73  | 98     | 96     | 2.28  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| %SS2:                         | 105                | 10     | 99     | 99             | 0     | 99     | 99     | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |
| %SS3:                         | 89                 | 10     | 105    | 107            | 1.73  | 108    | 109    | 1.12  | 70 - 130                       | 30                      | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

**BATCH 27273 SUMMARY**

| Sample ID    | Date Sampled     | Date Extracted | Date Analyzed     | Sample ID    | Date Sampled     | Date Extracted | Date Analyzed    |
|--------------|------------------|----------------|-------------------|--------------|------------------|----------------|------------------|
| 0704083-009B | 04/03/07 4:25 PM | 04/05/07       | 04/05/07 4:54 PM  | 0704083-015B | 04/03/07 6:45 PM | 04/05/07       | 04/05/07 5:39 PM |
| 0704083-022B | 04/04/07 1:10 PM | 04/05/07       | 04/05/07 10:12 PM | 0704083-029B | 04/04/07 2:25 PM | 04/05/07       | 04/05/07 7:09 PM |
| 0704083-036B | 04/04/07 2:00 PM | 04/05/07       | 04/05/07 7:53 PM  |              |                  |                |                  |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



**QC SUMMARY REPORT FOR SW8021B/8015Cm**

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0704083

| EPA Method SW8021B/8015Cm | Extraction SW5030B |        |        | BatchID: 27275 |        |        |        |          | Spiked Sample ID: 0704077-001A |     |          |     |
|---------------------------|--------------------|--------|--------|----------------|--------|--------|--------|----------|--------------------------------|-----|----------|-----|
| Analyte                   | Sample             | Spiked | MS     | MSD            | MS-MSD | LCS    | LCSD   | LCS-LCSD | Acceptance Criteria (%)        |     |          |     |
|                           | µg/L               | µg/L   | % Rec. | % Rec.         | % RPD  | % Rec. | % Rec. | % RPD    | MS / MSD                       | RPD | LCS/LCSD | RPD |
| TPH(btex) <sup>f</sup>    | ND                 | 60     | 109    | 108            | 1.08   | 99.1   | 97.7   | 1.41     | 70 - 130                       | 30  | 70 - 130 | 30  |
| MTBE                      | ND                 | 10     | 107    | 102            | 4.97   | 119    | 119    | 0        | 70 - 130                       | 30  | 70 - 130 | 30  |
| Benzene                   | ND                 | 10     | 92.2   | 94.5           | 2.53   | 96.9   | 95     | 1.99     | 70 - 130                       | 30  | 70 - 130 | 30  |
| Toluene                   | ND                 | 10     | 102    | 104            | 2.49   | 107    | 104    | 2.23     | 70 - 130                       | 30  | 70 - 130 | 30  |
| Ethylbenzene              | ND                 | 10     | 99.7   | 102            | 2.25   | 103    | 101    | 1.35     | 70 - 130                       | 30  | 70 - 130 | 30  |
| Xylenes                   | ND                 | 30     | 110    | 113            | 2.99   | 113    | 113    | 0        | 70 - 130                       | 30  | 70 - 130 | 30  |
| %SS:                      | 97                 | 10     | 97     | 98             | 1.17   | 98     | 94     | 3.51     | 70 - 130                       | 30  | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 27275 SUMMARY

| Sample ID    | Date Sampled     | Date Extracted | Date Analyzed     | Sample ID    | Date Sampled     | Date Extracted | Date Analyzed    |
|--------------|------------------|----------------|-------------------|--------------|------------------|----------------|------------------|
| 0704083-009A | 04/03/07 4:25 PM | 04/07/07       | 04/07/07 1:20 AM  | 0704083-015A | 04/03/07 6:45 PM | 04/07/07       | 04/07/07 1:50 AM |
| 0704083-022A | 04/04/07 1:10 PM | 04/07/07       | 04/07/07 11:08 PM | 0704083-029A | 04/04/07 2:25 PM | 04/07/07       | 04/07/07 2:51 AM |
| 0704083-036A | 04/04/07 2:00 PM | 04/07/07       | 04/07/07 3:04 AM  |              |                  |                |                  |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.





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## QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0704083

| EPA Method SW8015C | Extraction SW3550C |        |        | BatchID: 27278 |        |        |        | Spiked Sample ID: 0704083-035A |                         |     |          |     |
|--------------------|--------------------|--------|--------|----------------|--------|--------|--------|--------------------------------|-------------------------|-----|----------|-----|
| Analyte            | Sample             | Spiked | MS     | MSD            | MS-MSD | LCS    | LCSD   | LCS-LCSD                       | Acceptance Criteria (%) |     |          |     |
|                    | mg/Kg              | mg/Kg  | % Rec. | % Rec.         | % RPD  | % Rec. | % Rec. | % RPD                          | MS / MSD                | RPD | LCS/LCSD | RPD |
| TPH(d)             | ND                 | 20     | 99.5   | 98.5           | 1.05   | 125    | 119    | 5.08                           | 70 - 130                | 30  | 70 - 130 | 30  |
| %SS:               | 100                | 50     | 102    | 101            | 1.76   | 117    | 114    | 2.02                           | 70 - 130                | 30  | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

### BATCH 27278 SUMMARY

| Sample ID    | Date Sampled      | Date Extracted | Date Analyzed    | Sample ID    | Date Sampled      | Date Extracted | Date Analyzed     |
|--------------|-------------------|----------------|------------------|--------------|-------------------|----------------|-------------------|
| 0704083-030A | 04/04/07 11:20 AM | 04/04/07       | 04/05/07 8:59 PM | 0704083-033A | 04/04/07 12:10 PM | 04/04/07       | 04/05/07 10:07 PM |
| 0704083-035A | 04/04/07 12:35 PM | 04/04/07       | 04/06/07 7:14 AM |              |                   |                |                   |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery =  $100 * (MS - Sample) / (Amount Spiked)$ ; RPD =  $100 * (MS - MSD) / ((MS + MSD) / 2)$ .

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



**QC SUMMARY REPORT FOR SW8260B**

W.O. Sample Matrix: Soil

QC Matrix: Soil

WorkOrder: 0704083

| EPA Method SW8260B            | Extraction SW5030B |        |        | BatchID: 27282 |        |        |        |          | Spiked Sample ID: 0704083-035A |     |          |     |
|-------------------------------|--------------------|--------|--------|----------------|--------|--------|--------|----------|--------------------------------|-----|----------|-----|
| Analyte                       | Sample             | Spiked | MS     | MSD            | MS-MSD | LCS    | LCSD   | LCS-LCSD | Acceptance Criteria (%)        |     |          |     |
|                               | mg/Kg              | mg/Kg  | % Rec. | % Rec.         | % RPD  | % Rec. | % Rec. | % RPD    | MS / MSD                       | RPD | LCS/LCSD | RPD |
| tert-Amyl methyl ether (TAME) | ND                 | 0.050  | 97.9   | 98.7           | 0.875  | 94.1   | 94.4   | 0.300    | 70 - 130                       | 30  | 70 - 130 | 30  |
| Benzene                       | ND                 | 0.050  | 108    | 104            | 2.93   | 104    | 103    | 0.995    | 70 - 130                       | 30  | 70 - 130 | 30  |
| t-Butyl alcohol (TBA)         | ND                 | 0.25   | 89     | 94.1           | 5.66   | 85     | 87.3   | 2.64     | 70 - 130                       | 30  | 70 - 130 | 30  |
| Diisopropyl ether (DIPE)      | ND                 | 0.050  | 114    | 113            | 0.847  | 110    | 110    | 0        | 70 - 130                       | 30  | 70 - 130 | 30  |
| Ethyl tert-butyl ether (ETBE) | ND                 | 0.050  | 106    | 104            | 1.85   | 101    | 101    | 0        | 70 - 130                       | 30  | 70 - 130 | 30  |
| Methyl-t-butyl ether (MTBE)   | ND                 | 0.050  | 104    | 105            | 0.509  | 100    | 99.9   | 0.125    | 70 - 130                       | 30  | 70 - 130 | 30  |
| Toluene                       | ND                 | 0.050  | 93.7   | 91             | 2.85   | 91.8   | 90.9   | 0.999    | 70 - 130                       | 30  | 70 - 130 | 30  |
| %SS1:                         | 94                 | 0.050  | 98     | 97             | 1.22   | 96     | 95     | 1.47     | 70 - 130                       | 30  | 70 - 130 | 30  |
| %SS2:                         | 103                | 0.050  | 99     | 99             | 0      | 99     | 99     | 0        | 70 - 130                       | 30  | 70 - 130 | 30  |
| %SS3:                         | 102                | 0.050  | 109    | 108            | 0.646  | 109    | 108    | 1.07     | 70 - 130                       | 30  | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

BATCH 27282 SUMMARY

| Sample ID    | Date Sampled      | Date Extracted | Date Analyzed     | Sample ID    | Date Sampled      | Date Extracted | Date Analyzed     |
|--------------|-------------------|----------------|-------------------|--------------|-------------------|----------------|-------------------|
| 0704083-016A | 04/04/07 8:05 AM  | 04/04/07       | 04/05/07 9:30 PM  | 0704083-019A | 04/04/07 8:30 AM  | 04/04/07       | 04/05/07 11:49 PM |
| 0704083-021A | 04/04/07 8:55 AM  | 04/04/07       | 04/06/07 8:40 AM  | 0704083-023A | 04/04/07 9:35 AM  | 04/04/07       | 04/06/07 9:25 AM  |
| 0704083-026A | 04/04/07 10:15 AM | 04/04/07       | 04/06/07 12:44 PM | 0704083-028A | 04/04/07 10:35 AM | 04/04/07       | 04/06/07 1:30 PM  |
| 0704083-030A | 04/04/07 11:20 AM | 04/04/07       | 04/06/07 2:16 PM  | 0704083-033A | 04/04/07 12:10 PM | 04/04/07       | 04/06/07 3:00 PM  |
| 0704083-035A | 04/04/07 12:35 PM | 04/04/07       | 04/06/07 3:48 PM  |              |                   |                |                   |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.



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### QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0704083

| EPA Method SW8015C | Extraction SW3510C |        |        | BatchID: 27274 |        |        |        |          | Spiked Sample ID: N/A   |     |          |     |
|--------------------|--------------------|--------|--------|----------------|--------|--------|--------|----------|-------------------------|-----|----------|-----|
| Analyte            | Sample             | Spiked | MS     | MSD            | MS-MSD | LCS    | LCSD   | LCS-LCSD | Acceptance Criteria (%) |     |          |     |
|                    | µg/L               | µg/L   | % Rec. | % Rec.         | % RPD  | % Rec. | % Rec. | % RPD    | MS / MSD                | RPD | LCS/LCSD | RPD |
| TPH(d)             | N/A                | 1000   | N/A    | N/A            | N/A    | 102    | 102    | 0        | N/A                     | N/A | 70 - 130 | 30  |
| %SS:               | N/A                | 2500   | N/A    | N/A            | N/A    | 98     | 106    | 7.11     | N/A                     | N/A | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

#### BATCH 27274 SUMMARY

| Sample ID    | Date Sampled     | Date Extracted | Date Analyzed     | Sample ID    | Date Sampled     | Date Extracted | Date Analyzed     |
|--------------|------------------|----------------|-------------------|--------------|------------------|----------------|-------------------|
| 0704083-009A | 04/03/07 4:25 PM | 04/04/07       | 04/05/07 11:16 PM | 0704083-015A | 04/03/07 6:45 PM | 04/04/07       | 04/06/07 12:24 AM |
| 0704083-022A | 04/04/07 1:10 PM | 04/04/07       | 04/06/07 3:49 AM  | 0704083-029A | 04/04/07 2:25 PM | 04/04/07       | 04/06/07 4:57 AM  |
| 0704083-036A | 04/04/07 2:00 PM | 04/04/07       | 04/06/07 10:11 PM |              |                  |                |                   |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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Telephone: 877-252-9262 Fax: 925-252-9269

|  |   |                                 |
|--|---|---------------------------------|
| Consolidated Engineering Laborat<br>2001 Crow Canyon Road, Suite<br>100<br>San Ramon, CA 94583 | Client Project ID: #81-01824-A; Livermore<br>Airport UST/Pipeline | Date Sampled: 04/03/07-04/04/07 |
|  | Client Contact: Chris Palmer                                      | Date Received: 04/04/07         |
|  | Client P.O.:  | Date Reported: 04/11/07         |
|  |   | Date Completed: 04/16/07        |

**WorkOrder: 0704083**

April 16, 2007

Dear Chris:

Enclosed are:

- 1). the results of 5 analyzed samples from your #81-01824-A; Livermore Airport UST/Pipeline project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions please contact me. McC Campbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Best regards,

Angela Rydelius, Lab Manager

rel 0704083

**Consolidated Engineering Laboratories, Inc.**  
 2001 Crow Canyon Road, Suite 100  
 San Ramon, CA 94583

Ph. 925/314-7100  
 Fx. 925/855-7140

# Chain of Custody

Date: April 3, 2007

Proj. No. 81-01824-A

Page 1 of 5

Project name: Livermore Airport UST/Pipeline

Relinquished by: C. Palmer  
 Print name: C. M. Palmer  
 Company name: Consolidated Engineering Labs

Received by: Derik Campbell  
 Print name: DERIK CAMPBELL  
 Lab name: McCampbell

Date received: April 4, 2007  
 Time received: 17:55

Special Instructions  
 N - 5 day turnaround  
 Please check TPHD range for jet fuel

Received in good condition  
 Yes  No   
 Total # of Samples         

| Sample I.D.      | Date   | Time | Matrix | Number of samples | Turn Around Time | Analysis Requested | TPH6/15EX/MTSE4<br>OXY5<br>SOL5<br>100605 | TPH40<br>SOL5 | methanol, 1,2-DCA and 99<br>4/11/07 |
|------------------|--------|------|--------|-------------------|------------------|--------------------|---|---------------|-------------------------------------|
| B-6-1c 35-4.0    | 4/3/07 | 1335 | Soil   | 1                 | N                |                    | /   | /             | X                                   |
| B-6-2c 7.5-8.0   |        | 1340 |        | 1                 | N                |                    | /   | /             | X                                   |
| B-6-3c 11.5-12.0 |        | 1350 |        | 1                 | N                |                    | /   | /             | X                                   |
| B-6-4c 15.5-16.0 |        | 1400 |        | 1                 | N                |                    | /   | /             | X                                   |
| B-6-5c 19.5-20.0 |        | 1415 |        | 1                 | N                |                    | /   | /             | X                                   |
| B-6-6c 23.5-24   |        | 1440 |        | 1                 | N                |                    | /   | /             | X                                   |
| B-6-7c 27.5-28   |        | 1520 |        | 1                 | N                |                    | /   | /             | X                                   |
| B-6-8c 31.5-32   |        | 1545 |        | 1                 | N                |                    | /   | /             | X                                   |
| +10 B-6 water    | 4/3/07 | 1625 | water  | 4                 |                  |                    | /   | /             | X                                   |

NET GOOD CONDITION   
 HEAD SPACE ABSENT   
 DECHLORINATED IN LAB   
 PRESERVATION VOL  ORG  METALS  OTHER



**Consolidated Engineering Laboratories, Inc.**  
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 San Ramon, CA 94583

Ph. 925/314-7100  
 Fx. 925/855-7140

# Chain of Custody

Date: April 4, 2007  
 Proj. No. 81-01824-A  
 Page 3 of 5

Project name: Livermore Airport - UST/Pipeline

Relinquished by: CMPalmer Received by: Derek LaF Date received: April 4, 2007  
 Print name: CMPalmer Print name: DEREK CANTANI  
 Company name: Consolidated Eng. Labs Inc Lab name: WCCAMP/EXL Time received: 1755  
Derek LaF 4/4 1625

Special Instructions  
 N-5 day turnaround

Received in good condition  
 Yes  No   
 Total # of Samples       

| Sample I.D.               | Date              | Time            | Matrix          | Number of samples | Turn Around Time | Analysis Requested | TPHC/BTEX/MTBE +<br>DYS 8015B + 8200B | TPH diesel 8015B | meth. Ethyl, 1,2 DCA acet<br>4/11/07 | Comments        |
|---------------------------|-------------------|-----------------|-----------------|-------------------|------------------|--------------------|---------------------------------------|------------------|--------------------------------------|-----------------|
| B-8-1@3.5-4.0'            | 4/4/07            | 0805            | Soil            | 1                 | N                |                    | /                                     | /                | X                                    |                 |
| B-8-2@7.5-8.0'            |                   | 0810            |                 | 1                 | N                |                    |                                       |                  |                                      | HOLD            |
| B-8-3@11.5-12'            |                   | 0820            |                 | 1                 | N                |                    |                                       |                  |                                      | HOLD            |
| B-8-4@15.5-16.0'          |                   | 0830            |                 | 1                 | N                |                    | /                                     | /                | X                                    |                 |
| B-8-5@19.5-20'            |                   | 0840            |                 | 1                 | N                |                    |                                       |                  |                                      | HOLD            |
| B-8-6@23.5-24'            |                   | 0855            |                 | 1                 | N                |                    | /                                     | /                | X                                    |                 |
| <del>B-8-7@27.5-28'</del> | <del>4/4/07</del> | <del>0900</del> | <del>Soil</del> | <del>1</del>      | <del>N</del>     |                    |                                       |                  |                                      | <del>HOLD</del> |
| B-8-water                 | 4/4/07            | 1310            | water           | 4                 | N                |                    | /                                     | /                | X                                    |                 |

+40







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1534 Willow Pass Rd  
Pittsburg, CA 94565-1701  
(925) 252-9262

**CHAIN-OF-CUSTODY RECORD**

WorkOrder: 070408 **A** ClientID: CEL

EDF  Excel  Fax  Email  HardCopy  ThirdParty

Report to:

Chris Palmer  
Consolidated Engineering Laboratori  
2001 Crow Canyon Road, Suite 100  
San Ramon, CA 94583

Email: cp@ce-labs.com  
TEL: 925.485.5000 FAX: 925.485.5019  
ProjectNo: #81-01824-A; Livermore Airport UST/Pi  
PO:

Bill to

Accounts Payable  
Consolidated Engineering Laboratori  
2001 Crow Canyon Road, Suite 100  
San Ramon, CA 94583  
ap@ce-labs.com

Requested TA 5 days

*Date Receive* 04/04/2007  
*Date Add-On:* 04/11/2007  
*Date Printed:* 04/12/2007

| Sample ID   | ClientSampID | Matrix | Collection Date   | Hold                     | Requested Tests (See legend below) |   |   |   |   |   |   |   |   |    |    |    |  |
|-------------|--------------|--------|-------------------|--------------------------|------------------------------------|---|---|---|---|---|---|---|---|----|----|----|--|
|             |              |        |                   |                          | 1                                  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |  |
| 0704083-009 | B-6 Water    | Water  | 4/3/07 4:25:00 PM | <input type="checkbox"/> | C                                  |   |   |   |   |   |   |   |   |    |    |    |  |
| 0704083-015 | B-7 Water    | Water  | 4/3/07 6:45:00 PM | <input type="checkbox"/> | C                                  |   |   |   |   |   |   |   |   |    |    |    |  |
| 0704083-022 | B-8-Water    | Water  | 4/4/07 1:10:00 PM | <input type="checkbox"/> | C                                  |   |   |   |   |   |   |   |   |    |    |    |  |
| 0704083-029 | B-9 Water    | Water  | 4/4/07 2:25:00 PM | <input type="checkbox"/> | C                                  |   |   |   |   |   |   |   |   |    |    |    |  |
| 0704083-036 | B-10 Water   | Water  | 4/4/07 2:00:00 PM | <input type="checkbox"/> | C                                  |   |   |   |   |   |   |   |   |    |    |    |  |

Test Legend:

|    |          |    |  |   |  |   |  |    |  |
|----|----------|----|--|---|--|---|--|----|--|
| 1  | 9-OXYS W | 2  |  | 3 |  | 4 |  | 5  |  |
| 6  |          | 7  |  | 8 |  | 9 |  | 10 |  |
| 11 |          | 12 |  |   |  |   |  |    |  |

Prepared by: Melissa Valles

Comments: Meoh, Etoh, and 1.2 DCA added 4/10/07 per C.P.

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.



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|  |   |                                 |
|--|---|---------------------------------|
| Consolidated Engineering Laboratories<br>2001 Crow Canyon Road, Suite 100<br>San Ramon, CA 94583 | Client Project ID: #81-01824-A;<br>Livermore Airport UST/Pipeline | Date Sampled: 04/03/07-04/04/07 |
|  | Client Contact: Chris Palmer                                      | Date Received: 04/04/07         |
|  | Client P.O.:  | Date Analyzed 04/13/07          |
|  |   | Date Extracted: 04/13/07        |

### Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704083

| Lab ID    | 0704083-009C | 0704083-015C | 0704083-022C | 0704083-029C | Reporting Limit for<br>DF =1 |  |
|-----------|--------------|--------------|--------------|--------------|------------------------------|--|
| Client ID | B-6 Water    | B-7 Water    | B-8-Water    | B-9 Water    |                              |  |
| Matrix    | W            | W            | W            | W            |                              |  |
| DF        | 1            | 1            | 1            | 1            |                              |  |

| Compound | Concentration                |    |    |    | ug/kg | ug/L |
|----------|------------------------------|----|----|----|-------|------|
|          | 1,2-Dichloroethane (1,2-DCA) | ND | ND | ND | ND    | NA   |
| Ethanol  | ND                           | ND | ND | ND | NA    | 50   |
| Methanol | ND                           | ND | ND | ND | NA    | 500  |

### Surrogate Recoveries (%)

|          |    |    |     |    |  |
|----------|----|----|-----|----|--|
| %SS1:    | 97 | 98 | 102 | 98 |  |
| Comments | i  | i  | i   | i  |  |

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; J) analyte detected below quantitation limits; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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|  |   |                                 |
|--|---|---------------------------------|
| Consolidated Engineering Laboratories<br>2001 Crow Canyon Road, Suite 100<br>San Ramon, CA 94583 | Client Project ID: #81-01824-A;<br>Livermore Airport UST/Pipeline | Date Sampled: 04/03/07-04/04/07 |
|  | Client Contact: Chris Palmer                                      | Date Received: 04/04/07         |
|  | Client P.O.:  | Date Analyzed 04/13/07          |
|  |   | Date Extracted: 04/13/07        |

### Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704083

|           |              |  |  |  |                              |
|-----------|--------------|--|--|--|------------------------------|
| Lab ID    | 0704083-036C |  |  |  | Reporting Limit for<br>DF =1 |
| Client ID | B-10 Water   |  |  |  |                              |
| Matrix    | W            |  |  |  |                              |
| DF        | 1            |  |  |  |                              |

| Compound                     | Concentration |  |  |  | ug/kg | µg/L |
|------------------------------|---------------|--|--|--|-------|------|
| 1,2-Dichloroethane (1,2-DCA) | ND            |  |  |  | NA    | 0.5  |
| Ethanol                      | ND            |  |  |  | NA    | 50   |
| Methanol                     | ND            |  |  |  | NA    | 500  |

### Surrogate Recoveries (%)

|          |    |  |  |  |  |
|----------|----|--|--|--|--|
| %SS1:    | 97 |  |  |  |  |
| Comments | i  |  |  |  |  |

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; J) analyte detected below quantitation limits; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

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|  |   |                                  |
|--|---|----------------------------------|
| Consolidated Engineering Laboratories<br><br>2001 Crow Canyon Road, Suite 100<br><br>San Ramon, CA 94583 | Client Project ID: #81-01824-A;<br>Livermore Airport UST/Pipeline | Date Sampled: 04/03/07-04/04/07  |
|  | Client Contact: Chris Palmer                                      | Date Received: 04/04/07          |
|  | Client P.O.:  | Date Extracted: 04/04/07         |
|  |   | Date Analyzed: 04/05/07-04/06/07 |

**Oxygenates and BTEX by GC/MS\***

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704083

|           |                 |                 |                   |                 |                              |  |
|-----------|-----------------|-----------------|-------------------|-----------------|------------------------------|--|
| Lab ID    | 0704083-001A    | 0704083-002A    | 0704083-004A      | 0704083-006A    | Reporting Limit for<br>DF =1 |  |
| Client ID | B-6-1 @ 3.5-4.0 | B-6-2 @ 7.5-8.0 | B-6-4 @ 15.5-16.0 | B-6-6 @ 23.5-24 |                              |  |
| Matrix    | S               | S               | S                 | S               |                              |  |
| DF        | 1               | 1               | 1                 | 1               |                              |  |

| Compound                      | Concentration |    |    |    | mg/kg | ug/L |
|-------------------------------|---------------|----|----|----|-------|------|
| tert-Amyl methyl ether (TAME) | ND            | ND | ND | ND | 0.005 | NA   |
| Benzene                       | ND            | ND | ND | ND | 0.005 | NA   |
| t-Butyl alcohol (TBA)         | ND            | ND | ND | ND | 0.05  | NA   |
| 1,2-Dichloroethane (1,2-DCA)  | ND            | ND | ND | ND | 0.005 | NA   |
| Diisopropyl ether (DIPE)      | ND            | ND | ND | ND | 0.005 | NA   |
| Ethanol                       | ND            | ND | ND | ND | 0.25  | NA   |
| Ethylbenzene                  | ND            | ND | ND | ND | 0.005 | NA   |
| Ethyl tert-butyl ether (ETBE) | ND            | ND | ND | ND | 0.005 | NA   |
| Methanol                      | ND            | ND | ND | ND | 2.5   | NA   |
| Methyl-t-butyl ether (MTBE)   | ND            | ND | ND | ND | 0.005 | NA   |
| Toluene                       | ND            | ND | ND | ND | 0.005 | NA   |
| Xylenes                       | ND            | ND | ND | ND | 0.005 | NA   |

**Surrogate Recoveries (%)**

|          |     |     |     |     |  |
|----------|-----|-----|-----|-----|--|
| %SS1:    | 105 | 106 | 104 | 107 |  |
| %SS2:    | 106 | 106 | 104 | 103 |  |
| %SS3:    | 106 | 103 | 106 | 102 |  |
| Comments |     |     |     |     |  |

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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|  |   |                                  |
|--|---|----------------------------------|
| Consolidated Engineering Laboratories<br><br>2001 Crow Canyon Road, Suite 100<br><br>San Ramon, CA 94583 | Client Project ID: #81-01824-A;<br>Livermore Airport UST/Pipeline | Date Sampled: 04/03/07-04/04/07  |
|  | Client Contact: Chris Palmer                                      | Date Received: 04/04/07          |
|  | Client P.O.:  | Date Extracted: 04/04/07         |
|  |   | Date Analyzed: 04/05/07-04/06/07 |

### Oxygenates and BTEX by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704083

|           |                 |                   |                   |                   |                              |  |
|-----------|-----------------|-------------------|-------------------|-------------------|------------------------------|--|
| Lab ID    | 0704083-008A    | 0704083-010A      | 0704083-011A      | 0704083-012A      | Reporting Limit for<br>DF =1 |  |
| Client ID | B-6-8 @ 31.5-32 | B-7-3 @ 11.5-12.0 | B-7-4 @ 15.5-16.0 | B-7-5 @ 19.5-20.0 |                              |  |
| Matrix    | S               | S                 | S                 | S                 |                              |  |
| DF        | 1               | 1                 | 1                 | 1                 |                              |  |

| Compound                      | Concentration |    |    |    | mg/kg | ug/L |
|-------------------------------|---------------|----|----|----|-------|------|
| tert-Amyl methyl ether (TAME) | ND            | ND | ND | ND | 0.005 | NA   |
| Benzene                       | ND            | ND | ND | ND | 0.005 | NA   |
| t-Butyl alcohol (TBA)         | ND            | ND | ND | ND | 0.05  | NA   |
| 1,2-Dichloroethane (1,2-DCA)  | ND            | ND | ND | ND | 0.005 | NA   |
| Diisopropyl ether (DIPE)      | ND            | ND | ND | ND | 0.005 | NA   |
| Ethanol                       | ND            | ND | ND | ND | 0.25  | NA   |
| Ethylbenzene                  | ND            | ND | ND | ND | 0.005 | NA   |
| Ethyl tert-butyl ether (ETBE) | ND            | ND | ND | ND | 0.005 | NA   |
| Methanol                      | ND            | ND | ND | ND | 2.5   | NA   |
| Methyl-t-butyl ether (MTBE)   | ND            | ND | ND | ND | 0.005 | NA   |
| Toluene                       | ND            | ND | ND | ND | 0.005 | NA   |
| Xylenes                       | ND            | ND | ND | ND | 0.005 | NA   |

### Surrogate Recoveries (%)

|       |     |     |     |     |
|-------|-----|-----|-----|-----|
| %SS1: | 105 | 103 | 102 | 102 |
| %SS2: | 103 | 104 | 104 | 104 |
| %SS3: | 102 | 103 | 103 | 102 |

Comments

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

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|  |   |                                  |
|--|---|----------------------------------|
| Consolidated Engineering Laboratories<br><br>2001 Crow Canyon Road, Suite 100<br><br>San Ramon, CA 94583 | Client Project ID: #81-01824-A;<br>Livermore Airport UST/Pipeline | Date Sampled: 04/03/07-04/04/07  |
|  | Client Contact: Chris Palmer                                      | Date Received: 04/04/07          |
|  | Client P.O.:  | Date Extracted: 04/04/07         |
|  |   | Date Analyzed: 04/05/07-04/06/07 |

**Oxygenates and BTEX by GC/MS\***

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704083

|           |                       |                 |                       |                 |                              |  |
|-----------|-----------------------|-----------------|-----------------------|-----------------|------------------------------|--|
| Lab ID    | 0704083-013A          | 0704083-016A    | 0704083-019A          | 0704083-021A    | Reporting Limit for<br>DF =1 |  |
| Client ID | B-7-6 @ 23.5-<br>24.0 | B-8-1 @ 3.5-4.0 | B-8-4 @ 15.5-<br>16.0 | B-8-6 @ 23.5-24 |                              |  |
| Matrix    | S                     | S               | S                     | S               |                              |  |
| DF        | 1                     | 1               | 1                     | 1               |                              |  |

| Compound                      | Concentration |    |    |    | mg/kg | ug/L |
|-------------------------------|---------------|----|----|----|-------|------|
| tert-Amyl methyl ether (TAME) | ND            | ND | ND | ND | 0.005 | NA   |
| Benzene                       | ND            | ND | ND | ND | 0.005 | NA   |
| t-Butyl alcohol (TBA)         | ND            | ND | ND | ND | 0.05  | NA   |
| 1,2-Dichloroethane (1,2-DCA)  | ND            | ND | ND | ND | 0.005 | NA   |
| Diisopropyl ether (DIPE)      | ND            | ND | ND | ND | 0.005 | NA   |
| Ethanol                       | ND            | ND | ND | ND | 0.25  | NA   |
| Ethylbenzene                  | ND            | ND | ND | ND | 0.005 | NA   |
| Ethyl tert-butyl ether (ETBE) | ND            | ND | ND | ND | 0.005 | NA   |
| Methanol                      | ND            | ND | ND | ND | 2.5   | NA   |
| Methyl-t-butyl ether (MTBE)   | ND            | ND | ND | ND | 0.005 | NA   |
| Toluene                       | ND            | ND | ND | ND | 0.005 | NA   |
| Xylenes                       | ND            | ND | ND | ND | 0.005 | NA   |

**Surrogate Recoveries (%)**

|          |     |     |     |     |  |
|----------|-----|-----|-----|-----|--|
| %SS1:    | 102 | 102 | 100 | 97  |  |
| %SS2:    | 104 | 104 | 104 | 107 |  |
| %SS3:    | 103 | 103 | 102 | 104 |  |
| Comments |     |     |     |     |  |

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



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|  |   |                                  |
|--|---|----------------------------------|
| Consolidated Engineering Laboratories<br><br>2001 Crow Canyon Road, Suite 100<br><br>San Ramon, CA 94583 | Client Project ID: #81-01824-A;<br>Livermore Airport UST/Pipeline | Date Sampled: 04/03/07-04/04/07  |
|  | Client Contact: Chris Palmer                                      | Date Received: 04/04/07          |
|  | Client P.O.:  | Date Extracted: 04/04/07         |
|  |   | Date Analyzed: 04/05/07-04/06/07 |

### Oxygenates and BTEX by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704083

|           |                 |                   |                 |                  |                              |  |
|-----------|-----------------|-------------------|-----------------|------------------|------------------------------|--|
| Lab ID    | 0704083-023A    | 0704083-026A      | 0704083-028A    | 0704083-030A     | Reporting Limit for<br>DF =1 |  |
| Client ID | B-9-1 @ 3.5-4.0 | B-9-4 @ 15.5-16.0 | B-9-6 @ 23.5-24 | B-10-1 @ 3.5-4.0 |                              |  |
| Matrix    | S               | S                 | S               | S                |                              |  |
| DF        | 1               | 1                 | 1               | 1                |                              |  |

| Compound                      | Concentration |    |    |    | mg/kg | ug/L |
|-------------------------------|---------------|----|----|----|-------|------|
| tert-Amyl methyl ether (TAME) | ND            | ND | ND | ND | 0.005 | NA   |
| Benzene                       | ND            | ND | ND | ND | 0.005 | NA   |
| t-Butyl alcohol (TBA)         | ND            | ND | ND | ND | 0.05  | NA   |
| 1,2-Dichloroethane (1,2-DCA)  | ND            | ND | ND | ND | 0.005 | NA   |
| Diisopropyl ether (DIPE)      | ND            | ND | ND | ND | 0.005 | NA   |
| Ethanol                       | ND            | ND | ND | ND | 0.25  | NA   |
| Ethylbenzene                  | ND            | ND | ND | ND | 0.005 | NA   |
| Ethyl tert-butyl ether (ETBE) | ND            | ND | ND | ND | 0.005 | NA   |
| Methanol                      | ND            | ND | ND | ND | 2.5   | NA   |
| Methyl-t-butyl ether (MTBE)   | ND            | ND | ND | ND | 0.005 | NA   |
| Toluene                       | ND            | ND | ND | ND | 0.005 | NA   |
| Xylenes                       | ND            | ND | ND | ND | 0.005 | NA   |

### Surrogate Recoveries (%)

|       |     |     |     |     |
|-------|-----|-----|-----|-----|
| %SS1: | 97  | 95  | 93  | 96  |
| %SS2: | 105 | 106 | 104 | 104 |
| %SS3: | 103 | 101 | 102 | 102 |

Comments

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.





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|  |   |                                  |
|--|---|----------------------------------|
| Consolidated Engineering Laboratories<br><br>2001 Crow Canyon Road, Suite 100<br><br>San Ramon, CA 94583 | Client Project ID: #81-01824-A;<br>Livermore Airport UST/Pipeline | Date Sampled: 04/03/07-04/04/07  |
|  | Client Contact: Chris Palmer                                      | Date Received: 04/04/07          |
|  | Client P.O.:  | Date Extracted: 04/04/07         |
|  |   | Date Analyzed: 04/05/07-04/06/07 |

### Oxygenates and BTEX by GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0704083

|           |                  |                  |  |  |                              |
|-----------|------------------|------------------|--|--|------------------------------|
| Lab ID    | 0704083-033A     | 0704083-035A     |  |  | Reporting Limit for<br>DF =1 |
| Client ID | B-10-4 @ 15.5-16 | B-10-6 @ 23.5-24 |  |  |                              |
| Matrix    | S                | S                |  |  |                              |
| DF        | 1                | 1                |  |  |                              |

| Compound                      | Concentration                 |    |    | mg/kg | ug/L  |
|-------------------------------|-------------------------------|----|----|-------|-------|
|                               | tert-Amyl methyl ether (TAME) | ND | ND |       | 0.005 |
| Benzene                       | ND                            | ND |    | 0.005 | NA    |
| t-Butyl alcohol (TBA)         | ND                            | ND |    | 0.05  | NA    |
| 1,2-Dichloroethane (1,2-DCA)  | ND                            | ND |    | 0.005 | NA    |
| Diisopropyl ether (DIPE)      | ND                            | ND |    | 0.005 | NA    |
| Ethanol                       | ND                            | ND |    | 0.25  | NA    |
| Ethylbenzene                  | ND                            | ND |    | 0.005 | NA    |
| Ethyl tert-butyl ether (ETBE) | ND                            | ND |    | 0.005 | NA    |
| Methanol                      | ND                            | ND |    | 2.5   | NA    |
| Methyl-t-butyl ether (MTBE)   | ND                            | ND |    | 0.005 | NA    |
| Toluene                       | ND                            | ND |    | 0.005 | NA    |
| Xylenes                       | ND                            | ND |    | 0.005 | NA    |

### Surrogate Recoveries (%)

|          |     |     |  |  |
|----------|-----|-----|--|--|
| %SS1:    | 95  | 94  |  |  |
| %SS2:    | 104 | 103 |  |  |
| %SS3:    | 104 | 102 |  |  |
| Comments |     |     |  |  |

\* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.



**QC SUMMARY REPORT FOR SW8260B**

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0704083

| EPA Method SW8260B            | Extraction SW5030B |        |        | BatchID: 27401 |       |        |        |       | Spiked Sample ID: 0704242-006B |                         |          |     |
|-------------------------------|--------------------|--------|--------|----------------|-------|--------|--------|-------|--------------------------------|-------------------------|----------|-----|
|                               | Analyte            | Sample | Spiked | MS             | MSD   | MS-MSD | LCS    | LCSD  | LCS-LCSD                       | Acceptance Criteria (%) |          |     |
|                               | µg/L               | µg/L   | % Rec. | % Rec.         | % RPD | % Rec. | % Rec. | % RPD | MS / MSD                       | RPD                     | LCS/LCSD | RPD |
| tert-Amyl methyl ether (TAME) | ND                 | 10     | 97.8   | 96.8           | 1.06  | 94.2   | 94.9   | 0.786 | 70 - 130                       | 30                      | 70 - 130 | 30  |
| t-Butyl alcohol (TBA)         | ND                 | 50     | 89     | 85.8           | 3.61  | 88.8   | 90.2   | 1.64  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| 1,2-Dibromoethane (EDB)       | ND                 | 10     | 87.6   | 87.4           | 0.254 | 88.2   | 88     | 0.189 | 70 - 130                       | 30                      | 70 - 130 | 30  |
| 1,2-Dichloroethane (1,2-DCA)  | ND                 | 10     | 105    | 105            | 0     | 102    | 102    | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Diisopropyl ether (DIPE)      | ND                 | 10     | 114    | 112            | 1.51  | 110    | 110    | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Ethanol                       | ND                 | 500    | 95.6   | 92.5           | 2.99  | 92.4   | 99.1   | 6.49  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Ethyl tert-butyl ether (ETBE) | ND                 | 10     | 105    | 104            | 0.490 | 101    | 101    | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Methanol                      | ND                 | 2500   | 101    | 100            | 0.792 | 101    | 100    | 0.435 | 70 - 130                       | 30                      | 70 - 130 | 30  |
| Methyl-t-butyl ether (MTBE)   | ND                 | 10     | 103    | 103            | 0     | 99.7   | 101    | 1.08  | 70 - 130                       | 30                      | 70 - 130 | 30  |
| %SS1:                         | 104                | 10     | 95     | 94             | 1.14  | 94     | 94     | 0     | 70 - 130                       | 30                      | 70 - 130 | 30  |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:  
NONE

**BATCH 27401 SUMMARY**

| Sample ID    | Date Sampled     | Date Extracted | Date Analyzed     | Sample ID    | Date Sampled     | Date Extracted | Date Analyzed     |
|--------------|------------------|----------------|-------------------|--------------|------------------|----------------|-------------------|
| 0704083-009C | 04/03/07 4:25 PM | 04/13/07       | 04/13/07 9:25 AM  | 0704083-015C | 04/03/07 6:45 PM | 04/13/07       | 04/13/07 10:13 AM |
| 0704083-022C | 04/04/07 1:10 PM | 04/13/07       | 04/13/07 12:10 PM | 0704083-029C | 04/04/07 2:25 PM | 04/13/07       | 04/13/07 12:55 PM |
| 0704083-036C | 04/04/07 2:00 PM | 04/13/07       | 04/13/07 1:40 PM  |              |                  |                |                   |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 \* (MS-Sample) / (Amount Spiked); RPD = 100 \* (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

## **APPENDIX D**

### **2000-foot Radius Well Search Information**

## LIVERMORE AIRPORT

## WELL 2000 FOOT RADIUS WELL SEARCH

## DWR Well Data

| Map Number | Owner well no.                         | Date Installed/completed | State Well No/Location | CA DWR No. | Well Depth (ft) | Well dia. (in) |
|------------|--|--------------------------|------------------------|------------|-----------------|----------------|
|            | <b>State DWR Log Inform.</b>           |                          |                        |            |                 |                |
| 1          | L. Lupton, Livermore                   | July, 1951(?)            | T3S R1E 1G2            | 01-810     | 208             | 12             |
| 2          | L. Lupton, Livermore                   | July, 1951(?)            | T3S R1E 1G2            | 01-810     | 208             | 12             |
| 3          | Unreadable                             | Unreadable               | T3S R1E 1Q             | 01-981     | Unreadable      | Unreadable     |
| 4          | Ala. Cnty. Flood Zone 7                | 11/6/1980                | T3S R1E 1R2            | O62569     | 54              | 12?            |
| 5          | Ala. Cnty. Flood Zone 7                | 9/10/1980                | T3S R1E 1R1            | 107392     | 32              | Not stated     |
| 6          | Ala. Cnty. Flood Zone 7                | Oct. 1977                | T3S R1E 1H3            | 107417A    | 80              | 2.5            |
| 7          | Ala. Cnty. Flood Zone 7                | Nov. 1975                | T3S R1E 1P2            | 107417B    | 50              | 2.5            |
| 8          | John Moniz                             | 7/1/1969                 | T3S R1E south 1/2?     | 13398      | 333             | 12 3/4         |
| 9          | Ala. Cnty. Flood Zone 7                | Nov. 1975                | T3S R1E 1R1            | 253974     | 37              | 2.5            |
| 10         | City of Livermore                      | 7/28/1988                | T3S R1E 1P3            | 259569     | 480             | 12             |
| 11         | Lawrence Lupton                        | 16 Sep., 1950            | T3S R1E 1G2            | 261447     | 208             | 12             |
| 12         | John Moniz                             | Dec, 1998                | T3S R1E 1N2            | 510075     | 440             | 18             |
| 13         | EdwinHagemann                          | 25-Sep-54                | T3S R1E 1P1            | 530        | 297             | 10             |
| 14         | City of Livermore                      | March, 1998              | T3S R1E 1N1            | 701237     | 519             | 15             |
| 15         | Shea                                   | March, 2001?             | T3S R1E 1J2            | 742177     | 31              | Not stated     |
| 16         | TKG International                      | 14-Apr-00                | T3S R1E 1J3            | 773838     | 700             | 16             |
| 17         | August Hagemann                        | July, 1950               | T3S R1E 12C1           | #01-3039   | 268             | 12             |
| 18         | August Hagemann                        | Unknown                  | T3S R1E 12D1           | # 01-3040  | 120             | 8              |
| 19         | EdwinHagemann                          | Unknown                  | T3S R1E 12E1           | #01-0341   | 276             | 12             |
| 20         | EdwinHagemann                          | Aug. 1949                | T3S R1E 12F1           | #01-3042   | 240             | 14             |
| 21         | Livermore Sewage                       | Oct. 1959                | T3S R1E 12H1           | #01-3043   | 212             | 8              |
| 22         | City of Livermore                      | Apr. 1986                | T3S R1E 12B1           | 150996     | 170             | Not stated     |
|            | <b>Zone 7 Water Agency Information</b> |                          |                        |            |                 |                |
| 23         | Hagemann                               | 1975                     | T3S R1E 12C2           | Not Stated | 136             | 10             |
| 24         | Zone 7 Water Agency                    | Nov. 1975                | T3S R1E 12D2           | 261450F    | 46              | 2.5            |
| 25         | City of Livermore?                     | Unknown                  | T3S R1E 12C3           | Not Stated | 522             | Not Stated     |
| 26         | Zone 7 Water Agency                    | 12/19/2000               | T3S R1E 1L1            | Not Stated | 70              | 2              |
| 27         | City of Livermore                      | May, 2002                | T3S R1E 12E2           | # 03-3112  | 41.5            | 2              |
| 28         | City of Livermore                      | May, 2002                | T3S R1E 12E3           | # 01-3113  | 41.5            | 1              |

Sources: State Dept. of Water Resources, Sacramento, CA; Zone 7 Water Agency, Livermore, CA.

Current status of reported wells not verified in all cases.

See report Figure 5 for locations of wells corresponding to numbers 1 through 28 listed.

| Screened Intervals (ft)                 | Slot Size/Type (in) | Depth To Water (ft) | Yield gpm           | Stated Use   | Santiary/surface seal (ft) |
|---|---------------------|---------------------|---------------------|--------------|----------------------------|
| Not stated                              | Not stated          | Not Stated          | Not Stated          | Irrigation   | Not Stated                 |
| Not stated                              | Not stated          | Not Stated          | Not Stated          | Irrigation   | Not Stated                 |
| Unreadable                              | Unreadable          | Unreadable          | Unreadable          | Unreadable   | Unreadable                 |
| 49-54                                   | 1/8"                | 19 at completion    | Not Stated          | Monitoring   | Cement grout 0-10          |
| Not stated                              | Not stated          | 15.9                | Air pumped 3 min.   | Destruction  | Cement grout 0-32'         |
| 70-75                                   | Not stated          | 64                  | Not Stated          | Monitoring   | Cement 0-64'               |
| 40-45                                   | Not stated          | 39                  | Not Stated          | Monitoring   | Cement 0-11'               |
| 154-201; 283-290; 309-333               | slots 160x2.5"      | Not Stated          | Not Stated          | Domestic     | Not Stated                 |
| 22-27                                   | 0.04                | 19 at completion    | Not Stated          | Monitoring   | Concrete 0-20'             |
| 245-265;280-300;360-400;440-460         | 0.045               | 135 at completion   | 500 gpm after 12 hr | Municipal    | 0-110' conductor cemented  |
| 158?-166?                               | 1/8x4               | 70 at completion    | 12 gpm              | Irrigation   | Yes, no interval given     |
| 380-420                                 | 3/16"x4             | 104                 | 175 gpm             | Recharge     | Cement 0-220'              |
| 212-240                                 | Cut into casing     | 104                 | Not Stated          | Irrigation   | Not Stated                 |
| 374-424                                 | 0.05                | 104 at completion   | 380 gpm at 8 hr     | Monitoring   | 0-220'                     |
| Not stated                              | Not stated          | Not Stated          | Not Stated          | Destruction  | 0-31'                      |
| 270-290                                 | 0.032               | 7                   | 500 after 3 hr      | Irrigation   | 0-57'                      |
| 133-158; 213-217; 248-259               | "perforated"        | 121                 | Not Stated          | Irrigation?  | Not Stated                 |
| 84-86; 104-109                          | "perforated"        | Not Stated          | Not Stated          | Water supply | Not Stated                 |
| 200-219; 231-234; 239-267               | "perforated"        | 66                  | Not Stated          | Irrigation?  | Not Stated                 |
| 115-118;126-132;145-165;193-199;226-234 | Not stated          | 122                 | Not Stated          | Irrigation?  | Not Stated                 |
| 94-120; 157-172                         | 75 perf.; 42 perf.  | 103                 | 185 after 8 hr      | Not Stated   | Not Stated                 |
| 80-90'; 2-12'                           | Not stated          | 60                  | Not Stated          | Irrigation?  | Not Stated                 |
| Not Stated                              | Not Stated          | Not Stated          | Not Stated          | Water supply | Not Stated                 |
| 36-41'                                  | Not Stated          | 34 a completion     | Not Stated          | Monitoring   | Not Stated                 |
| Unknown                                 | Not Stated          | Not Stated          | Not Stated          | Not Stated   | Not Stated                 |
| 60-70'?                                 | Not Stated          | Not Stated          | Not Stated          | Monitoring   | Not Stated                 |
| 15-40'                                  | 0.02                | 39 at completion    | Not Stated          | Monitoring   | 0-10'                      |
| 25-41'                                  | 0.02                | Not Stated          | Not Stated          | Monitoring   | 0-22'                      |

**Current Status**

Unknown

Unknown

Unreadable

Unknown

Destroyed

Unknown

Unknown

Unknown

Unknown

Inactive

Unknown

Assumed Active

Unknown

Assumed Active

Destroyed

Assumed Active

Destroyed

Destroyed

Unknown

Unknown

Assumed Active

Destroyed

Destroyed

Assumed Active

Unknown or cathodic?

Assumed Active

Assumed Active

Assumed Active