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UNDERGROUND FUEL STORAGE TANK-RELATED CORRECTIVE ACTION REPORT

2836 UNION STREET
OAKLAND, CALIFORNIA

Prepared for:

THE ESTATE OF LAWRENCE WADLER
2525 MANDELA PARKWAY
OAKLAND, CA 94607

December 2007

STELLAR
ENVIRONMENTAL SOLUTIONS, INC.
GEOSCIENCE & ENGINEERING CONSULTING

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Prepared by:

STELLAR ENVIRONMENTAL SOLUTIONS, INC.
2198 SIXTH STREET, SUITE 201
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December 31, 2007

STELLAR
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December 31, 2007

Mr. Barney Chan, Hazardous Materials Specialist
Alameda County Environmental Health Care Services Agency
Department of Environmental Health – Local Oversight Program
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Subject: Underground Fuel Storage Tank-Related Corrective Action Report
2836 Union Street, Oakland, California – RO #2905

Dear Mr. Chan:

On behalf of the property owner and "Responsible Party" (the Estate of Lawrence Wadler), Stellar Environmental Solutions, Inc. (SES) is submitting this Corrective Action Report relating to petroleum contamination from a former underground fuel storage tank. The work was conducted as outlined in the workplan, dated August 31, 2007, submitted to Alameda County Environmental Health (ACEH). This work follows site characterization activities (in August and October 2005 and April 2006); a previous corrective action report in December 2006; and groundwater monitoring well installation and monitoring activities (in December 2006, January 2007, May 2007, July 2007, and December 2007). The reports of those activities were provided to ACEH (in either hard copy or electronic upload to the ftp system) and to the State Water Resources Control Board's GeoTracker system.

The corrective action, which was effective in removing the residual contaminated soil that was formerly inaccessible due to its location beneath the building footprint, included purging contaminated groundwater and applying ORC Advanced™ product to the open excavation. In our professional opinion, continued quarterly groundwater monitoring is the appropriate action to further evaluate the magnitude and stability of the contaminant plume over time, and to determine whether additional corrective action might be warranted and if site closure criteria can be met.

We declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report are true and correct to the best of my knowledge. If you have any questions regarding this report, please contact us at (510) 644-3123.

Sincerely,

Henry Pietropaoli, R.G., R.E.A.
Project Manager

Richard S. Makdisi, R.G., R.E.A.
Principal

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EXECUTIVE SUMMARY

SUMMARY AND FINDINGS

This work follows site characterization activities in August 2005, October 2005, and April 2006; a previous corrective action report in December 2006; and groundwater monitoring well installation and monitoring activities in December 2006, January 2007, May 2007, July 2007, and December 2007.

In the late 1970s, a 10,000-gallon gasoline underground fuel storage tank (UFST) was installed on the property at 2836 Union Street in Oakland, California. The UFST operated under Alameda County Environmental Health (ACEH) permit (No. STID 4065) until its removal in 1998. Site soil and groundwater have been contaminated by gasoline and associated aromatic hydrocarbons. Soil analytical results show that soil contamination began at a depth of approximately 5 to 7 feet, and did not extend deeper than approximately 11 feet.

The current corrective action was effective in removing residual contaminated soil located beneath the building footprint. The former garage area of the subject property building was demolished in October 2007 to allow for removal of this residual contaminated soil.

During this investigation, 212.6 tons of contaminated soil was removed from beneath the former garage building footprint. The resultant excavation comprised an approximately 300-square foot area. In the previous corrective action (December 2006) approximately 397.6 tons of contaminated soil was removed; thus, a total of 610.2 tons of contaminated soil has been excavated and removed from the site. During the current event, 4,550 gallons of contaminated groundwater was removed prior to excavation activities from the stationary dewatering point approximately 10 feet north of the excavation area. Post-pumping groundwater sample analytical results from the dewatering point show that a significant mass was removed by excavation dewatering.

Oxygen release compound (ORC Advanced™), was applied during backfilling of the excavation in three lifts at depths of approximately 8 to 10 feet below ground surface (bgs). The ORC Advanced™ product will continue to break down petroleum compounds and associated daughter products for up to 2 years. Continued quarterly groundwater monitoring of upgradient and downgradient wells will ultimately determine the level of breakdown accomplished.

Groundwater in the immediate vicinity of the former UFST occurs at a depth of less than 10 feet, and appears under at least semi-confining conditions, rising from approximately 20 feet bgs to as high as 6 feet below grade, such that groundwater is in contact with residual contaminated soil. The groundwater contaminant plume has not been fully delineated, but appears to have an elliptical configuration, with the long axis trending east to west-northwest. The extent of the contaminant groundwater plume is determined by the mass of residual soil contamination, hydrogeologic characteristics, and the ability of natural degradation mechanisms to reduce contaminant mass.

While this corrective action removed the majority of the remaining residual hydrocarbon contaminant mass, shallow groundwater will likely continue to be impacted by any remaining residual soil contamination by adsorption from soil into groundwater. However, it should result in significant reduction in the hydrocarbon dissolved fraction concentrations. Groundwater contamination will continue to migrate downgradient from the source area, primarily by advection. The dissolved-phase hydrocarbon contamination in the groundwater does not appear to be adsorbing onto downgradient soils.

In our professional opinion, the majority of the residual contamination has been removed in soil; however, quarterly groundwater monitoring is the appropriate action to further evaluate the magnitude and stability of the contaminant plume over time, and to determine whether site closure criteria can be met.

RECOMMENDATIONS

- After this report is submitted to ACEH, the property owner should follow up with ACEH to discuss the requirements for moving move the site toward regulatory closure. In addition, all future technical reports should be provided to the appropriate regulatory agencies: ACEH (via electronic upload to the ftp system) and the State Water Resources Control Board (via its online GeoTracker system).
- Quarterly groundwater monitoring should be continued to evaluate the effectiveness of the corrective remedy.

1.0 INTRODUCTION

PROJECT DESCRIPTION

Stellar Environmental Solutions, Inc. (SES) was contracted by Mrs. Elana Aabas, successor trustee of the Lawrence Wadler trust (property owner) to conduct corrective actions related to soil and groundwater contamination at 2836 Union Street in Oakland, California. This work follows site characterization activities in August 2005, October 2005, and April 2006; a previous corrective action report in December 2006; and groundwater monitoring well installation and monitoring activities in December 2006, January 2007, May 2007, July 2007 and December 2007.

Figure 1 shows the site location. Figure 2 is a site plan showing the locations of the borings, monitoring wells, and corrective action excavations for this and previous investigations. Appendix A contains photographic documentation of investigation activities. Appendix F contains analytical data from the soil excavation and extracted groundwater.

SUBJECT PROPERTY DESCRIPTION AND HISTORY

The approximately 7,200-square foot rectangular subject property is developed with one approximately 625-square foot two-story building (previously a 1,500-square foot two-story building with garage). A narrow driveway borders the building to the north, and the rear of the property is undeveloped (paved). Adjacent uses include:

- A residence (to the north);
- A paved parking area (to the east);
- A residence (to the south); and
- A sidewalk, then Union Street, then an auto body repair facility (to the west).

The property operated as an express courier facility (Modern Mail Services, Inc.) between 1951 and 2003. An underground fuel storage tank (UFST) had been operating on the property under a current Alameda County Environmental Health (ACEH) permit (No. STID 4065) until it was removed in 1998. The tank closure report was submitted to the Oakland Fire Department (Golden Gate Tank Removal, 1998).

1000 ft Scale: 1 : 43,750 Detail: 12-2 Datum: WGS84

N

SITE LOCATION ON U.S.G.S. TOPOGRAPHIC MAP

2836 Union Street
Oakland, CA

By: MJC | NOVEMBER 2005

Figure 1

STELLAR ENVIRONMENTAL SOLUTIONS, INC
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2005-65-01

November 2005 Initial Site Characterization

The November 2005 investigation included the advancing of four exploratory boreholes and the collection of soil and grab-groundwater samples for laboratory analysis. It was determined that gasoline and related aromatic hydrocarbons were present at elevated levels in both soil and groundwater; soil contamination apparently was limited to the area near the former dispenser. The investigation was summarized in a technical report (SES, 2005b) and, based on the findings, SES recommended that a corrective action investigation be conducted; this was proposed in our December 22, 2005 technical workplan (SES, 2005c).

April 2006 Characterization

The April 2006 investigation involved the advancing of nine exploratory boreholes and the collection of soil and grab-groundwater samples for analysis to determine the areal and vertical extent of both soil and groundwater contamination. Site data indicated the presence of petroleum hydrocarbons in soil and groundwater that warranted groundwater monitoring well installation and quarterly monitoring. It was also determined that it would be both cost-effective and feasible to remove the remaining (accessible) contaminated soils by excavation, as an interim corrective action. The investigation is summarized in a technical report (SES, 2006b).

September 2006 Monitoring Well Installation and Groundwater Monitoring

On September 25 and 26, 2006, Resonance Sonic International (CA C-57 License #802334), under the direction of SES, installed ten groundwater monitoring wells. The wells were designed as five "nested well pairs" to monitor the apparent shallow and deeper water-bearing zones to differentiate vertical contaminate zones in groundwater. The shallow well of each nested pair extended approximately 13 feet below ground surface (bgs), and the deeper well was placed at approximately 25 feet bgs. Additionally, one boring (BH-14) was advanced on the southern side of the property to define to the southern lateral extent of lithologic units and the contaminant plume. On October 30, 2006, Virgil Chavez Land Surveying, under contract to SES, completed the well elevation survey to State Water Resources Control Board's (State Water Board's) GeoTracker standards. Since the 2006 installation, five monitoring events (October 2006, January 2007, May 2007, July 2007, and December 2007) have occurred at the subject property. The data from the current event showed a dissolved plume of total petroleum hydrocarbons as gasoline (TPHg) that originated from the former UFST excavation and extended in an elliptical configuration westward across the western portion of the property and then offsite to the west under Union Street. The plume appeared to be, at a minimum, 60 feet long by 100 feet wide. The investigation and first groundwater monitoring event is summarized in a technical report (SES, 2006c). The four subsequent groundwater monitoring events in 2007 are

summarized in quarterly groundwater monitoring reports (SES, 2007a; SES, 2007b; SES, 2007c; and SES, 2007d).

October 2006 Corrective Action

During this investigation, 397.6 tons of contaminated soil was removed from the vicinity of the former UFST and disposed of at a permitted non-hazardous landfill. The resultant excavation comprised an approximately 900-square foot area. It was estimated at the time that 30 to 40 cubic yards of contaminated material, containing TPHg at an estimated 1,000+ milligrams per kilogram, still resided beneath the building on the site (the focus of the current corrective action). Thus, approximately 90 percent of the contaminated soil was remediated during this corrective action event. During the investigation, 900 gallons of contaminated groundwater was initially pumped from the open excavation and found to contain high levels of dissolved hydrocarbons. As a result of the high yield of contaminant mass capture, another 4,200 gallons of contaminated groundwater was pumped from the backfilled excavation via the temporary dewatering point, and sent to a non-hazardous wastewater recycling facility. Pre-pumping and post-pumping excavation groundwater sample analytical results show that significant mass was removed by excavation dewatering.

REGULATORY STATUS

ACEH has assigned the site to its fuel leak case system (RO#2901), and a case officer has been assigned. The case has been assigned No. T0600105641 in the State Water Board's GeoTracker system. Electronic uploads of required data/reports will be submitted to both the ACEH and State Water Board.

PURPOSE AND SCOPE OF THIS INVESTIGATION

The objectives of the current phase of work are:

1. Remove by excavation the residual contaminated soil mass that remains beneath the garage portion of the building footprint.
2. Collect confirmation excavation samples to document the extent of contaminant removal.
3. Inject an oxygen reducing compound into the excavation pit to accelerate petroleum hydrocarbon breakdown.
4. Pump groundwater from the excavation to remove contaminant mass in groundwater.

PROJECT PARTICIPANTS

The following personnel, firms, and regulatory agencies were involved in the work for this investigation:

- **Ms. Elana Wadler-Aabas, successor trustee of the Lawrence Wadler revocable trust** – Subject Property Owner
- **Stellar Environmental Solutions, Inc.** – Environmental consultant and prime contractor for the project
- **Alameda County Department of Environmental Health** – Regulatory oversight
- **Bay Area Air Quality Management District** – Notification in accordance with Regulation 8 Rule 40 as it pertains to contaminated soil excavation (Appendix B)
- **Speelman Excavation** (Ripon, CA) – (CA contractor's license No. 545726, with Hazardous Substances Removal Action Certification)
- **J.W. Riley & Son, Inc** – Asphalt contractor (SES subcontractor)
- **Allied Waste** – Landfill (contaminated soil profile package prepared by SES)
- **Curtis & Tompkins, Ltd.** (Berkeley, CA) – Environmental laboratory for soil and groundwater sample analyses, certified by the State of California Environmental Laboratory Accreditation Program (ELAP)
- **Delta TechService, Inc. –** (Martinez, CA) – Pick-up and delivery of temporary aboveground storage tank
- **Evergreen Environmental Services and Evergreen Oil, Inc.** (Newark, CA) (EPA Transporter ID No. CAD9820413262 and EPA disposal facility ID No. CAD980887418) – SES subcontractor responsible for transporting and disposing of purged contaminated groundwater
- **Osborne Concrete Coring** (Fremont, CA) – Responsible for sawing of concrete for monitoring well installation
- **Regenesis** (San Clemente, CA) – Supplier of ORC Advanced™, and provider of technical support and excavation application design software

2.0 PHYSICAL SETTING

TOPOGRAPHY AND DRAINAGE

The mean elevation of the property is approximately 18 feet above mean sea level (amsl), and the general topographic gradient in the site vicinity is slight and to the west-southwest (toward San Francisco Bay). The site itself has no discernible slope. The nearest downgradient (to the west) permanent surface water body is the Airport Channel of San Leandro Bay (which is connected to San Francisco Bay), approximately 2 miles west of the subject property. According to the commercially available database, the site is not located within a flood zone or wetland.

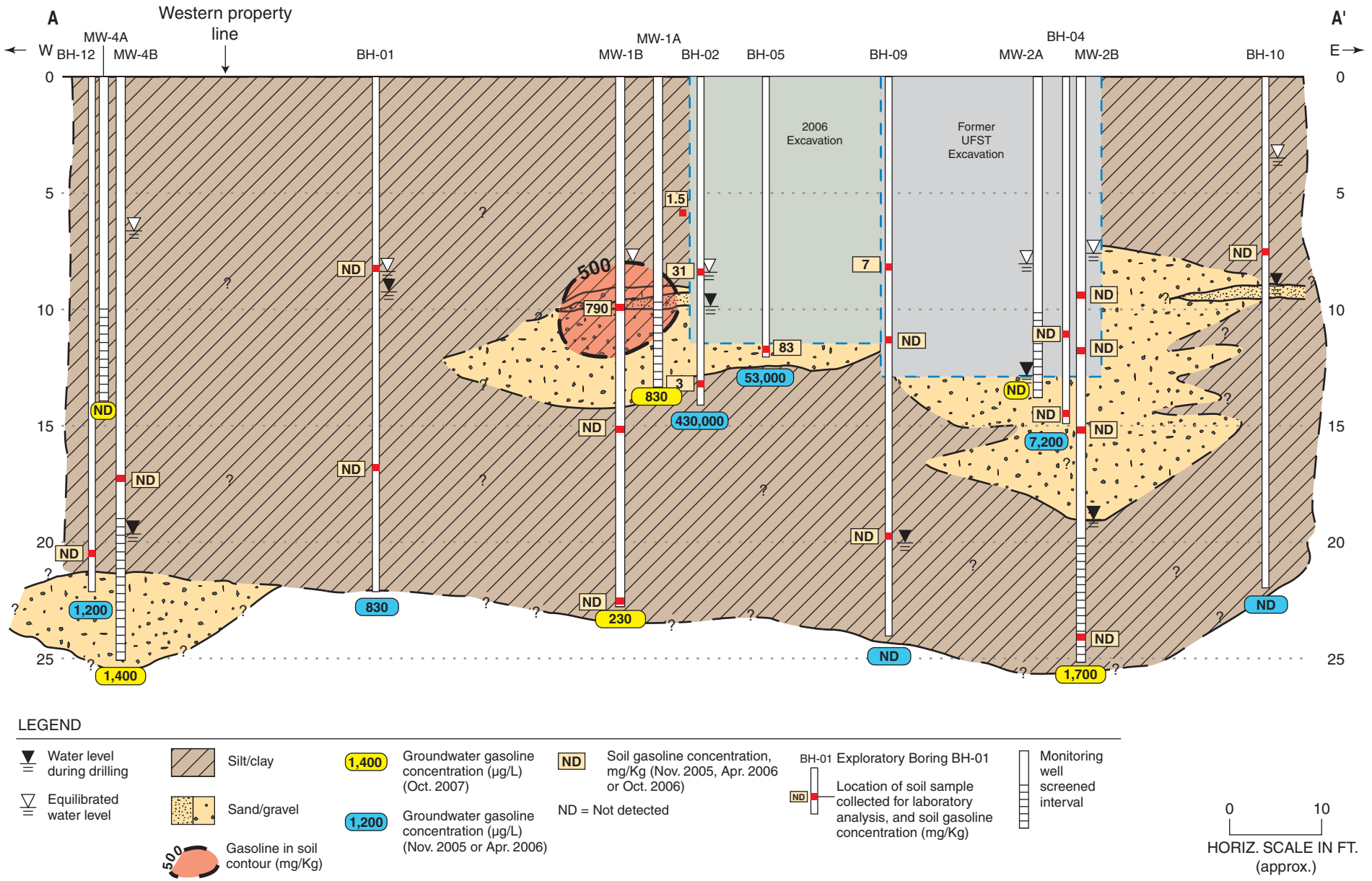
LITHOLOGY AND HYDROGEOLOGY

Shallow site lithology has been determined in this and previous investigations by the visual method of the Unified Soils Classification System (USCS) using continuous core soil samples.

Figures 3 and 4 depict geologic cross-sections of the site (approximately parallel to and perpendicular to the inferred groundwater flow direction), with borehole data projected into the cross-sections. The cross-sections incorporate data collected during this and prior investigations necessary to illustrate the contaminated soil and associated groundwater plume.

The predominant soil type encountered in this and previous investigations was silty clay that is generally firm and plastic. Several of the boreholes had no obvious sand or gravel units, although minor amounts of sand and gravel were occasionally present in the overall clay matrix, with the occurrence of groundwater coincident in units with higher sandy-gravel than clay content. Local heterogeneities in shallow lithology and groundwater levels are typical of the alluvial deposits in this area.

A shallow, thin, loosely consolidated sandy gravel lense encountered in previous investigations was observed at depths of approximately 6 to 9 feet bgs in the excavation, and appeared to pinch out toward the south but did not extend westward from the excavation. Within the excavation, this unit had a heavy fuel odor and obvious discoloration. This unit was previously encountered during advancement of BH-14 located about 8 feet south of the current excavation.



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GEOLOGIC CROSS SECTION A-A'

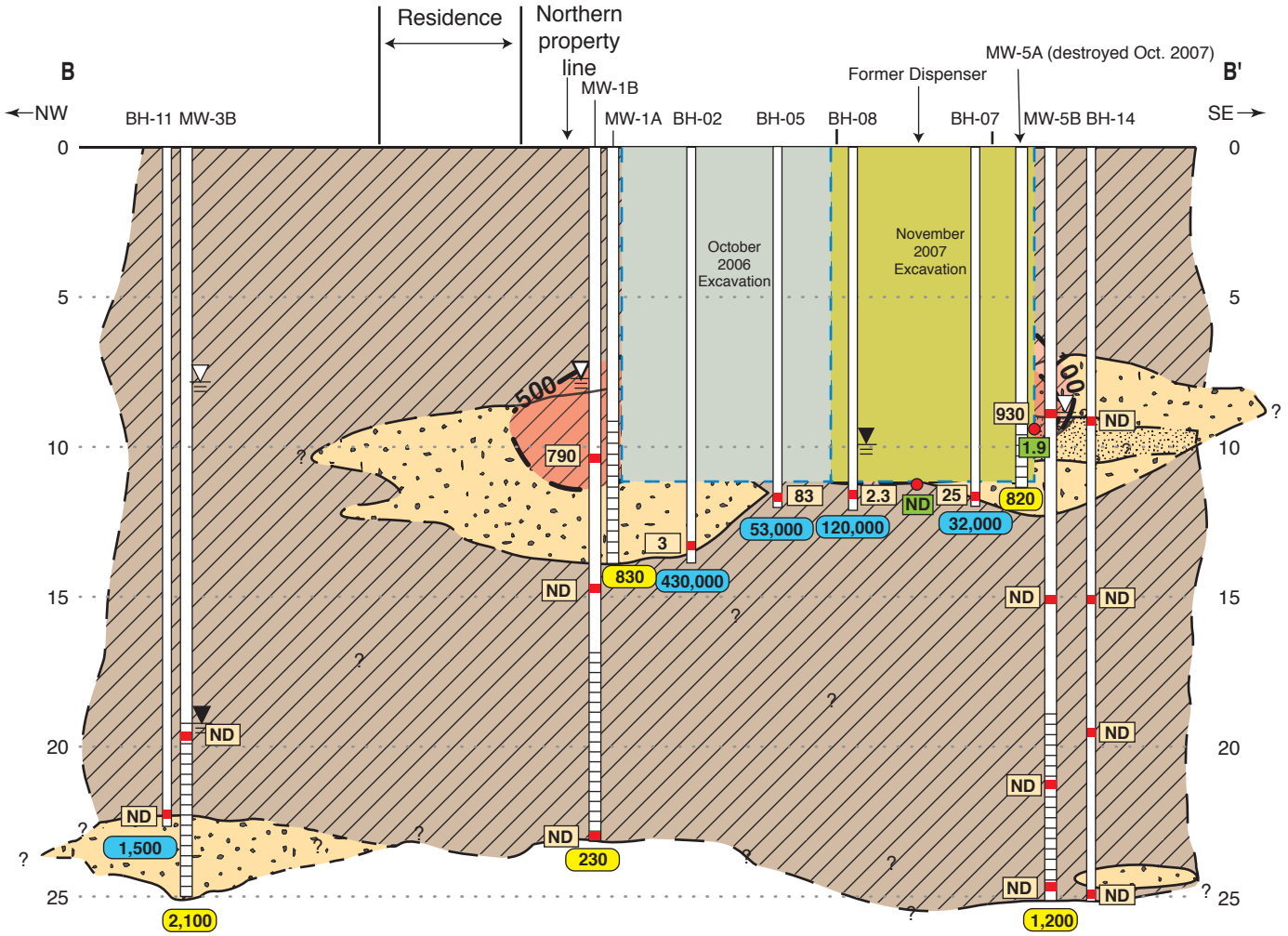
2836 Union Street, Oakland, CA

Figure 3

by: MJC

DECEMBER 2007

2005-65-61



LEGEND

- Water level during drilling
- Equilibrated water level
- Silt/clay
- Sand/gravel
- Gasoline in soil contour (mg/Kg)
- 2,100 — Groundwater gasoline concentration (µg/L) (Oct. 2007)
- 1,500 — Groundwater gasoline concentration (µg/L) (Nov. 2005 or Apr. 2006)
- ND — Soil gasoline concentration, mg/Kg (Nov. 2005, Apr. 2006 or Oct. 2006)
- ND = Not detected
- ND — Excavation confirmation soil sample mg/Kg (Oct. 2007)
- BH-01 — Previous exploratory boring BH-01
- ND — Location of soil sample collected for laboratory analysis, and soil gasoline concentration (mg/Kg)
- Monitoring well screened interval

Note: former dispenser is projected into section (approx. 7' from south)

0 10
HORIZ. SCALE IN FT. (approx.)

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GEOLOGIC CROSS SECTION B-B'

2836 Union Street, Oakland, CA

Figure 4

by: MJC | DECEMBER 2007

2005-65-60

Deeper boreholes drilled during previous investigations encountered silty-clayey-sandy gravel at depths of approximately 20 to 22 feet bgs, and groundwater quickly (within 5 minutes) rose to approximately 5 to 6 feet bgs in those boreholes, indicating confined or semi-confined conditions.

Groundwater monitoring has shown the groundwater in the immediate area ranges from 6 to 8 feet bgs; therefore, to prevent groundwater infiltration during this excavation activity, the area was dewatered via a temporary dewatering point located about 8 feet south of the current excavation that was placed in the backfill of the October 2006 excavation. As a result of dewatering, no significant quantities of groundwater infiltrated from the walls or upward from the excavation floor during the excavation activity.

Local groundwater flow direction is generally to the west (toward San Francisco Bay and following local topography) in this area of west Oakland.

3.0 NOVEMBER 2007 CONTAMINATED SOIL REMOVAL

This section summarizes the removal of the remaining residual hydrocarbon-contaminated soil associated with the former UFST located beneath the former garage area. The garage was removed by the property owners prior to this activity. Excavation activities were conducted during weekday hours from 8:00 a.m. to 5:00 p.m., as required by local ordinance to minimize disturbance to the surrounding neighborhood. Figure 2 (in Section 1.0) is a site plan showing the location of the former UFST and area of excavation. Figure 5 presents the excavation sampling locations with analytical results. The soil excavation sample analytical results are discussed in a subsequent section. Photographic documentation of the corrective action is presented in Appendix A.

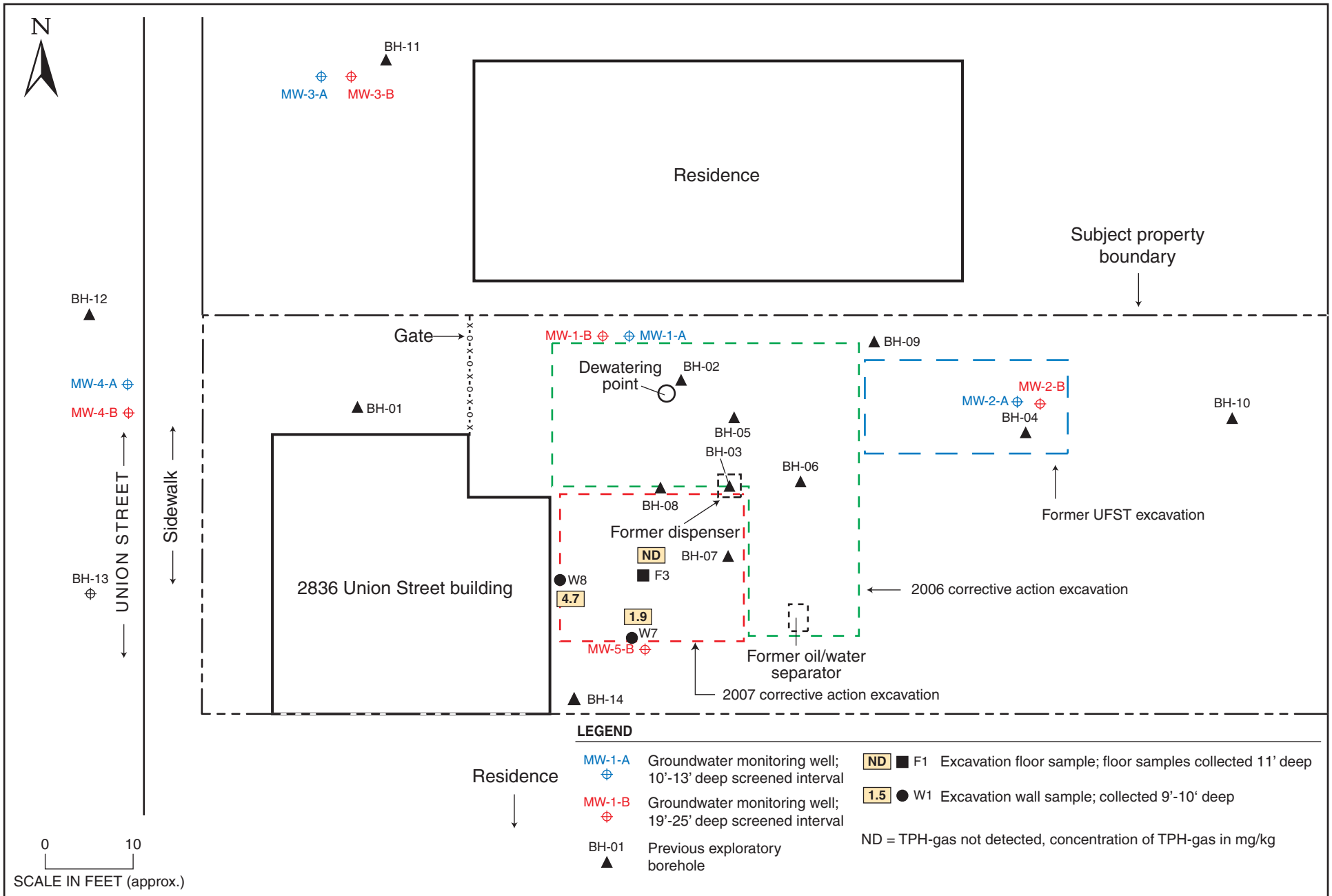
PRE-FIELD WORK PLANNING

Prior to excavation activities, SES conducted the following planning activities:

- Updated the site-specific Health and Safety Plan to include the November excavation activities;
- Notified Underground Service Alert to inform any potential underground utility providers to mark the location of their utilities;
- Notified the Bay Area Air Quality Management District (Regulation 8 Rule 40) of contaminated soil excavation (a copy of that notification is included in Appendix B); and
- Notified residents in surrounding properties.

CONTAMINATED SOIL EXCAVATION AND REMOVAL

Excavation activities began November 27, 2007 with the removal of overlying concrete. Soil removal was conducted with an excavator, and progressed from north to south to an average depth of 10.5 to 11.0 feet bgs. The final excavation measured 14 feet wide in the north-south dimension by 20 feet along the east-west dimension. The boundaries were defined by analytical results from previous boring investigations and the wall confirmation samples of the October 2006 excavation. Soil contamination encountered during the November 2007 excavation was



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EXCAVATION CONFIRMATION SOIL SAMPLE ANALYTICAL RESULTS

2836 Union Street, Oakland, CA

Figure 5

by: MJC | DECEMBER 2007

2005-65-62

easily identified by its odor, blue-green color, and (in some places) its correlation with a sandy gravelly lense (6 to 8 feet bgs). An exclusion zone around the excavation perimeter was created, and no Level 4 Health and Safety standards were exceeded.

Groundwater in the immediate area ranges from 6 to 8 feet bgs; therefore, to prevent groundwater infiltration during excavation activities, the area was dewatered via a temporary dewatering point located about 8 feet south of the current excavation in the backfill of the October 2006 excavation. As a result of dewatering, no significant quantities of groundwater infiltrated from the walls or upward from the excavation floor during the excavation activity.

GROUNDWATER MONITORING WELL MW-5A DESTRUCTION

Groundwater monitoring well MW-5A, formerly located in the center of the garage area, was destroyed during the excavation. This well was located in the center of the residual hydrocarbon contamination, and was excavated to approximately 6 feet below the base of the sanitary seal and entirely removed during excavation of the contaminated soil. Monitoring well MW-5B, the deeper screened complement of MW-5A (constructed under the same Alameda County Public Works Agency permit [No. W2006-0824] and located just south of the excavation) was not destroyed. The Department of Water Resources well destruction report is included in Appendix C.

EXCAVATION CONFIRMATION SOIL SAMPLING

Two excavation wall and one excavation floor confirmation samples were collected following the removal of contaminated soil (locations shown on Figure 5). These samples were collected with the teeth of the backhoe; a trowel was then used to collect an aliquot of soil from the backhoe bucket for subsequent analysis by the analytical laboratory. The following samples were collected:

- **W7 and W8 (both from 9 to 10 feet bgs**) from the south and west walls of the excavation from low-permeability clay. The east and south walls of the excavation were represented by wall samples from the previous October 2006 excavation and were used for the landfill disposal profile; however, because the current excavation terminated at backfill in the October 2006 excavation, no samples were collected from these walls.
- **Excavation floor sample** (F3) at 11 feet bgs. This represents the base of the excavation documenting the lower extent of contamination.

All samples were placed in glass jars with Teflon-lined lids, labeled, placed on ice, and submitted to the analytical laboratory under chain-of-custody.

PROFILING AND DISPOSAL OF STOCKPILED SOIL

A 4-point composite sample was collected from the previous soil stockpiles from the 2006 excavation event. The samples were analyzed for potential contaminants of concern (volatile and extractable-range hydrocarbons; benzene, toluene, ethylbenzene total xylenes [BTEX]; and total lead). On behalf of the property owner, we prepared and submitted to Allied Waste a waste profile package summarizing the analytical results. As permitted under the landfill protocol, the contaminated soil generated for disposal from the November 2007 excavation was profiled and submitted to the landfill utilizing the analytical results from the October 2006 excavation confirmation and monitoring well installation soil samples. This allowed for direct loading of contaminated soil from the excavation into dump trucks for immediate offsite disposal, and eliminated the need to stockpiling. A composite sample of excavated soil was collected throughout the excavation activity, the results of which are included in Table 1 (in Section 5.0). The landfill profile package is included in Appendix D.

On November 28 and 29, 2007, 212.6 tons of contaminated soil and soil and debris from previous investigations was transported offsite by Speelman Excavation and disposed of at Allied Waste's Keller Canyon Landfill in Pittsburg, California. Transport manifests of soil offsite removal are included in Appendix D.

GROUNDWATER PUMPING

On November 26 and 27, approximately 4,500 gallons of groundwater was pumped from a dewatering point that was installed in backfill during the September 2006 excavation (adjacent to and hydraulically connected to the current excavation). The pumped water was stored onsite in a closed 4,500-gallon plastic tank. A sample for disposal purposes was collected on November 26, 2007, prior to removal and recycling of the water by Evergreen Environmental Services on December 6, 2007.

The analytical results of the purged groundwater are discussed in Section 5. Appendix D contains offsite transport documentation. Appendix F contains the certified analytical laboratory reports for the excavation groundwater and wastewater profiling and the chain-of-custody records.

ESTIMATED CONTAMINANT MASS REMOVAL

Contamination Removed During Soil Excavation

During this investigation, 212.6 tons (109 in-bank cubic yards) of contaminated soil was removed from beneath the former garage building footprint. The resultant excavation comprised an approximately 2,500 cubic foot volume. The average TPHg concentration was approximately

840 milligrams per kilogram (mg/kg) based on the excavated soil composite sample. Based on estimates of soil porosity and dry weight this represents approximately 234.2 pounds of TPHg contamination that was removed.

Contamination Removed During Dewatering

A total of 4,550 gallons of TPHg- and BTEX-impacted groundwater was removed from the site, with an average concentration of 3,300 micrograms per liter (µg/L). This represents approximately 0.11 pounds of gasoline product removed.

BACKFILLING AND SITE RESTORATION

Backfilling was conducted on November 29, 2007. ORC Advanced™ product was applied during backfilling to a depth of 8 feet bgs (discussed in Section 4.0). Drain rock (59.93 tons) was placed in the base of the excavation to a height approximately 5 to 6 feet below grade (to bridge infiltrating groundwater). The remainder of the excavation was backfilled with 146.11 tons of Class 2A/B clean imported fill having a predominant silt/clay-size and relatively low permeability to a depth of 3 inches bgs. The excavation was backfilled in approximately 1-foot lifts, and each lift was compacted with a whacker-type compacter mounted on the excavator. The excavation was resurfaced to existing grade with asphalt by J.W. Riley & Son, Inc. on December 7, 2007.

4.0 ORC ADVANCED™ PRODUCT INOCULATION OF EXCAVATION AREA

The oxygen releasing compound ORC Advanced™ was selected to inoculate the groundwater in the area of the excavation, immediately following the excavation. This passive remedial technique creates a highly oxygenated zone in the areas where natural attenuation is limited by oxygen availability. Appendix E contains the material safety data sheet for ORC Advanced™.

On November 27, 2007, ORC Advanced™ was applied to the open excavation. A total of 375 pounds of product was applied to the excavation in three separate lifts—each containing 125 pounds of ORC Advanced™ mixed with 35 gallons of water. (ORC Advanced™ develops a toothpaste-like consistency when mixed with water.) The first application was placed on the bottom of the excavation and mixed using the excavator bucket. Drainrock was emplaced in the base of the excavation to a height of approximately 9 feet below grade (sufficient to bridge any infiltrating groundwater and water added with ORC Advanced™, and to also allow for sufficient compaction). This was followed by the second application of ORC Advanced™, followed with drainrock to 8 feet bgs, and then the final ORC Advanced™ application.

Short-term Effectiveness

Accelerated biodegradation of the hydrocarbons begins immediately to some degree; thus, some short-term benefit exists. However, it will take a number of months to evaluate the effectiveness of the injection of the ORC Advanced™ and measure the mass reductions achieved.

Reduction in Toxicity, Mobility, and Volume

The ORC Advanced™ application should be effective in reducing the toxicity of the plume by accelerating the biodegradation significantly within approximately the first 6 to 12 months. The product will continue to break down petroleum compounds and associated daughter products for up to 2 years. The mobility of the plume will likewise be reduced in the area. The volume of dissolved hydrocarbons within the excavation area will likely be reduced within the first 6 to 9 months by 50 percent of more—according to the manufacturer's data. Continued quarterly groundwater monitoring of upgradient and downgradient wells will ultimately determine the level of breakdown.

5.0 REGULATORY CONSIDERATIONS, ANALYTICAL RESULTS, AND DISCUSSION OF FINDINGS

REGULATORY CONSIDERATIONS AND SCREENING LEVELS

The Regional Water Quality Control Board (Water Board) has established Environmental Screening Levels (ESLs) for evaluating the likelihood of environmental impact. ESLs are conservative screening-level criteria for soil and groundwater, designed to be generally protective of both drinking water resources and aquatic environments; they incorporate both environmental and human health risk considerations. ESLs are not cleanup criteria (i.e., health-based numerical values or disposal-based values). Rather, they are used as a preliminary guide in determining whether additional remediation and/or investigation may be warranted. Exceedance of ESLs suggests that additional investigation and/or remediation is warranted.

Different ESLs are published for commercial/industrial vs. residential land use, for sites where groundwater is a potential drinking water resource vs. is not a drinking water resource, and the type of receiving water body. A Water Board-published map of the East Bay shows areas where groundwater is, and is not, a potential drinking water resource.

In our professional opinion, the appropriate ESLs for the subject site are based on:

- Residential land use (due to the residence adjoining the property) and commercial/ industrial (for the subject property itself). Note that, for both soil and groundwater contaminants, all ESLs for site contaminants are the same for both residential and commercial/industrial land use.
- Groundwater <u>is</u> a potential drinking water resource. In our professional opinion, the appropriate ESLs for the subject site are *commercial/industrial land use* and *groundwater is a potential drinking water resource.* This is based on both the property zoning status (commercial/industrial) and the designation of this area of Oakland as "Zone A – Significant Drinking Water Resource (Water Board, 1999).
- The receiving body for groundwater discharge is an estuary (San Francisco Bay).

The State of California has also promulgated drinking water standards (Maximum Contaminant Levels [MCLs]) for some of the site contaminants. Drinking water standards may also be

utilized by regulatory agencies to evaluate the potential risk associated with groundwater contamination. For the site contaminants, MCLs are generally the same as the ESLs (except that there is no MCL for gasoline).

Once ESLs or drinking water standards are exceeded, the need for and type of additional investigative and corrective actions are generally driven by the potential risk associated with the contamination. Minimum regulatory criteria generally applied to fuel leak cases in groundwater include:

- The contaminant source has been removed, including reasonably accessible contaminated soils that pose a long-term impact to groundwater.
- The extent of residual contamination has been fully characterized, to obtain sufficient lithologic and hydrogeologic understanding (generally referred to as a Site Conceptual Model).
- Groundwater wells have been installed and are monitored periodically to evaluate groundwater contaminant concentrations and hydrochemical trends.
- The stability of the contaminant plume has been evaluated to determine whether it is moving or increasing in concentration.
- A determination has been made as to whether the residual contamination poses an unacceptable risk to sensitive receptors.

As stated above, ESLs are used as a preliminary guide in determining whether additional remediation or other action is warranted. Exceedance of ESLs may warrant additional actions, such as monitoring plume stability to demonstrate no risk to sensitive receptors in the case of sites where drinking water is not threatened.

ANALYTICAL METHODS

The initial site characterization documented contamination by the following LUFT-related constituents: total volatile hydrocarbons–gasoline-range (TVHg); BTEX; and methyl tertiary-butyl ether (MTBE). In addition, several other contaminants were analyzed (as required by ACEH); various fuel oxygenates (tertiary-butyl alcohol [TBA], di-isopropyl ether [DIPE], ethyl tertiary-butyl ether [ETBE], and tertiary-amyl methyl ether [TAME]); and lead scavengers (1,2-dichloroethane [EDC] and 1,2-dibromoethane [EDB]).

The groundwater dewatering sample was analyzed using the following methods for:

- TVHg, by EPA Method 8015M
- BTEX by EPA Method 8020

The soil excavation confirmation samples were analyzed using the following methods for:

- TVHg, by EPA Method 8015M
- MTBE, BTEX, fuel oxygenenates, and lead scavengers by EPA Method 8260

As mentioned in Section 3.0, soil stockpiles were disposed of under the historical profile developed during the 2006 excavation, as permitted under landfill regulations.

All investigation soil and groundwater samples were analyzed by Curtis & Tompkins, Ltd. (Berkeley, California), which maintains current ELAP certification for all the analytical methods utilized in this investigation.

Appendix F contains the certified analytical laboratory reports and chain-of-custody records for the corrective action phase (excavation confirmation soil and excavation groundwater).

ANALYTICAL RESULTS AND DISTRIBUTION OF CONTAMINANTS

Tables 1 and 2 summarize the soil analytical results. The certified laboratory reports and chain-of-custody records are presented in Appendix F.

Excavation Soil Sample Analytical Results

An immediate odor of petroleum was evident upon removal of the overlying concrete, which also revealed visual contamination within the first 3 feet of digging. The soil was removed from the excavation and directly loaded into dump trucks. The excavated composite soil sample showed the primary soil contaminant as gasoline, with lesser quantities of ethlylbenzene and total xylenes, all above their respective ESLs. Excavation confirmation wall samples W7 and W8 contained only a trace amount of TPHg, and floor sample F3 was non-detect.

None of the fuel oxygenates or lead scavengers were detected in the soil samples.

Residual Soil Contamination

Excavation confirmation soil sampling indicates that little to no residual soil contamination exists in the southern and western area of the site. Residual TPHg soil contamination (790 to 270 mg/kg) above regulatory ESLs was documented during the October 2006 along the northern property boundary, but was inaccessible for removal over the property line.

Table 1
November 2007 Soil and Groundwater Analytical Results
2836 Union Street, Oakland, California

Sample Identifier	TVHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Soil Samples (mg/kg)						
W7	1.9	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
W8	4.7	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046
F3	<0.97	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
Soil Comp	**540**	<0.5	<0.5	4.3	5.25	<0.5
Soil ESLs	*100/400*	*0.044/0.38*	*2.9/9.3*	*3.3/32*	*2.3/11*	*0.23/5.6*
Excavation Dewatering (µg/L)						
Exc. Well	**2,800**	**42**	20	**220**	**174**	NA
Groundwater ESLs	100 / 500	1.0 / 46	40 / 130	30 / 290	13 / 13	-
MCLs	*100*	*1.0*	*40*	*30*	*20*	-

Notes:

ESLs = Water Board Environmental Screening Levels for residential or commercial/industrial sites where groundwater is/is not a potential drinking water resource.

MCLs = CA Drinking Water Maximum Contaminant Levels

MTBE = methyl tertiary-butyl ether
TVHg = total volatile hydrocarbons as gasoline

NA = not analyzed for this constituent

All concentrations are in milligrams per kilogram (mg/kg).

Samples in **bold-face type** exceed the ESL criterion.

Table 2
November 2007 Soil Sample Analytical Results
Lead Scavengers and Fuel Oxygenates
2836 Union Street, Oakland, California

Sample I.D.	EDC	EDB	ETBE	DIPE	TAME	TBA
W7	*<4.8*	*<4.8*	*<4.8*	*<4.8*	*<4.8*	*<96*
W8	*<4.6*	*<4.6*	*<4.6*	*<4.6*	*<4.6*	*<93*
F3	*<4.8*	*<4.8*	*<4.8*	*<4.8*	*<4.8*	*<96*
Soil Comp	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<10*
Soil ESLs	*4.5/70*	*0.33/20*	*NLP*	*NLP*	*NLP*	*NLP*

Notes:

ESLs = Water Board Environmental Screening Levels for residential or commercial/industrial sites where groundwater is/is not a potential drinking water resource.

DIPE =di-isopropyl ether
EDB =1,2-dibromoethane
EDC =1,2-dichloroethane
ETBE =ethyl tertiary-butyl ether
TAME=tertiary-amyl methyl ether
TBA= tertiary-butyl alcohol

NLP = no level published

Figure 5 (in Section 3.0) shows the excavation confirmation sample results. One soil sample was collected from the base of excavation and two sidewall samples were collected to confirm that accessible contaminated soil was removed. The base of excavation sample, where it was critical to remove as much of the contamination as possible given the proximity to groundwater, was non-detect.

Groundwater Contaminant Plume

Quarterly groundwater monitoring data shows a dissolved plume of TPHg that originates from the former UFST excavation and extends in an elliptical configuration westward across the western portion of the property and then offsite to the west under Union Street. The plume appears to be, at minimum, 60 feet long by 100 feet wide. The lateral limits of the plume upgradient to the north and east are fairly well constrained by monitoring wells MW-1B and MW-2B, respectively. The northern, southern, and western limits are less defined. The concentrations in groundwater shown in downgradient wells MW-3B and MW-4B show attenuation with distance from the source area; however, the distal extent of the plume has not been fully defined. The limits of the plume are generally determined by the mass of contamination in both soil and groundwater, hydrogeologic characteristics, and the ability of natural degradation processes to control the plume migration.

The resultant groundwater contaminant plume has migrated to the west, downgradient of the former UFST. Migration of the dissolved-phase hydrocarbon contamination in groundwater does not appear to have caused additional soil contamination by adsorption onto downgradient soils within the capillary fringe zone to the west of the former UFST, as indicated by soil samples collected during installation of the downgradient wells.

CONTAMINANT TRANSPORT OF CONCEPTUAL MODEL

The site conceptual model suggests that the onsite soil and groundwater contamination originated from leaks from the gasoline UFST and/or associated piping. The highest concentration of contamination was located around the pump dispenser rather then the in-ground UFST, suggesting leakage from that area.

The leaking gasoline petroleum product migrated down through clay–rich soil, and initially accumulated in a upper "perched" zone of a thin sand-rich layer found inconsistently at 6 to 8 feet bgs (see cross sectional Figures 3 and 4 in Section 2.0). From this accumulation point, the contamination worked its way slowly down through the clay-rich soil underlying the perched zone, with a significant fraction of the hydrocarbons adsorbing onto the vadose zone soil, eventually reaching the perennial groundwater table and a gravel-sand rich horizon found at depths of 18 to 20 feet bgs. The gasoline-phase contamination shows a relatively significant BTEX fraction, but only trace to minor concentrations of MTBE. Fuel oxygenates were also initially analyzed for, but not found except in trace concentrations.

The fuel contamination migrated downward from the source(s) in the UFST area, likely in inverted cone geometry downward through the laterally uniform clay stratigraphy until it reached the discontinuous sandy perched layer where it would travel laterally. The excavation showed a visually distinctive zone of soil contamination to a depth of about 10 feet bgs. No vertical preferential pathways based on lithology were noted in the excavation of nearby well logs, but the contamination clearly migrated down to the deeper water-bearing zone at a depth of 18 feet and greater.

Numerous field and laboratory studies have concluded that the subsurface behavior of petroleum hydrocarbons is significantly impacted by their high capacity to undergo biodegradation (Lawrence Livermore National Laboratory, 1995). A variety of naturally-occurring microorganisms utilize petroleum hydrocarbons as a carbon (food) source. Biodegradation of hydrocarbons can occur under anaerobic conditions, but is more highly favored in aerobic conditions.

Biodegradation should be enhanced following the excavation and groundwater purging remedy, as aerobic conditions have been introduced by the removal of the clay-rich contaminated soil and

replacement with permeable backfill material. Most hydrocarbon plume conceptual models show biodegradation of petroleum hydrocarbons in groundwater as having a significant role in creating a stable plume, minimizing groundwater plume configuration and concentrations over time (Lawrence Livermore National Laboratory, 1995).

In general, natural attenuation of petroleum in groundwater is very likely occurring unless petroleum concentrations are sufficient to overwhelm the biodegradation process (i.e., in the high concentration area of the plume). In these areas, biodegradation progresses until one of the process-limiting factors (usually oxygen) is depleted to the point at which biodegradation is not supported.

PROJECTED FUTURE TRENDS AND REMEDIAL OPTIONS

Projected Future Trends

The gasoline hydrocarbon plumes, following the recent soil removal action, remain stable or diminish over the long term, now that the main source of contaminated backfill has been remediated.

Potential Remedial Action

Now that the main source area soil has been remediated by excavation, any remaining potential gasoline contaminant has diminished potential to migrate to groundwater.

At this point, SES recommends monitoring of natural attenuation and plume stability following the soil excavation ORC Advanced™ application and purge water remediation. Continued quarterly groundwater monitoring of the site wells will ultimately determine the level of breakdown accomplished.

GROUNDWATER IMPACTS AND BENEFICIAL USES

How much groundwater contamination impacts the current and projected beneficial use of the groundwater? In general, impacts of contamination on the environment by petroleum products are evaluated on a case-by-case basis by the regulators, with consideration given to Water Board ESLs. There appears to be no identified groundwater impacts of concern in the current case, although the area is considered to be a sensitive groundwater recharge area that should be protected.

IMPACTS OF RESIDUAL CONTAMINATION ON BENEFICIAL USES

There are no known immediate impacts to the groundwater that affect current beneficial use, although the immediate site area is within the “Zone A” designation by Water Board “East Bay

Plain Groundwater Basin Beneficial Use Evaluation Report" (Water Board, 1999). The Zone A designation calls the groundwater a "significant drinking water resource."

The nearest surface water body is San Francisco Bay, located approximately 4,000 feet west by northwest of the site. Groundwater in the immediate vicinity of the site is not likely to be a potential drinking water source, given its shallow depth and turbidity.

The primary source (UFSTs) and secondary source (contaminated soil) have been remediated to the extent that was practical. The property owner has no plans to utilize site groundwater for any purpose, and assuming that site development is approved, the former source area would remain paved to prevent any infiltrating precipitation from providing a migrational mechanism for the hydrocarbons still entrained in the soil.

6.0 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

SUMMARY AND CONCLUSIONS

- One 10,000-gallon gasoline UFST was installed in the late 1970s. The UFST operated under ACEH permit (No. STID 4065) until its removal in 1998.
- Site soil and groundwater has been contaminated by gasoline and associated aromatic hydrocarbons. Soil analytical results show that soil contamination began at a depth of approximately 6 to 7 feet, and did not extend deeper than approximately 11 feet.
- During this investigation, 212.6 tons of petroleum hydrocarbon-impacted soil was removed from the vicinity of the former UFST from a previously inaccessible area beneath the garage/service bay of the site building; this soil was disposed of at a permitted non-hazardous landfill. The garage/service bay was removed by the site owners prior to this corrective action. The resultant excavation constituted an approximately 280-square foot area. One shallow groundwater monitoring well located in the center of the excavation was destroyed during this activity.
- This work follows a preliminary site investigation in August 2005, additional site characterization investigations in October 2005 and corrective actions in April 2006 and October 2006. Five quarterly groundwater monitoring events have been conducted at the site since October 2006.
- At the onset of this corrective action, 4,500 gallons of contaminated groundwater was pumped from a temporary dewatering point to minimize groundwater infiltration during excavation activity.
- The oxygen releasing compound ORC Advanced™ was selected to inoculate the groundwater in the area of the excavation immediately following the excavation.
- All known accessible residual contaminated soil has been excavated from this site. Residual TPHg soil contamination (790 to 270 mg/kg) above regulatory ESLs was documented during the October 2006 corrective action along the northern property boundary, but is inaccessible for removal over the property line.
- Groundwater in the immediate vicinity of the former UFST occurs at a depth of less than 10 feet, and appears under at least semi-confining conditions, rising from approximately 20 feet bgs to as high as 6 feet below grade, such that groundwater is in contact with

residual contaminated soil. The groundwater contaminate plume has not been fully delineated, but appears to be in elliptical configuration with its long axis trending east by west-northwest.

- Local groundwater flow direction is generally to the west (toward San Francisco Bay and following local topography) in this area of west Oakland.

RECOMMENDATIONS

- After this report is submitted to ACEH, the property owner should follow up with ACEH to discuss the requirements for moving move the site toward regulatory closure. In addition, all future technical reports should be provided to the appropriate regulatory agencies—ACEH (via electronic upload to the ftp system) and the State Water Resources Control Board (via its online GeoTracker system).
- Continued quarterly groundwater monitoring of site wells should be continued; such monitoring will ultimately determine the level of breakdown accomplished by the ORC Advanced™ application.

7.0 LIMITATIONS

This report has been prepared for the exclusive use of the Estate of Lawrence Wadler (subject property owner), the regulatory agencies, and their authorized assigns and/or representatives. No reliance on this report shall be made by anyone other than those for whom it was prepared.

The findings and conclusions presented in this report are based solely on the findings of the investigations discussed herein. This report has been prepared in accordance with generally accepted methodologies and standards of practice of the area. The personnel performing this assessment are qualified to perform such investigations and have accurately reported the information available, but cannot attest to the validity of that information. No warranty, expressed or implied, is made as to the findings, conclusions, and recommendations included in the report.

8.0 REFERENCES

Alameda County Environmental Health, 2006. Letter approving technical workplan for corrective action investigation at 2836 Union Street, Oakland, California. March 20.

BP Oil – Environmental Technology Branch, 1993. TPH in Soil Primer (Analysis of Total Petroleum Hydrocarbons in Soil). September 1.

Golden Gate Tank Removal, 1998. Tank Closure Report – 2836 Union Street, Oakland, California. July 31.

Lawrence Livermore National Laboratory, 1995. California Leaking Underground Fuel Tank Historical Case Analyses (UCRL-AR-121762).

Regional Water Quality Control Board – San Francisco Bay Region (Water Board), 1999. East Bay Plains Beneficial Use Study, San Francisco Bay. June 15.

Stellar Environmental Solutions, Inc. (SES), 2005a. Workplan for Initial Site Characterization – 2836 Union Street, Oakland, California. October 25.

Stellar Environmental Solutions, Inc. (SES), 2005b. Technical Documentation Report for Initial Site Characterization – 2836 Union Street, Oakland, California. December 14.

Stellar Environmental Solutions, Inc. (SES), 2005c. Workplan for Corrective Action Investigation – 2836 Union Street, Oakland, California. December 22.

Stellar Environmental Solutions, Inc. (SES), 2006a. Workplan for Groundwater Characterization and Interim Corrective Actions – 2836 Union Street, Oakland, California. May 3, 2006

Stellar Environmental Solutions, Inc. (SES), 2006b. Corrective Action Investigation: 2836 Union Street, Oakland, California, Alameda County Environmental Health Case No. RO0002901. May 3.

Stellar Environmental Solutions, Inc. (SES), 2006c. Underground Fuel Storage Tank-Related Corrective Action Report, 2836 Union Street, Oakland, CA. December 2006.

Stellar Environmental Solutions, Inc. (SES), 2007a. First Quarter 2007 Groundwater Monitoring Report, 2836 Union Street, Oakland, CA. February 6.

Stellar Environmental Solutions, Inc. (SES), 2007b. Second Quarter 2007 Groundwater Monitoring Report, 2836 Union Street, Oakland, CA. May 1.

Stellar Environmental Solutions, Inc. (SES), 2007c. Third Quarter 2007 Groundwater Monitoring Report, 2836 Union Street, Oakland, CA. July 23.

Stellar Environmental Solutions, Inc. (SES), 2007d. Fourth Quarter 2007 Groundwater Monitoring Report, 2836 Union Street, Oakland, CA. December 7.

APPENDIX A

Photodocumentation

Subject: Beginning of the excavation; breaking the concrete.	
Site: 2836 Union Street, Oakland, CA	
Date Taken: November 27, 2007	Project No.: SES 2005-65
Photographer: Teal Glass	Photo No.: 01

Subject: View of the dewatering.	
Site: 2836 Union Street, Oakland, CA	
Date Taken: November 27, 2007	Project No.: SES 2005-65
Photographer: Teal Glass	Photo No.: 02

Subject: View of the excavation pit.	
Site: 2836 Union Street, Oakland, CA	
Date Taken: November 27, 2007	Project No.: SES 2005-65
Photographer: Teal Glass	Photo No.: 03

Subject: Introduction of ORC.	
Site: 2836 Union Street, Oakland, CA	
Date Taken: November 27, 2007	Project No.: SES 2005-65
Photographer: Teal Glass	Photo No.: 04

Subject: View of monitoring well MW-5B, not destroyed during the excavation.	
Site: 2836 Union Street, Oakland, CA	
Date Taken: November 27, 2007	Project No.: SES 2005-65
Photographer: Teal Glass	Photo No.: 05

Subject: Backfilling the excavation.	
Site: 2836 Union Street, Oakland, CA	
Date Taken: November 27, 2007	Project No.: SES 2005-65
Photographer: Teal Glass	Photo No.: 06

Subject: Repaving the excavation	
Site: 2836 Union Street, Oakland, CA	
Date Taken: November 27, 2007	Project No.: SES 2005-65
Photographer: Teal Glass	Photo No.: 07

Subject: View of the completed repave.	
Site: 2836 Union Street, Oakland, CA	
Date Taken: November 27, 2007	Project No.: SES 2005-65
Photographer: Teal Glass	Photo No.: 08

APPENDIX B

Regulatory Notifications

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

COMPLIANCE & ENFORCEMENT DIVISION

Notification Form
Regulation 8 Rule 40

REMOVAL OF UNDERGROUND STORAGE TANKS *OR* TREATMENT OF CONTAMINATED SOIL

SITE OF ACTIVITY

Site Address: 2836 Union Street | **City & Zip:** Oakland, CA 94608 | **Site#:**

Specific Location of Project within Address: Approximately 50 feet East of Union Street

Owner/Operator: Estate of Larry Wadler (property owner) / Vacant

Check any that apply (400 numbers refer to regulation section requiring reporting):

- ☐ Tank Removal or Replacement *(401)*
- ☒ Contaminated Soil Excavation and Removal *(402)*
- ☐ Aeration of Soil < 50 ppmw organic content, but does not meet Section 118 Exemption *(403)*
- ☐ Section 114 Exempt; Date Pipeline Leak ***Started:*** _____ Vol. Of Soil: _____ *(403)*
- ☐ Section 115 Exempt; Date Contamination Unrelated to UST Activities ***Discovered:*** _____ *(405)*

If only Tank Removal is selected, attach results showing soil is not contaminated

CONTRACTOR INFORMATION

Name: Speelman Excavation | **Site Contact:** Harold Speelman | **Phone:** 510-644-3123

Address: 1648 Fairway Oaks Court, Ripon, CA 94366

TANK REMOVAL *(Section 401)*

Scheduled Start Date: | **Number and Size of Tank(s):**

Explain Methods of:

Piping drainage or flushing *(310.1)* _____

Liquid and sludge removal *(310.2)* _____

Vapor removal *(310.3)* **[Check One]** ☐ Water Displacement ☐ Vapor Freeing* ☐ Ventilation*

* Emission controls required for vapor freeing or ventilation if tank size greater than 250 gallons.

COMPLETE INFORMATION BELOW OR ATTACH SAMPLE RESULTS SHOWING SOIL IS UNCONTAMINATED (310.4)

CONTAMINATED SOIL EXCAVATION AND REMOVAL *(Section 402)*

Scheduled Start Date: November _27_ 2007 | **Scheduled Completion Date:** November _27_ 2007

Purpose of Excavation: remove gasoline contaminated soils from a former leaking gasoline UST excavation

Quantity of Soil: 75 tons **Organic Content & Type:** gasoline at 5,300 mg/kg (max.)

Methods used to quantify and analyze soil: multiple borehole samples, previous excavations

Method of Stockpile Control *(304-306)*

☐ Water Spray ☒ Covered ☐ Vapor Suppressant (List Material Used): _____

Method of Site Closure *(306)*

☐ Backfilled ☒ Contaminated Soil Removed

☐ Onsite Treatment (Describe): _____ A/C or P/O #: _____

Loaded Trucks Covered? *(306.2)* ☐ Yes ☐ No

AERATION OF SOIL < 50 PPMW ORGANIC CONTENT *(Section 403)*

You must submit a Permit Application and Risk Screening Analysis *(Forms will be sent to you)*

FOR BAAQMD USE ONLY

Fax/PM Date:	By:	Disp to I#:	Area:	Date:	By:
Inv Req Date:	By:	Fwd to Supv.		Date:	By:

See Page Two to Complete This Form

OTHER PUBLIC AGENCY CONTACTED *(Fire District, Hazardous Materials, City or County)?*	
Agency Name: Alameda County Environmental Health	Contact Name: Mr. Barney Chan
Address: 1131 Harbor Bay Parkway, Suite 250, Alameda, CA 94502	Phone: 510-567-6765

EMERGENCY REMOVAL ORDER APPLICABLE?	
Agency Name:	Contact Name:
Address:	Phone:

GENERAL INFORMATION

- This notification form shall be used to notify the BAAQMD of any projects subject to the reporting requirements in Regulation 8, Rule 40, Sections 401 through 405. Notifications may be faxed to (415) 928-0338 or mailed to the address listed at the bottom of this form.
- An invoice for payment will be sent to the person listed under "Contractor Information" as the person responsible, unless the project is exempt from fee payment (see next item).
- See "Frequently Asked Questions" (FAQ) for definition of projects, change procedures, permit requirements, emergency conditions, project exemptions, and fee exemptions. For any questions not answered in the FAQ, contact the Compliance Assistance Counselor at (415) 749-4999.

INSTRUCTIONS

- **SITE OF ACTIVITY:** Give the site street address and indicate if it has any existing BAAQMD site number, for either a plant or GDF. Identify the specific project location if the site contains more than one building. Indicate all applicable activity types by checking appropriate boxes. For reporting requirements under Sections 401 through 403, additional information is required, as below.
- **CONTRACTOR INFORMATION:** Identify the contractor that is responsible for performing the work at the site location listed. This contractor is also responsible for payment of the applicable notification fee, if the project is not exempt.
- **SECTION 401 - TANK REMOVAL/REPLACEMENT:** All soils disturbed and/or excavated as part of the tank removal shall be subject to the requirements of Sections 304 through 306, unless the soil has been determined not to be contaminated by measurement of organic content using the procedures in Sections 601 and 602. Complete requirements for Section 402 or submit sample results showing that the soil is not contaminated.
- **SECTION 402 - CONTAMINATED SOIL EXCAVATION AND REMOVAL:**
  - Be as accurate as possible for the Scheduled Start and Completion Dates. Specific requirements apply for excavation projects triggered within either 45 or 90 days (Reg. 8-40-306.4) and Authority to Construct requirements for projects lasting longer than three months (Reg. 2-1-128.16).
  - If a vapor suppressant is used, attach a product data sheet or MSDS.
  - If Method of Site Closure used is Onsite Treatment, describe specific method, (e.g., bioremediation, vapor extraction, air sparging, thermal desorption, etc.).
  - If Onsite Treatment is used, indicate whether an Authority to Construct was obtained by providing the Application No. or attach copy of BAAQMD Certification of Exemption.
- **SECTION 403 – AERATION OF SOIL < 50 PPMW ORGANIC CONTENT:** Section 301 exempts from control the aeration of soil containing less than 50 ppmw of organic compounds, but Section 403 still requires reporting of **ANY** soil aeration. If such a project does not meet the exemption criteria of Section 118, then a Permit Application and Risk Screening Analysis must be submitted.
- **EMERGENCY REMOVAL INFORMATION (IF APPLICABLE):** The rule defines an emergency tank removal or excavation of contaminated soil as "carried out pursuant to an order of a state or local government agency issued because the contaminated soil poses an imminent threat to public health and safety." If the project(s) meet this definition, then identify the agency that issued the order. Under Section 402 requirements, on line two, identify the purpose as indicated in the order.

Henry Pietropaoli

From: Henry Pietropaoli [hpietropaoli@stellar-environmental.com]
Sent: Tuesday, September 04, 2007 11:15 AM
To: 'dehloptoxic@acgov.org'
Cc: Barney Chan (barney.chan@acgov.org); mommyaabas@yahoo.com; Mohamed Aabas (Mo@modernexpresscourier.com)
Subject: RO#002901_Corrective Action Workplan_2007-08-31

Follow Up Flag: Follow up
Flag Status: Completed

Dear Mr. Barney Chan,

The subject referenced workplan has been uploaded to the ACEH "ftp" server for your review

Thank You,

HENRY PIETROPAOLI, P.G, R.E.A.
STELLAR ENVIRONMENTAL SOLUTIONS, INC.
2198 Sixth Street, Suite 201
Berkeley, CA 94710
Wk Phone: 510-644-3123
Fax: 510-644-3859
Cell: 510-295-3544
hpietropaolii@stellar-environmental.com
www.stellar-environmental.com

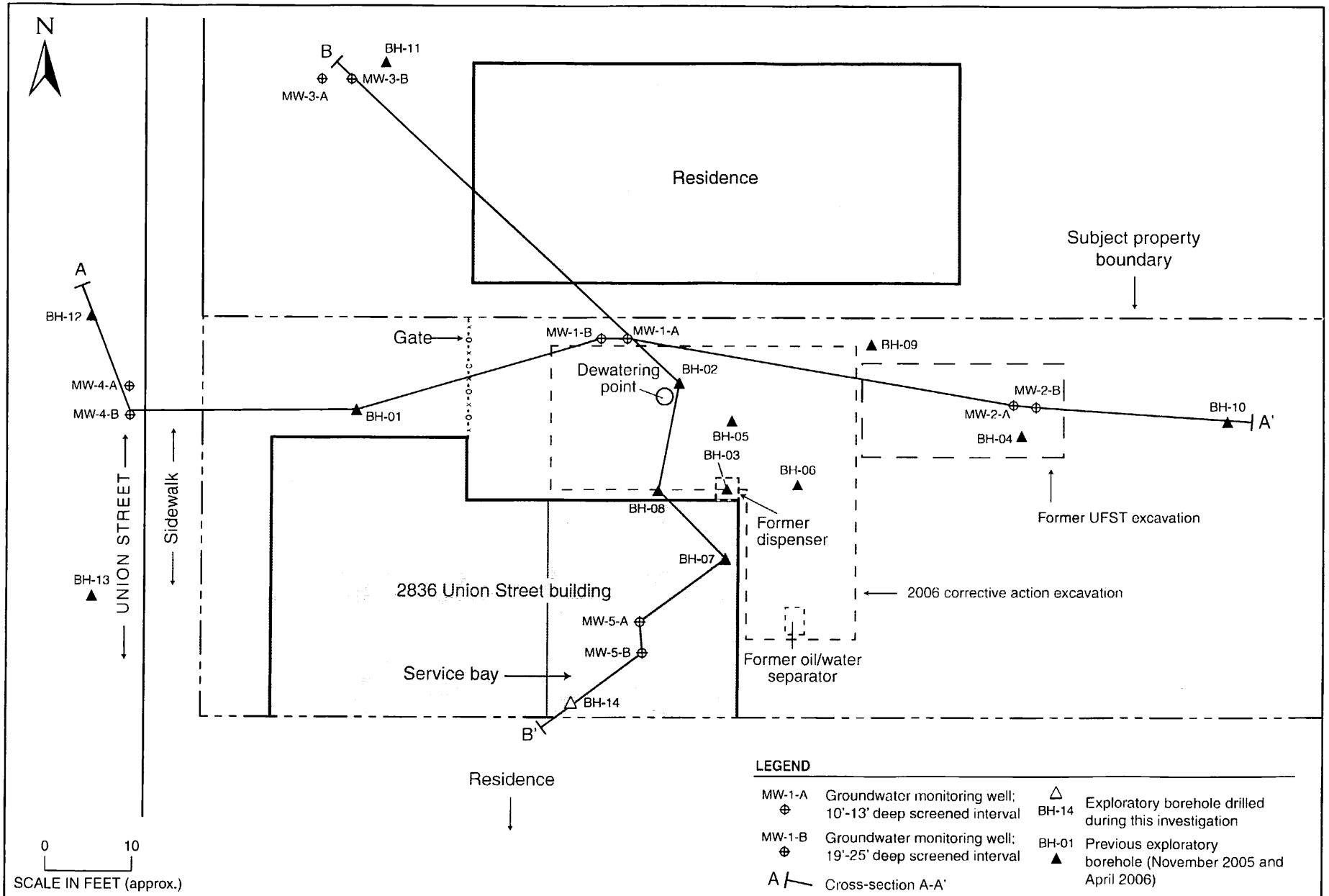
APPENDIX C

Department of Water Resources
Well Destruction Report

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED



2005-65-47

STELLAR ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

SITE PLAN SHOWING LOCATIONS OF SOIL BORINGS

2836 Union Street, Oakland, CA

Figure 2

by: MJC | NOVEMBER 2006

STELLAR
ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

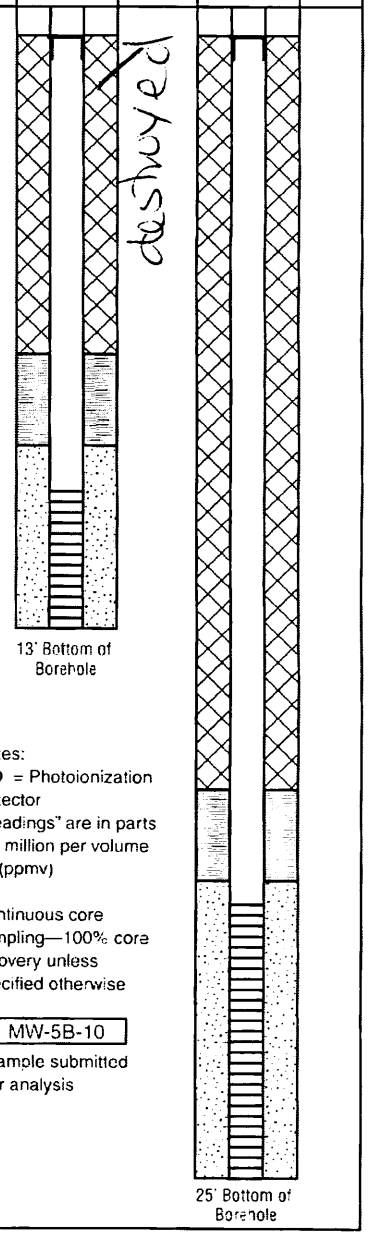
Soil Boring and Well Construction Log

BORING NUMBER MW-5A/B Page 1 of 1

PROJECT Former Modern Mail Facility
OWNER Mr. Lawrence Wadler
LOCATION 2836 Union St., Oakland, CA
PROJECT NUMBER 2005-65
TOTAL DEPTH 25 feet bgs
BOREHOLE DIA. 2.5 inches
SURFACE ELEV. ~17 feet amsl
WATER ENCOUNTERED Not encountered
DRILLING COMPANY RSI
DRILLING METHOD Geoprobe
DRILLER Jose
GEOLOGIST H. Pietropaoli
DATE DRILLED 9/26/2006

DEPTH (feet)	GRAPHIC LOG	PID	DESCRIPTION/SOIL CLASSIFICATION
0			5 inches concrete
			CL, dark brown clay, stiff, medium plastic, damp
		0.0	
5			CL, grades into yellowish green clay, med. stiff, plastic, fuel odor
		22.4	
	MW-5B-8.5		SC-GC, poorly sorted gravel, angular clasts, moist, fuel odor
10		24.0	
			CL, green gray clay, stiff, plastic
15	MW-5B-15	0.4	
		0.0	
			CL, as above
20		3.2	CL, becomes greenish yellow
	MW-5B-21.5		
	MW-5B-24	5.2	CL, as above, with increase in silt downward
25			

WELL CONSTRUCTION



Notes:
PID = Photoionization Detector
"Readings" are in parts per million per volume air (ppmv)

Continuous core sampling—100% core recovery unless specified otherwise

MW-5B-10
Sample submitted for analysis

Well Construction Legend:
- 1.5" PVC screen (0.010-in. slots)
- Hydrated bentonite pellets
- #2/12 Monterey Sand
- Portland cement & water grout
- Flush-mount well box

2005-65-40

APPENDIX D

Soil and Groundwater Waste Profiling and Disposal Documentation

Soil Profile and Disposal Manifests

THIRD PARTY SIGNATURE AUTHORIZATION
for Solid Waste Disposal

Date: 10/26/07

To Whom It May Concern:

Please be advised that the following company/individual has been appointed to work as our agent for purposes of managing waste materials that we may generate.

Name of Authorized Agent	Title
Richard Makdisi Henry Pietropaoli	Principal Senior Geologist
Name of Company	Telephone Number
Stellar Environmental Solutions, Inc.	510-644-3123

The above broker/individual is authorized to act as our authorized agent for the following purposes:

- [X] Complete and sign Generator Waste Profile Sheets.
- [X] Complete and sign Generator Waste Profile Sheet-Recertifications.
- [X] Authorize amendments to Generator Waste Profile Sheets.
- [X] Sign contracts to dispose and/or transport material.
- [X] Sign certifications necessary to comply with landfill requirements.
- [X] Sign manifests to initiate shipment to disposal facilities.

Our authorized broker/agent will notify us prior to any action stated above, and will provide us with copies of any documents bearing our name.

Name of Generator (printed)	Title
Estate of Lawrence Wadler	Property Owner
Name of Company	Mailing Address
Former Mail Service Facility	2525 Mandela Parkway
Signature	Telephone Number
Elana Aabas-Trustee	800-400-7874

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0610075 **ClientID: SESB**

EDF	Fax	Email	HardCopy	ThirdParty

Report to:
Richard Makdisi
Stellar Enviormental Solutions
2198 Sixth St. #201
Berkeley, CA 94710
Email:
TEL: 510-644-3123 FAX: 510-6443859
ProjectNo: #2005-65; USTCF Claim No. 018639
PO:

Bill to:
Accounts Payable
Stellar Enviormental Solutions
2198 Sixth St. #201
Berkeley, CA 94710

Requested TAT: 1 day
Date Received: 10/04/2006
Date Printed: 10/04/2006

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0610075-001	Stockpile Comp-1	Soil	10/3/06 5:30:00 PM		A	A										

Test Legend:

1	G-MBTEX_S	2	PB_S	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Maria Venegas

Comments: Rush by Noon

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

Stellar Enviormental Solutions 2198 Sixth St. #201 Berkeley, CA 94710	Client Project ID: #2005-65; USTCF Claim No. 018639	Date Sampled: 10/03/06
		Date Received: 10/04/06
	Client Contact: Richard Makdisi	Date Extracted: 10/04/06
	Client P.O.:	Date Analyzed 10/05/06

Lead by ICP*

Extraction method SW3050B Analytical methods 6010C Work Order 0610075

Lab ID	Client ID	Matrix	Extraction	Lead	DF	% SS
0610075-001A	Stockpile Comp-1	S	TTLC	13	1	103

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	TTLC	NA	µg/L
	S	TTLC	5.0	mg/Kg

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

means surrogate diluted out of range; ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

i) aqueous sample containing greater than ~1 vol. % sediment; for DISSOLVED metals, this sample has been preserved prior to filtration; for TTLC metals, a representative sediment-water mixture was digested; j) reporting limit raised due to insufficient sample amount; k) reporting limit raised due to matrix interference; m) estimated value due to low/high surrrogate recovery, caused by matrix interference; n) results are reported on a dry weight basis; p) see attached narrative.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

ALLIED WASTE

GENERATOR WASTE PROFILE SHEET

Requested Disposal Facility: KellerCanyon and/or Forward Canyon

an Allied Waste Company

Waste Profile #
AWI Sales Rep:
Date: October 26, 2007

I. Generator Information

Generator Name: Former Mail Service Facility			
Generator Site Address: 2836 Union Street			
City: Oakland	County: Alameda	State: CA	Zip: 94608
State ID/Reg No: N/A	State Approval/Waste Code: N/A (if applicable)		SIC Code: N/A
Generator Mailing Address (if different): 2525 Mandel Parkway			
City: Oakland	County: Alameda	State: CA	Zip: 94607
Generator Contact Name: Mr. Lawrence Wadler			
Phone Number: 800-400-7874		Fax Number: 510-444-5418	

IIa. Transporter Information

Transporter Name:		Contact Name:	
Transporter Address:			
City:	County:	State:	Zip:
Phone Number:	Fax Number:	State Transportation Number:	

IIb. Billing Information

Bill To: Speelman Excavation		Contact Name: Harold Speelman	
Billing Address: 1648 Fairway Oaks Court		Fax: 209-599-1657	
City: Ripon	State: CA	Zip: 95366	Phone Number: 209-599-1656

III. Waste Stream Information

Name of Waste: petroleum-contaminated soil
Process Generating Waste: soil corrective action - excavation to remove residual contaminated soil from a former gasoline underground storage tank.
Type of Waste ☐ INDUSTRIAL PROCESS WASTE or ☒ POLLUTION CONTROL WASTE
Physical State: ☒ SOLID ☐ SEMI-SOLID ☐ POWDER ☐ LIQUID ☐ OTHER: ____:
Method of Shipment: ☒ BULK ☐ DRUM ☐ BAGGED ☐ OTHER: ____
Estimated Annual Volume: ☒ CUBIC YARDS: 500 ☐ TONS: ____ ☐ GALLONS ____ ☐ OTHER: ____
Frequency: ☒ ONE TIME ☐ DAILY ☐ WEEKLY ☐ MONTHLY ☐ OTHER:
Special Handling Instructions: none

IV. Representative Sample Certification

☐ NO SAMPLE TAKEN

Is the representative sample collected to prepare this profile and laboratory analysis, collected in accordance with U.S. EPA 40 CFR 261.20(c) guidelines or equivalent rules?		☒ YES or ☐ NO
Sample Date: 10/3/2006	Type of Sample: ☒ COMPOSITE SAMPLE ☐ GRAB SAMPLE	
Laboratory: McCampbell Analytical	Sample ID Numbers: W1, W2, W3, W4	
Sampler's Employer: Stellar Environmental Solutions, Inc.		
Sampler's Name (printed): Henry Pietropaoli	Signature:	

ALLIED WASTE

GENERATOR WASTE PROFILE SHEET (continued)

Waste Profile #

V. Physical Characteristics of Waste

Characteristic Components	% by Weight (range)
1. Soil	100%
2.	
3.	
4.	
5.	

Color	Odor (describe)	Free Liquids ☐ YES or ☒ NO	% Solids	pH:	Flash Point	Phenol
grey-brown	slight petroleum odor	Content _____%	99	4-8	> 140 □F	_____ppm

Attach Laboratory Analytical Report (and/or Material Safety Data Sheet) Including Required Parameters Provided for this Profile

Does this waste or generating process contain regulated concentrations of the following Pesticides and/or Herbicides: Chlordane, Endrin, Heptachlor (and it epoxides), Lindane, Methoxychlor, Toxaphene, 2,4-D, or 2,4,5-TP Silvex as defined in 40 CFR 261.33?	☐ Yes or ☒ No
Does this waste or generating process cause it to exceed OSHA exposure limits from high levels of Hydrogen Sulfide or Hydrogen Cyanide as defined in 40 CFR 261.23?	☐ Yes or ☒ No
Does this waste contain regulated concentrations of Polychlorinated Biphenyls (PCBs) as defined in 40 CFR Part 761?	☐ Yes or ☒ No
Does this waste contain regulated concentrations of listed hazardous wastes defined in 40 CFR 261.31, 261.32, 261.33, including RCRA F-Listed Solvents?	☐ Yes or ☒ No
Does this waste contain regulated concentrations of 2,3,7,8-Tetrachlorodibenzodioxin (2,3,7,8-TCCD), or any other dioxin as defined in 40 CFR 261.31?	☐ Yes or ☒ No
Is this a regulated Toxic Material as defined by Federal and/or State regulations?	☐ Yes or ☒ No
Is this a regulated Radioactive Waste as defined by Federal and/or State regulations?	☐ Yes or ☒ No
Is this a regulated Medical or Infectious Waste as defined by Federal and/or State regulations?	☐ Yes or ☒ No
Is this waste generated at a Federal Superfund Clean Up Site?	☐ Yes or ☒ No

VI. Generator Certification

I hereby certify that to the best of my knowledge and belief, the information contained herein is a true, complete and accurate description of the waste material being offered for disposal and all known or suspected hazards have been disclosed. All Analytical Results/Material Safety Data Sheets submitted are truthful and complete and are representative of the waste. I further certify that by utilizing this profile, neither myself nor any other employee of the company will deliver for disposal or attempt to deliver for disposal any waste which is classified as toxic waste, hazardous waste or infectious waste, or any other waste material this facility is prohibited from accepting by law. I shall immediately give written notice of any change or condition pertaining to the waste not provided herein. Our company hereby agrees to fully indemnify this disposal facility against any damages resulting from this certification being inaccurate or untrue. I further certify that the company has not altered the form or content of this profile sheet as provided by Allied Waste.

Henry Pietropaoli Geologist
Authorized Representative Name And Title (Printed)

Stellar Environmental Solutions, Inc.
Company Name

Authorized Representative Signature

October 26, 2007
Date

VII. Allied Waste Decision

☐ Approved ☐ Rejected Expiration: _____

Conditions:

Name, Title | Signature | Date

McCampbell 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

Stellar Enviormental Solutions 2198 Sixth St. #201 Berkeley, CA 94710	Client Project ID: #2005-65; USTCF Claim No. 018639	Date Sampled: 10/03/06
		Date Received: 10/03/06
	Client Contact: Richard Makdisi	Date Reported: 10/09/06
	Client P.O.:	Date Completed: 10/09/06

WorkOrder: 0610038

October 09, 2006

Dear Richard:

Enclosed are:

1). the results of **4** analyzed samples from your **#2005-65; USTCF Claim No. 018639 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. McCampbell 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

5E 2V

Chain of Custody Record

Lab job no. ______
Date 10/3/06
Page 1 of 1

Laboratory: McCampbell Analytical Inc
Address: 1534 Willow Pass Road
Pittsburg, CA 94565-1701
877-252-9262

Method of Shipment: Hand Delivery
Shipment No. ______
Airbill No. ______
Cooler No. ______

Project Owner: Larry Wadler
Site Address: 2836 Union St.
Oakland, CA

Project Manager: Richard Makdisi
Telephone No. (510) 644-3123
Fax No. (510) 644-3859

Project Name: USTCF Claim No. 018639
Project Number: 2005-65
Samplers: *(Signature)* [signature]

Analysis Required

Field Sample Number	Location/ Depth	Date	Time	Sample Type	Type/Size of Container	Preservation: Cooler	Preservation: Chemical	Filtered	No. of Containers	BTXE, MTBE, Oxygenates by 8260	Ethanol by 8260	TPH-GAS by 8015m	Remarks
W1	6'	10/3/06	1100	Soil	8 oz glass jar	yes	none		1	X	X	X	STD 5d
W2	6'	↓	1320	↓	↓	↓			1	↓	↓	↓	24HR / 24 hr TA
W3	6'	↓	1420	↓	↓	↓			1	↓	↓	↓	5d
W4	7'	↓	1500	↓	↓	↓			1	↓	↓	↓	24HR

Relinquished by	Date	Received by	Date	Relinquished by	Date	Received by	Date
Signature: [signature]	10/3/06	Signature: [signature]		Signature: [signature]	10/3	Signature: [signature]	10/3/06
Printed: Henry Pietropaoli	Time	Printed:	Time	Printed:	Time	Printed: A. White	Time
Company: Stellar Environmental	1510	Company:		Company:		Company: MAI	4:20

Turnaround time: 24- Hour Turnaround

Comments: Please FAX copy of COC

Relinquished by	Date	Received by	Date
Signature:		Signature:	
Printed:	Time	Printed:	Time
Company:		Company:	

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0610038 **ClientID: SESB**

EDF | Fax | Email | HardCopy | ThirdParty

Report to:
Richard Makdisi
Stellar Enviormental Solutions
2198 Sixth St. #201
Berkeley, CA 94710

Email:
TEL: 510-644-3123 FAX: 510-6443859
ProjectNo: #2005-65; USTCF Claim No. 018639
PO:

Bill to:
Accounts Payable
Stellar Enviormental Solutions
2198 Sixth St. #201
Berkeley, CA 94710

Requested TAT: **5 days**
Date Received: **10/03/2006**
Date Printed: **10/04/2006**

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
0610038-001	W1	Soil	10/3/06 11:00:00		A	A										
0610038-002	W2	Soil	10/3/06 1:20:00 PM		A	A										
0610038-003	W3	Soil	10/3/06 2:20:00 PM		A	A										
0610038-004	W4	Soil	10/3/06 3:00:00 PM		A	A										

Test Legend:

1	G-MBTEX_S	2	MBTEXOXY-8260B_S	3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Nickole White

Comments: Samples W2 and W4 are on a 24HR TAT the rest are on 5d TAT.

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

Stellar Enviormental Solutions	Client Project ID: #2005-65; USTCF Claim No. 018639	Date Sampled: 10/03/06
2198 Sixth St. #201		Date Received: 10/03/06
Berkeley, CA 94710	Client Contact: Richard Makdisi	Date Extracted: 10/03/06
	Client P.O.:	Date Analyzed 10/03/06-10/05/06

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

Extraction method: SW5030B Analytical methods: SW8015Cm Work Order: 0610038

Lab ID	Client ID	Matrix	TPH(g)	DF	% SS
001A	W1	S	1100,a	200	118
002A	W2	S	1.5,g	1	106
003A	W3	S	270,b,m	20	111
004A	W4	S	ND	1	79

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	NA	NA
	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 McCampbell 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.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

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

Stellar Enviormental Solutions	Client Project ID: #2005-65: USTCF Claim No. 018639	Date Sampled: 10/03/06
2198 Sixth St. #201		Date Received: 10/03/06
Berkeley, CA 94710	Client Contact: Richard Makdisi	Date Extracted: 10/03/06
	Client P.O.:	Date Analyzed: 10/04/06

Oxygenates and BTEX by GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 0610038

Lab ID	0610038-001A	0610038-002A	0610038-003A	0610038-004A	Reporting Limit for DF =1	
Client ID	W1	W2	W3	W4		
Matrix	S	S	S	S		
DF	400	1	20	1	S	W
Compound	**Concentration**				mg/kg	ug/L
tert-Amyl methyl ether (TAME)	ND<2.0	ND	ND<0.10	ND	0.005	NA
Benzene	ND<2.0	ND	ND<0.10	ND	0.005	NA
t-Butyl alcohol (TBA)	ND<20	ND	ND<1.0	ND	0.05	NA
1,2-Dibromoethane (EDB)	ND<2.0	ND	ND<0.10	ND	0.005	NA
1,2-Dichloroethane (1,2-DCA)	ND<2.0	ND	ND<0.10	ND	0.005	NA
Diisopropyl ether (DIPE)	ND<2.0	ND	ND<0.10	ND	0.005	NA
Ethanol	ND<100	ND	ND<5.0	ND	0.25	NA
Ethylbenzene	18	0.012	2.2	ND	0.005	NA
Ethyl tert-butyl ether (ETBE)	ND<2.0	ND	ND<0.10	ND	0.005	NA
Methyl-t-butyl ether (MTBE)	ND<2.0	ND	ND<0.10	ND	0.005	NA
Toluene	29	0.0091	ND<0.10	ND	0.005	NA
Xylenes	100	0.038	ND<0.10	ND	0.005	NA
Surrogate Recoveries (%)						
%SS1:	90	89	88	88		
%SS2:	101	102	103	102		
%SS3:	87	90	88	90		
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.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

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

QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder: 0610038

EPA Method SW8021B/8015Cm Extraction SW5030B BatchID: 24034 Spiked Sample ID: 0609613-023A

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)£	ND	0.60	106	109	2.64	103	112	7.67	70 - 130	30	70 - 130	30
MTBE	ND	0.10	92.5	91.8	0.840	79.8	80.1	0.406	70 - 130	30	70 - 130	30
Benzene	ND	0.10	86	89.3	3.75	100	104	3.58	70 - 130	30	70 - 130	30
Toluene	ND	0.10	80.1	84.1	4.98	111	115	3.35	70 - 130	30	70 - 130	30
Ethylbenzene	ND	0.10	92.2	95	3.00	106	112	5.32	70 - 130	30	70 - 130	30
Xylenes	ND	0.30	90.3	91.7	1.47	120	123	2.74	70 - 130	30	70 - 130	30
%SS:	103	0.10	82	84	2.41	101	103	2.21	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 24034 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0610038-001	)/03/06 11:00 AM	10/03/06	10/04/06 8:54 PM	0610038-002	10/03/06 1:20 PM	10/03/06	0/03/06 11:59 PM
0610038-003	10/03/06 2:20 PM	10/03/06	0/05/06 11:10 PM	0610038-004	10/03/06 3:00 PM	10/03/06	10/04/06 5:50 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.

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

DHS ELAP Certification N° 1644

QA/QC Officer

McCampbell 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

QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder: 0610038

EPA Method SW8260B	Extraction SW5030B				BatchID: 23996			Spiked Sample ID: 0610038-004A			
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	99.6	92.6	7.23	102	96.8	5.39	70 - 130	30	70 - 130	30
Benzene	ND	0.050	100	93.4	6.95	104	94.3	9.96	70 - 130	30	70 - 130	30
t-Butyl alcohol (TBA)	ND	0.25	80.1	84.2	4.92	87.3	83.3	4.64	70 - 130	30	70 - 130	30
Diisopropyl ether (DIPE)	ND	0.050	106	98.2	7.26	109	101	7.57	70 - 130	30	70 - 130	30
Ethyl tert-butyl ether (ETBE)	ND	0.050	108	102	6.00	112	104	8.27	70 - 130	30	70 - 130	30
Methyl-t-butyl ether (MTBE)	ND	0.050	114	111	3.16	122	112	8.51	70 - 130	30	70 - 130	30
Toluene	ND	0.050	93.2	91.2	2.11	101	93	8.05	70 - 130	30	70 - 130	30
%SS1:	88	0.050	108	109	0.311	111	107	2.84	70 - 130	30	70 - 130	30
%SS2:	102	0.050	98	103	4.88	102	101	0.976	70 - 130	30	70 - 130	30
%SS3:	90	0.050	107	107	0	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 23996 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0610038-001	)/03/06 11:00 AM	10/03/06	0/04/06 12:04 PM	0610038-002	10/03/06 1:20 PM	10/03/06	10/04/06 9:53 AM
0610038-003	10/03/06 2:20 PM	10/03/06	)/04/06 10:36 AM	0610038-004	10/03/06 3:00 PM	10/03/06	)/04/06 11:19 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.

STELLAR ENVIRONMENTAL SOLUTIONS
2198 Sixth Street
Berkeley, CA 94710
Telephone: (510) 644-3123
Fax (510) 644-3859

fax

To:	Harold Speelman
Fax #:	209-599-1657
From:	Henry Pietropaoli
Date:	October 26, 2007
Subject:	Soil Analytical 2836 Union Street Oakland, CA
Pages	12 (including this cover sheet)
NOTES:	Harold, Here's more analytical and a map so you have data surrounding the entire excavation Thanks, Henry

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Gasoline by GC/MS

Lab #:	189660	Location:	USTCF Claim No. 018639
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2006-65	Analysis:	EPA 8260B
Field ID:	BH14-8.5	Batch#:	117904
Lab ID:	189660-008	Sampled:	09/26/06
Matrix:	Soil	Received:	09/26/06
Basis:	as received	Analyzed:	09/29/06
Diln Fac:	0.9259		

Analyte	Result	RL	Units
Gasoline C7-C12	ND	0.93	mg/Kg
tert-Butyl Alcohol (TBA)	ND	93	ug/Kg
Isopropyl Ether (DIPE)	ND	4.6	ug/Kg
Ethyl tert-Butyl Ether (ETBE)	ND	4.6	ug/Kg
Methyl tert-Amyl Ether (TAME)	ND	4.6	ug/Kg
Ethanol	ND	930	ug/Kg
MTBE	ND	4.6	ug/Kg
Benzene	ND	4.6	ug/Kg
Toluene	ND	4.6	ug/Kg
1,2-Dibromoethane	ND	4.6	ug/Kg
Ethylbenzene	ND	4.6	ug/Kg
1,2-Dichloroethane	ND	4.6	ug/Kg
m,p-Xylenes	ND	4.6	ug/Kg
o-Xylene	ND	4.6	ug/Kg

Surrogate	%REC	Limits
Dibromofluoromethane	96	79-120
1,2-Dichloroethane-d4	89	76-130
Toluene-d8	97	80-120
Bromofluorobenzene	95	80-126

ND= Not Detected
RL= Reporting Limit

Gasoline by GC/MS

Lab #:	189660	Location:	USTCF Claim No. 018639
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2006-65	Analysis:	EPA 8260B
Field ID:	BH14-8.5	Batch#:	117904
Lab ID:	189660-008	Sampled:	09/26/06
Matrix:	Soil	Received:	09/26/06
Basis:	as received	Analyzed:	09/29/06
Diln Fac:	0.9259		

Analyte	Result	RL	Units
Gasoline C7-C12	ND	0.93	mg/Kg
tert-Butyl Alcohol (TBA)	ND	93	ug/Kg
Isopropyl Ether (DIPE)	ND	4.6	ug/Kg
Ethyl tert-Butyl Ether (ETBE)	ND	4.6	ug/Kg
Methyl tert-Amyl Ether (TAME)	ND	4.6	ug/Kg
Ethanol	ND	930	ug/Kg
MTBE	ND	4.6	ug/Kg
Benzene	ND	4.6	ug/Kg
Toluene	ND	4.6	ug/Kg
1,2-Dibromoethane	ND	4.6	ug/Kg
Ethylbenzene	ND	4.6	ug/Kg
1,2-Dichloroethane	ND	4.6	ug/Kg
m,p-Xylenes	ND	4.6	ug/Kg
o-Xylene	ND	4.6	ug/Kg

Surrogate	%REC	Limits
Dibromofluoromethane	96	79-120
1,2-Dichloroethane-d4	89	76-130
Toluene-d8	97	80-120
Bromofluorobenzene	95	80-126

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Gasoline by GC/MS

Lab #:	189660	Location:	USTCF Claim No. 018639
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2006-65	Analysis:	EPA 8260B
Field ID:	BH14-15	Batch#:	118022
Lab ID:	189660-009	Sampled:	09/26/06
Matrix:	Soil	Received:	09/26/06
Basis:	as received	Analyzed:	10/02/06
Diln Fac:	0.9091		

Analyte	Result	RL	Units
Gasoline C7-C12	ND	0.91	mg/Kg
tert-Butyl Alcohol (TBA)	ND	91	ug/Kg
Isopropyl Ether (DIPE)	ND	4.5	ug/Kg
Ethyl tert-Butyl Ether (ETBE)	ND	4.5	ug/Kg
Methyl tert-Amyl Ether (TAME)	ND	4.5	ug/Kg
Ethanol	ND	910	ug/Kg
MTBE	17	4.5	ug/Kg
Benzene	ND	4.5	ug/Kg
Toluene	ND	4.5	ug/Kg
1,2-Dibromoethane	ND	4.5	ug/Kg
Ethylbenzene	ND	4.5	ug/Kg
1,2-Dichloroethane	ND	4.5	ug/Kg
m,p-Xylenes	ND	4.5	ug/Kg
o-Xylene	ND	4.5	ug/Kg

Surrogate	%REC	Limits
Dibromofluoromethane	88	79-120
1,2-Dichloroethane-d4	89	76-130
Toluene-d8	96	80-120
Bromofluorobenzene	96	80-126

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins Laboratories Analytical Report

Lab #:	189933	Location:	USTCF Claim No. 018639
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65		
Matrix:	Soil	Sampled:	10/06/06
Basis:	as received	Received:	10/06/06
Batch#:	118316	Analyzed:	10/11/06

Field ID: W6 Lab ID: 189933-004
Type: SAMPLE Diln Fac: 50.00

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	1,700 H	50	mg/Kg	EPA 8015B
Benzene	ND	250	ug/Kg	EPA 8021B
Toluene	ND	250	ug/Kg	EPA 8021B
Ethylbenzene	17,000	250	ug/Kg	EPA 8021B
m,p-Xylenes	34,000	250	ug/Kg	EPA 8021B
o-Xylene	1,400	250	ug/Kg	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	166 *	62-137	EPA 8015B
Bromofluorobenzene (FID)	228 * >LR b	60-148	EPA 8015B
Trifluorotoluene (PID)	120	66-127	EPA 8021B
Bromofluorobenzene (PID)	109	74-127	EPA 8021B

Type: BLANK Diln Fac: 1.000
Lab ID: QC359803

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	0.20	mg/Kg	EPA 8015B
Benzene	ND	1.0	ug/Kg	EPA 8021B
Toluene	ND	1.0	ug/Kg	EPA 8021B
Ethylbenzene	ND	1.0	ug/Kg	EPA 8021B
m,p-Xylenes	ND	1.0	ug/Kg	EPA 8021B
o-Xylene	ND	1.0	ug/Kg	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	103	62-137	EPA 8015B
Bromofluorobenzene (FID)	106	60-148	EPA 8015B
Trifluorotoluene (PID)	97	66-127	EPA 8021B
Bromofluorobenzene (PID)	100	74-127	EPA 8021B

*= Value outside of QC limits; see narrative
H= Heavier hydrocarbons contributed to the quantitation
b= See narrative
ND= Not Detected
RL= Reporting Limit
>LR= Response exceeds instrument's linear range

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	189933	Location:	USTCF Claim No. 018639
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	189924-002	Batch#:	118316
Matrix:	Soil	Sampled:	10/05/06
Units:	mg/Kg	Received:	10/06/06
Basis:	as received	Analyzed:	10/11/06

Type: MS Lab ID: QC359834

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.09481	10.53	9.746	92	38-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	108	62-137
Bromofluorobenzene (FID)	108	60-148

Type: MSD Lab ID: QC359835

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.42	9.621	91	38-120	0	26

Surrogate	%REC	Limits
Trifluorotoluene (FID)	119	62-137
Bromofluorobenzene (FID)	115	60-148

RPD= Relative Percent Difference

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	189933	Location:	USTCF Claim No. 018639
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8015B
Type:	LCS	Basis:	as received
Lab ID:	QC359805	Diln Fac:	1.000
Matrix:	Soil	Batch#:	118316
Units:	mg/Kg	Analyzed:	10/11/06

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2.000	2.114	106	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	108	62-137
Bromofluorobenzene (FID)	107	60-148

Chain of Custody Record

Lab job no. _____
Date _____
Page 1 of 2

Laboratory Curtis and Tompkins, Ltd
Address 2323 Fifth Street
Berkeley, California 94710
510-486-0900

Project Owner Larry Wadler
Site Address 2836 Union St.
Oakland, CA

Project Name USTCF Claim No. 018639
Project Number 2006-65

Method of Shipment Hand Delivery
Shipment No. _____
Airbill No. _____
Cooler No. _____
Project Manager Richard Makdisi
Telephone No. (510) 644-3123
Fax No. (510) 644-3859
Samplers: (Signature) Henry Pietropaoli

	Field Sample Number	Location/ Depth	Date	Time	Sample Type	Type/Size of Container	Preservation: Cooler	Preservation: Chemical	Filtered	No. of Containers	8260	8260	BTXE MTBE Oxygenates (8260)	Ethanol (8260)	TPH-G (8015m)	Remarks
1	MW2B-12	12-12.5	9/25/06	0845	Soil	Acetate Sleeve	yes	no		1	X	X	X	X	X	
2	MW2B-17	17-17.5		0850						1						
3	MW 2B-23	23-24		0855						1						
4	MW1B-10	10-10.5		1050						1						
5	MW1B-15	15-15.5		1120						1						
6	MW1B-23	23-23.5		1140						1						
7	MW 3B-19	19-19.5		1145						1						
8	BH14-8.5	8.5-9	9/26/06	1035						1						
9	BH14-15	15-15.5		1040						1						
10	BH14-19.5	19.5-20		1050						1						
11	BH14-24.5	24.5-25		1100						1						
12	MW4B-17	17-17.5		1155						1						

Relinquished by:	Date	Received by:	Date	Relinquished by:	Date	Received by:	Date
Signature Henry Pietropaoli	9/26/06	Signature		Signature		Signature	
Printed Henry Pietropaoli	Time 1600	Printed Joel Ingram	Time	Printed	Time	Printed	Time
Company Stellar Environmental		Company C&T		Company		Company	

Turnaround Time: 5-Day Turnaround Time
Comments: _____

Relinquished by:	Date	Received by:	Date
Signature		Signature	
Printed	Time	Printed	Time
Company		Company	

2000-00-01

★ Stellar Environmental Solutions

2198 Sixth Street #201, Berkeley, CA 94710

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins Laboratories Analytical Report

Lab #:	189933	Location:	USTCF Claim No. 018639
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65		
Matrix:	Soil	Sampled:	10/06/06
Basis:	as received	Received:	10/06/06
Batch#:	118316	Analyzed:	10/11/06

Field ID: STOCKPILE COMP 2 Lab ID: 189933-002
Type: SAMPLE Diln Fac: 50.00

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	840 H	50	mg/Kg	EPA 8015B
Benzene	ND	250	ug/Kg	EPA 8021B
Toluene	ND	250	ug/Kg	EPA 8021B
Ethylbenzene	5,000	250	ug/Kg	EPA 8021B
m,p-Xylenes	11,000	250	ug/Kg	EPA 8021B
o-Xylene	3,800	250	ug/Kg	EPA 8021B

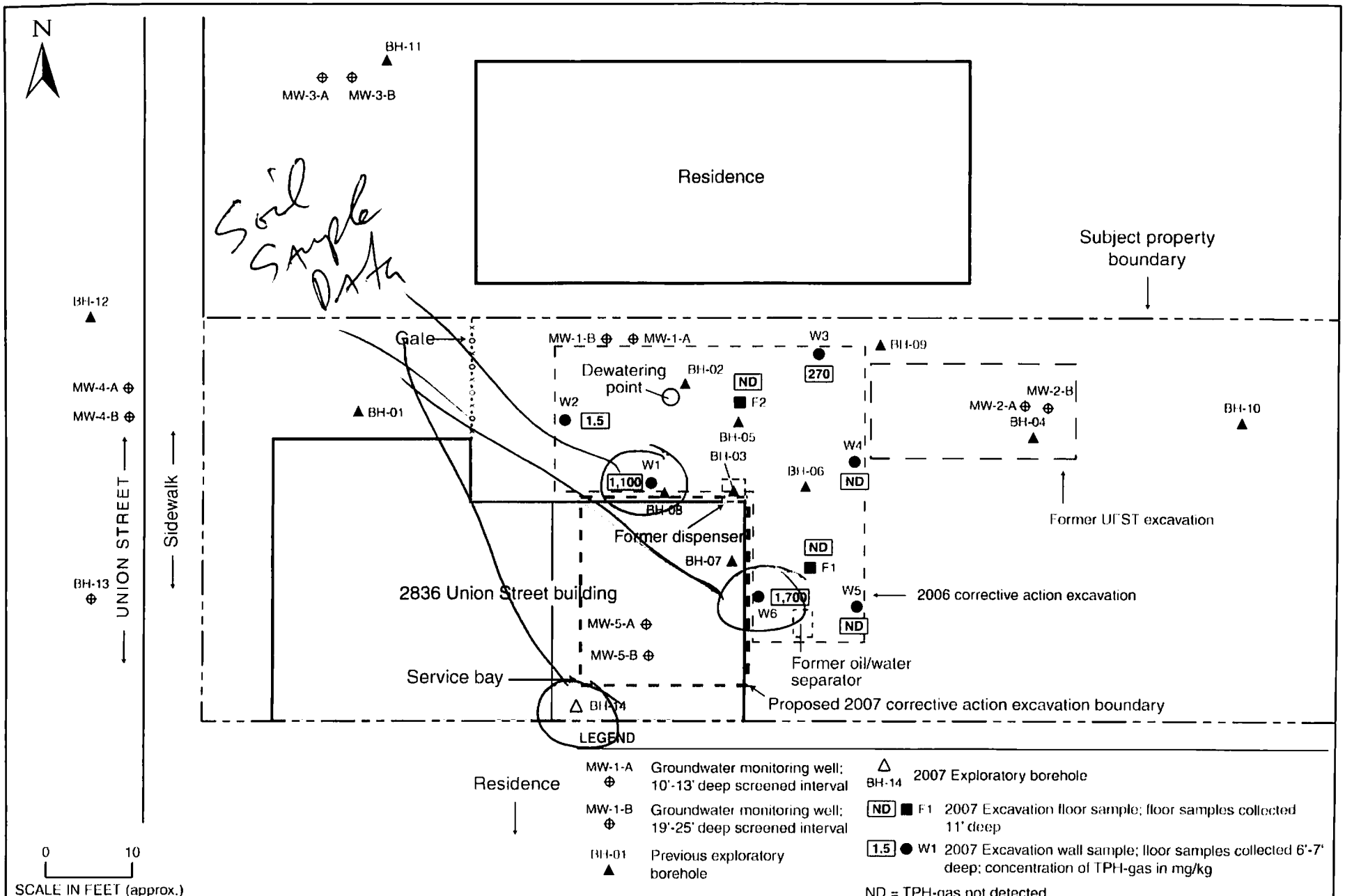
Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	115	62-137	EPA 8015B
Bromofluorobenzene (FID)	168 *	60-148	EPA 8015B
Trifluorotoluene (PID)	94	66-127	EPA 8021B
Bromofluorobenzene (PID)	102	74-127	EPA 8021B

Field ID: W5 Lab ID: 189933-003
Type: SAMPLE Diln Fac: 1.000

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	1.1	mg/Kg	EPA 8015B
Benzene	ND	5.3	ug/Kg	EPA 8021B
Toluene	ND	5.3	ug/Kg	EPA 8021B
Ethylbenzene	ND	5.3	ug/Kg	EPA 8021B
m,p-Xylenes	ND	5.3	ug/Kg	EPA 8021B
o-Xylene	ND	5.3	ug/Kg	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	96	62-137	EPA 8015B
Bromofluorobenzene (FID)	100	60-148	EPA 8015B
Trifluorotoluene (PID)	80	66-127	EPA 8021B
Bromofluorobenzene (PID)	88	74-127	EPA 8021B

*= Value outside of QC limits; see narrative
H= Heavier hydrocarbons contributed to the quantitation
b= See narrative
ND= Not Detected
RL= Reporting Limit
>LR= Response exceeds instrument's linear range



STELLAR ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

PROPOSED 2007 CORRECTIVE ACTION EXCAVATION

2836 Union Street, Oakland, CA

Figure 1

by: MJC | AUGUST 2007

2005-65-57

Chain of Custody Record

Lab job no. 187933

Date

Page 1 of 1

Laboratory Curtis and Tompkins, Ltd.
Address 2323 Fifth Street, Berkeley, California 94710
510-486-0900

Project Owner Mr. Lawrence Wadler
Site Address 2836 Union Street, Oakland, CA
Project Name USTCF Claim No. 018639
Project Number 2005-65

Method of Shipment Hand Delivery
Shipment No.
Airbill No.
Cooler No.
Project Manager Richard Makdisi
Telephone No. (510) 644-3123
Fax No. (510) 644-3859
Samplers: (Signature) Henry Pietropaoli

Analysis Required: TEH gas 8015/8020; BTEX

	Field Sample Number	Location/ Depth	Date	Time	Sample Type	Type/Size of Container	Preservation: Cooler	Preservation: Chemical	Filtered	No. of Containers	TEH gas 8015/8020	BTEX	Remarks
-1	EGW-2	—	10/6/06	0830	Water	40 ml VOA Vial	yes	HCl	No	6	X	X	★ 2 VOAs have air bubbles
-2	Stockpile Comp 2			0845	Soil	16 oz glass jar		none		1	X	X	
-3	W5	6 ft		0920		9 oz glass jar		none		1	X	X	
-4	W6	6 ft		0930		9 oz glass jar		none		1	X	X	

Received: On Ice / Ambient / Intact

Relinquished by:	Date	Received by:	Date	Relinquished by:	Date	Received by:	Date
Signature Henry Pietropaoli	10/6/06	Signature Joel Ingram	10/6/06	Signature		Signature	
Printed Henry Pietropaoli	Time	Printed Joel Ingram	Time	Printed	Time	Printed	Time
Company Stellar Environmental	1350	Company C&T	13:50	Company		Company	

Turnaround Time: 5 Day TAT

Comments: ★ Use 40 ml Vials without bubbles if possible

Relinquished by:	Date	Received by:	Date
Signature		Signature	
Printed	Time	Printed	Time
Company		Company	

2000-00-01

★ Stellar Environmental Solutions

2198 Sixth Street #201, Berkeley, CA 94710

Groundwater Profile and Disposal Manifest

Chain of Custody Record 199464

Lab job no. _____

Date _____

Page 1 of 1

Laboratory Curtis and Tompkins, Ltd.
Address 2323 Fifth Street
Berkeley, California 94710
510-486-0900

Project Owner Estate of Lawrence Wadler
Site Address 2836 Union Street
Oakland, CA

Project Name USTCF Claim No. 018639
Project Number 2005-65

Method of Shipment Hand Delivery
Shipment No. _____
Airbill No. _____
Cooler No. _____
Project Manager Richard Makdisi
Telephone No. (510) 644-3123
Fax No. (510) 644-3859
Samplers: *(Signature)* _____

Field Sample Number	Location/ Depth	Date	Time	Sample Type	Type/Size of Container	Preservation: Cooler	Preservation: Chemical	Filtered	No. of Containers	TVH-gas/BTEX	Remarks
-1 Exc Well	11	11/26/07	430	H2O	40 ml (3) VOA	yes		No		X	

Relinquished by:	Date	Received by:	Date
Signature Fred Hayden	11/26/07 1645	Signature [illegible]	11/26/07
Printed Fred Hayden	Time	Printed Robert Butler	Time 1645
Company Stellar Environmental		Company C&T	

Relinquished by:	Date	Received by:	Date
Signature		Signature	
Printed	Time	Printed	Time
Company		Company	

Relinquished by:	Date	Received by:	Date
Signature		Signature	
Printed	Time	Printed	Time
Company		Company	

Turnaround Time: 5 Day TAT

Comments: ~~Global ID T0600105041~~

2000-00-01

★ Stellar Environmental Solutions

2198 Sixth Street #201, Berkeley, CA 94710

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 199464
ANALYTICAL REPORT

Stellar Environmental Solutions	Project : 2005-65
2198 6th Street	Location : Wadler Property
Berkeley, CA 94710	Level : II

Sample ID	Lab ID
EXC WELL	199464-001

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 12/04/2007
Project Manager

Signature: _____ Date: 12/07/2007
Quality Assurance Director

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**199464**
Client:	**Stellar Environmental Solutions**
Project:	**2005-65**
Location:	**Wadler Property**
Request Date:	**11/26/07**
Samples Received:	**11/26/07**

This hardcopy data package contains sample and QC results for one water sample, requested for the above referenced project on 11/26/07. The sample was received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B and EPA 8021B):
No analytical problems were encountered.

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	199464	Location:	Wadler Property
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65		
Field ID:	EXC WELL	Batch#:	132125
Matrix:	Water	Sampled:	11/26/07
Units:	ug/L	Received:	11/26/07
Diln Fac:	1.000	Analyzed:	11/27/07

Type: SAMPLE Lab ID: 199464-001

Analyte	Result	RL	Analysis
Gasoline C7-C12	2,800	50	EPA 8015B
Benzene	42	0.50	EPA 8021B
Toluene	20	0.50	EPA 8021B
Ethylbenzene	220	0.50	EPA 8021B
m,p-Xylenes	120	0.50	EPA 8021B
o-Xylene	54	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	118	73-134	EPA 8015B
Bromofluorobenzene (FID)	88	77-140	EPA 8015B
Trifluorotoluene (PID)	115	65-142	EPA 8021B
Bromofluorobenzene (PID)	99	74-135	EPA 8021B

Type: BLANK Lab ID: QC417065

Analyte	Result	RL	Analysis
Gasoline C7-C12	ND	50	EPA 8015B
Benzene	ND	0.50	EPA 8021B
Toluene	ND	0.50	EPA 8021B
Ethylbenzene	ND	0.50	EPA 8021B
m,p-Xylenes	ND	0.50	EPA 8021B
o-Xylene	ND	0.50	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	89	73-134	EPA 8015B
Bromofluorobenzene (FID)	81	77-140	EPA 8015B
Trifluorotoluene (PID)	106	65-142	EPA 8021B
Bromofluorobenzene (PID)	99	74-135	EPA 8021B

ND= Not Detected
RL= Reporting Limit

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	199464	Location:	Wadler Property
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC417066	Batch#:	132125
Matrix:	Water	Analyzed:	11/27/07
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	911.6	91	79-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	98	73-134
Bromofluorobenzene (FID)	83	77-140

Curtis & Tompkins, Ltd.

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	199464	Location:	Wadler Property
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	132125
MSS Lab ID:	199479-001	Sampled:	11/26/07
Matrix:	Water	Received:	11/27/07
Units:	ug/L	Analyzed:	11/27/07
Diln Fac:	1.000		

Type: MS Lab ID: QC417067

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	97.18	2,000	1,919	91	72-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	110	73-134
Bromofluorobenzene (FID)	106	77-140

Type: MSD Lab ID: QC417068

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,026	96	72-120	5	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	109	73-134
Bromofluorobenzene (FID)	106	77-140

RPD= Relative Percent Difference

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	199464	Location:	Wadler Property
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8021B
Matrix:	Water	Batch#:	132125
Units:	ug/L	Analyzed:	11/27/07
Diln Fac:	1.000		

Type: BS Lab ID: QC417069

Analyte	Spiked	Result	%REC	Limits
Benzene	20.00	20.93	105	80-120
Toluene	20.00	20.66	103	80-120
Ethylbenzene	20.00	21.77	109	80-120
m,p-Xylenes	20.00	20.54	103	80-121
o-Xylene	20.00	20.78	104	80-120

Surrogate	%REC	Limits
Trifluorotoluene (PID)	108	65-142
Bromofluorobenzene (PID)	102	74-135

Type: BSD Lab ID: QC417070

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Benzene	10.00	10.86	109	80-120	4	20
Toluene	10.00	10.77	108	80-120	4	20
Ethylbenzene	10.00	11.27	113	80-120	3	20
m,p-Xylenes	10.00	11.01	110	80-121	7	20
o-Xylene	10.00	11.42	114	80-120	9	20

Surrogate	%REC	Limits
Trifluorotoluene (PID)	101	65-142
Bromofluorobenzene (PID)	94	74-135

RPD= Relative Percent Difference

APPENDIX E

ORC Advanced™
Material Safety Data Sheet

Oxygen Release Compound – Advanced (ORC *Advanced*™)
MATERIAL SAFETY DATA SHEET (MSDS)

Last Revised: March 13, 2007

Section 1 - Material Identification

Supplier:

REGENESIS

1011 Calle Sombra
San Clemente, CA 92673

Phone:	949.366.8000
Fax:	949.366.8090
E-mail:	info@regenesis.com

Chemical Description:	A mixture of Calcium OxyHydroxide [$CaO(OH)_2$] and Calcium Hydroxide [$Ca(OH)_2$].
Chemical Family:	Inorganic Chemical
Trade Name:	Advanced Formula Oxygen Release Compound (ORC *Advanced*™)
Chemical Synonyms	Calcium Hydroxide Oxide; Calcium Oxide Peroxide
Product Use:	Used to remediate contaminated soil and groundwater (environmental applications)

Section 2 – Composition

CAS No.	Chemical
682334-66-3	Calcium Hydroxide Oxide [$CaO(OH)_2$]
1305-62-0	Calcium Hydroxide [$Ca(OH)_2$]
7758-11-4	Dipotassium Phosphate (HK_2O_4P)
7778-77-0	Monopotassium Phosphate (H_2KO_4P)

Section 3 – Physical Data	
Form:	Powder
Color:	White to Pale Yellow
Odor:	Odorless
Melting Point:	527 °F (275 °C) – Decomposes
Boiling Point:	Not Applicable (NA)
***Flammability*/Flash Point:**	NA
Auto- Flammability:	NA
Vapor Pressure:	NA
Self-Ignition Temperature:	NA
Thermal Decomposition:	527 °F (275 °C) – Decomposes
Bulk Density:	0.5 – 0.65 g/ml (Loose Method)
Solubility:	1.65 g/L @ 68° F (20° C) for calcium hydroxide.
Viscosity:	NA
pH:	11-13 (saturated solution)
***Explosion Limits* % by Volume:**	Non-explosive
Hazardous Decomposition Products:	Oxygen, Hydrogen Peroxide, Steam, and Heat
Hazardous Reactions:	None

Section 5 – Regulations (cont)

SARA, Title III, Section 313 (40 CFR Part 372 – Toxic Chemical Release Reporting: Community Right-To-Know

Extremely Hazardous Substance:	No	
WHMIS Classification:	C	Oxidizing Material Poisonous and Infectious Material
	D	Material Causing Other Toxic Effects – Eye and Skin Irritant
Canadian Domestic Substance List:	Not Listed	

Section 6 – Protective Measures, Storage and Handling

Technical Protective Measures

Storage:	Keep in tightly closed container. Store in dry area, protected from heat sources and direct sunlight.
Handling:	Clean and dry processing pipes and equipment before operation. Never return unused product to the storage container. Keep away from incompatible products. Containers and equipment used to handle this product should be used exclusively for this material. Avoid contact with water or humidity.

Section 6 – Protective Measures, Storage and Handling (cont)

Personal Protective Equipment (PPE)

Engineering Controls:	Calcium Hydroxide ACGIH® TLV® (2000) 5 mg/m^3 TWA OSHA PEL Total dust–15 mg/m^3 TWA Respirable fraction– 5 mg/m^3 TWA NIOSH REL (1994) 5 mg/m^3
Respiratory Protection:	For many conditions, no respiratory protection may be needed; however, in dusty or unknown atmospheres use a NIOSH approved dust respirator.
Hand Protection:	Impervious protective gloves made of nitrile, natural rubbber or neoprene.
Eye Protection:	Use chemical safety goggles (dust proof).
Skin Protection:	For brief contact, few precautions other than clean clothing are needed. Full body clothing impervious to this material should be used during prolonged exposure.
Other:	Safety shower and eyewash stations should be present. Consultation with an industrial hygienist or safety manager for the selection of PPE suitable for working conditions is suggested.
Industrial Hygiene:	Avoid contact with skin and eyes.
Protection Against Fire & Explosion:	NA

Section 7 – Hazards Identification

Emergency Overview:	Oxidizer – Contact with combustibles may cause a fire. This material decomposes and releases oxygen in a fire. The additional oxygen may intensify the fire.
Potential Health Effects:	Irritating to the mucous membrane and eyes. If the product splashes in ones face and eyes, treat the eyes first. Do not dry soiled clothing close to an open flame or heat source. Any

	clothing that has been contaminated with this product should be submerged in water prior to drying.
Inhalation:	High concentrations may cause slight nose and throat irritation with a cough. There is risk of sore throat and nose bleeds if one is exposed to this material for an extended period of time.
Eye Contact:	Severe eye irritation with watering and redness. There is also the risk of serious and/or permanent eye lesions.
Skin Contact:	Irritation may occur if one is exposed to this material for extended periods.
Ingestion:	Irritation of the mouth and throat with nausea and vomiting.

Section 8 – Measures in Case of Accidents and Fire

After Spillage/Leakage/Gas Leakage:	Collect in suitable containers. Wash remainder with copious quantities of water.
Extinguishing Media:	See next.
Suitable:	Large quantities of water or water spray. In case of fire in close proximity, all means of extinguishing are acceptable.
Further Information:	Self contained breathing apparatus or approved gas mask should be worn due to small particle size. Use extinguishing media appropriate for surrounding fire. Apply cooling water to sides of transport or storage vessels that are exposed to flames until the fire is extinguished. Do not approach hot vessels that contain this product.
First Aid:	After contact with skin, wash immediately with plenty of water and soap. In case of contact with eyes, rinse immediately with plenty of water and seek medical attention. Consult an opthalmologist in all cases.

Section 8 – Measures in Case of Accidents and Fire

Eye Contact:	Flush eyes with running water for 15 minutes, while keeping the eyelids wide open. Consult with an ophthalmologist in all cases.
Inhalation:	Remove subject from dusty environment. Consult with a physician in case of respiratory symptoms.

Ingestion:	If the victim is conscious, rinse mouth and admnister fresh water. DO NOT induce vomiting. Consult a physician in all cases.
Skin Contact:	Wash affected skin with running water. Remove and clean clothing. Consult with a physician in case of persistent pain or redness.
Special Precautions:	Evacuate all non-essential personnel. Intervention should only be done by capable personnel that are trained and aware of the hazards associated with this product. When it is safe, unaffected product should be moved to safe area.
Specific Hazards:	Oxidizing substance. Oxygen released on exothermic decomposition may support combustion. Confined spaces and/or containers may be subject to increased pressure. If product comes into contact with flammables, fire or explosion may occur.

Section 9 – Accidental Release Measures

Precautions:	Observe the protection methods cited in Section 3. Avoid materials and products that are incompatible with product. Immediately notify the appropriate authorities in case of reportable discharge (> 100 lbs).
Cleanup Methods:	Collect the product with a suitable means of avoiding dust formation. All receiving equipment should be clean, vented, dry, labeled and made of material that this product is compatible with. Because of the contamination risk, the collected material should be kept in a safe isolated place. Use large quantities of water to clean the impacted area. See Section 12 for disposal methods.

Section 10 – Information on Toxicology

Toxicity Data

Acute Toxicity:	Oral Route, LD_{50}, rat, > 2,000 mg/kg (powder 50%) Dermal Route, LD_{50}, rat, > 2,000 mg/kg (powder 50%) Inhalation, LD_{50}, rat, > 5,000 mg/m^3 (powder 35%)
Irritation:	Rabbit (eyes), severe irritant

Sensitization:	No data
Chronic Toxicity:	In vitro, no mutagenic effect (Powder 50%)
Target Organ Effects:	Eyes and respiratory passages.

Section 11 – Information on Ecology

Ecology Data	
	10 mg $Ca(OH)_2$/L: pH = 9.0
	100 mg $Ca(OH)_2$/L: pH = 10.6
Acute Exotoxicity:	Fishes, Cyprinus carpio, LC_{50}, 48 hrs, 160 mg/L
	Crustaceans, Daphnia sp., EC_{50}, 24 hours, 25.6 mg/L
	(Powder 16%)
Mobility:	Low Solubility and Mobility
	Water – Slow Hydrolysis.
	Degradation Products: Calcium Hydroxide
Abiotic Degradation:	Water/soil – complexation/precipitation. Carbonates/sulfates present at environmental concentrations.
	Degradation products: carbonates/sulfates sparingly soluble
Biotic Degradation:	NA (inorganic compound)
Potential for Bioaccumulation:	NA (ionizable inorganic compound)

Section 11 – Information on Ecology (cont)

Comments:	Observed effects are related to alkaline properties of the product. Hazard for the environment is limited due to the product properties of: • No bioaccumulation • Weak solubility and precipatation as carbonate or sulfate in an aquatic environment. Diluted product is rapidly neutralized at environmental pH.
Further Information:	NA

Section 12 – Disposal Considerations

Waste Disposal Method:	Consult current federal, state and local regulations regarding the proper disposal of this material and its emptied containers.

Section 13 – Shipping/Transport Information

D.O.T Shipping Name:	Oxidizing Solid, N.O.S [A mixture of Calcium OxyHydroxide [$CaO(OH)_2$] and Calcium Hydroxide [$Ca(OH)_2$].
UN Number:	1479
Hazard Class:	5.1
Label(s):	5.1 (Oxidizer)
Packaging Group:	II
STCC Number:	4918717

Section 14 – Other Information

HMIS® Rating	Health – 2 Flammability – 0	Reactivity – 1 PPE - Required

HMIS® is a registered trademark of the National Painting and Coating Association.

NFPA® Rating	Health – 2 Flammability – 0	Reactivity – 1 OX

NFPA® is a registered trademark of the National Fire Protection Association.

Reason for Issue: Update toxicological and ecological data

Section 15 – Further Information

The information contained in this document is the best available to the supplier at the time of writing, but is provided without warranty of any kind. Some possible hazards have been determined by analogy to similar classes of material. The items in this document are subject to change and clarification as more information become available.

APPENDIX F

Certified Analytical Laboratory Reports and Chain-of-Custody Documentation

199490

W7

Chain of Custody Record

Lab job no. ______
Date ______
Page 1 of 1

Laboratory: Curtis and Tompkins, Ltd.
Address: 2323 Fifth Street, Berkeley, California 94710
510-486-0900

Project Owner: Estate of Lawrence Wadler
Site Address: 2836 Union Street, Oakland, CA

Project Name: USTCF Claim No. 018639
Project Number: 2005-65

Method of Shipment: Hand Delivery
Shipment No. ______
Airbill No. ______
Cooler No. ______
Project Manager: Richard Makdisi
Telephone No. (510) 644-3123
Fax No. (510) 644-3859
Samplers: (Signature) [signature]

Field Sample Number	Location/ Depth	Date	Time	Sample Type	Type/Size of Container	Preservation: Cooler	Preservation: Chemical	Filtered	No. of Containers	TVH-gas 8015m	MBTEX, oxygen, scaven. 8260	Remarks
F3	11	11/27/07	1300	Soil	16 oz glass	yes	–	No	1	X	X	
W7	10'	↓	1330	↓	↓		–	–	1	X	X	
W8	10'	↓	1400	↓	↓		–	–	1	X	X	
Soil Comp	–	↓	1420	↓	↓		–	–	1	X	X	

Analysis Required

Relinquished by:	Date	Received by:	Date	Relinquished by:	Date	Received by:	Date
Signature: [signature]	11/27/07	Signature: [signature]	11/27/07	Signature:		Signature:	
Printed: Pretropoli	Time: 1455	Printed: Ling Wu	Time: 14:55	Printed:	Time:	Printed:	Time:
Company: Stellar Environmental		Company: C&T		Company:		Company:	

Turnaround Time: 5 Day TAT

Comments: Global ID: TO600105641
on ice, intact

Relinquished by:	Date	Received by:	Date
Signature:		Signature:	
Printed:	Time:	Printed:	Time:
Company:		Company:	

2000-00-01

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 199490
ANALYTICAL REPORT

Stellar Environmental Solutions	Project : 2005-65
2198 6th Street	Location : USTCF Claim No. 018639
Berkeley, CA 94710	Level : II

Sample ID	Lab ID
F3	199490-001
W7	199490-002
W8	199490-003
SOILD COMP	199490-004

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 12/07/2007
Project Manager

Signature: _____ Date: 12/10/2007
Operations Manager

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**199490**
Client:	**Stellar Environmental Solutions**
Project:	**2005-65**
Location:	**USTCF Claim No. 018639**
Request Date:	**11/27/07**
Samples Received:	**11/27/07**

This hardcopy data package contains sample and QC results for four soil samples, requested for the above referenced project on 11/27/07. The samples were received on ice and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):

High surrogate recoveries were observed for trifluorotoluene (FID) in the MS/MSD of F3 (lab # 199490-001); the corresponding bromofluorobenzene (FID) surrogate recoveries were within limits. No other analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):

No analytical problems were encountered.

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	199490	Location:	USTCF Claim No. 018639
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	132167
Units:	mg/Kg	Sampled:	11/27/07
Basis:	as received	Received:	11/27/07

Field ID: F3 Diln Fac: 1.000
Type: SAMPLE Analyzed: 11/29/07
Lab ID: 199490-001

Analyte	Result	RL
Gasoline C7-C12	ND	0.97

Surrogate	%REC	Limits
Trifluorotoluene (FID)	99	71-132
Bromofluorobenzene (FID)	98	69-145

Field ID: W7 Diln Fac: 1.000
Type: SAMPLE Analyzed: 11/28/07
Lab ID: 199490-002

Analyte	Result	RL
Gasoline C7-C12	1.9	1.0

Surrogate	%REC	Limits
Trifluorotoluene (FID)	114	71-132
Bromofluorobenzene (FID)	98	69-145

Field ID: W8 Diln Fac: 1.000
Type: SAMPLE Analyzed: 11/29/07
Lab ID: 199490-003

Analyte	Result	RL
Gasoline C7-C12	4.7	1.0

Surrogate	%REC	Limits
Trifluorotoluene (FID)	128	71-132
Bromofluorobenzene (FID)	113	69-145

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	199490	Location:	USTCF Claim No. 018639
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	132167
Units:	mg/Kg	Sampled:	11/27/07
Basis:	as received	Received:	11/27/07

Field ID:	SOILD COMP	Diln Fac:	25.00
Type:	SAMPLE	Analyzed:	11/28/07
Lab ID:	199490-004		

Analyte	Result	RL
Gasoline C7-C12	540	25

Surrogate	%REC	Limits
Trifluorotoluene (FID)	129	71-132
Bromofluorobenzene (FID)	144	69-145

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC417242	Analyzed:	11/28/07

Analyte	Result	RL
Gasoline C7-C12	ND	0.20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	96	71-132
Bromofluorobenzene (FID)	95	69-145

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	199490	Location:	USTCF Claim No. 018639
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8015B
Type:	LCS	Basis:	as received
Lab ID:	QC417243	Diln Fac:	1.000
Matrix:	Soil	Batch#:	132167
Units:	mg/Kg	Analyzed:	11/28/07

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	5.000	4.658	93	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	122	71-132
Bromofluorobenzene (FID)	104	69-145

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	199490	Location:	USTCF Claim No. 018639
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8015B
Field ID:	F3	Diln Fac:	1.000
MSS Lab ID:	199490-001	Batch#:	132167
Matrix:	Soil	Sampled:	11/27/07
Units:	mg/Kg	Received:	11/27/07
Basis:	as received	Analyzed:	11/29/07

Type: MS Lab ID: QC417244

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.2154	10.10	7.924	76	43-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	141 *	71-132
Bromofluorobenzene (FID)	108	69-145

Type: MSD Lab ID: QC417245

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.10	8.656	84	43-120	9	25

Surrogate	%REC	Limits
Trifluorotoluene (FID)	141 *	71-132
Bromofluorobenzene (FID)	109	69-145

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

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Sample Name: **199490-002,132167,tvh**
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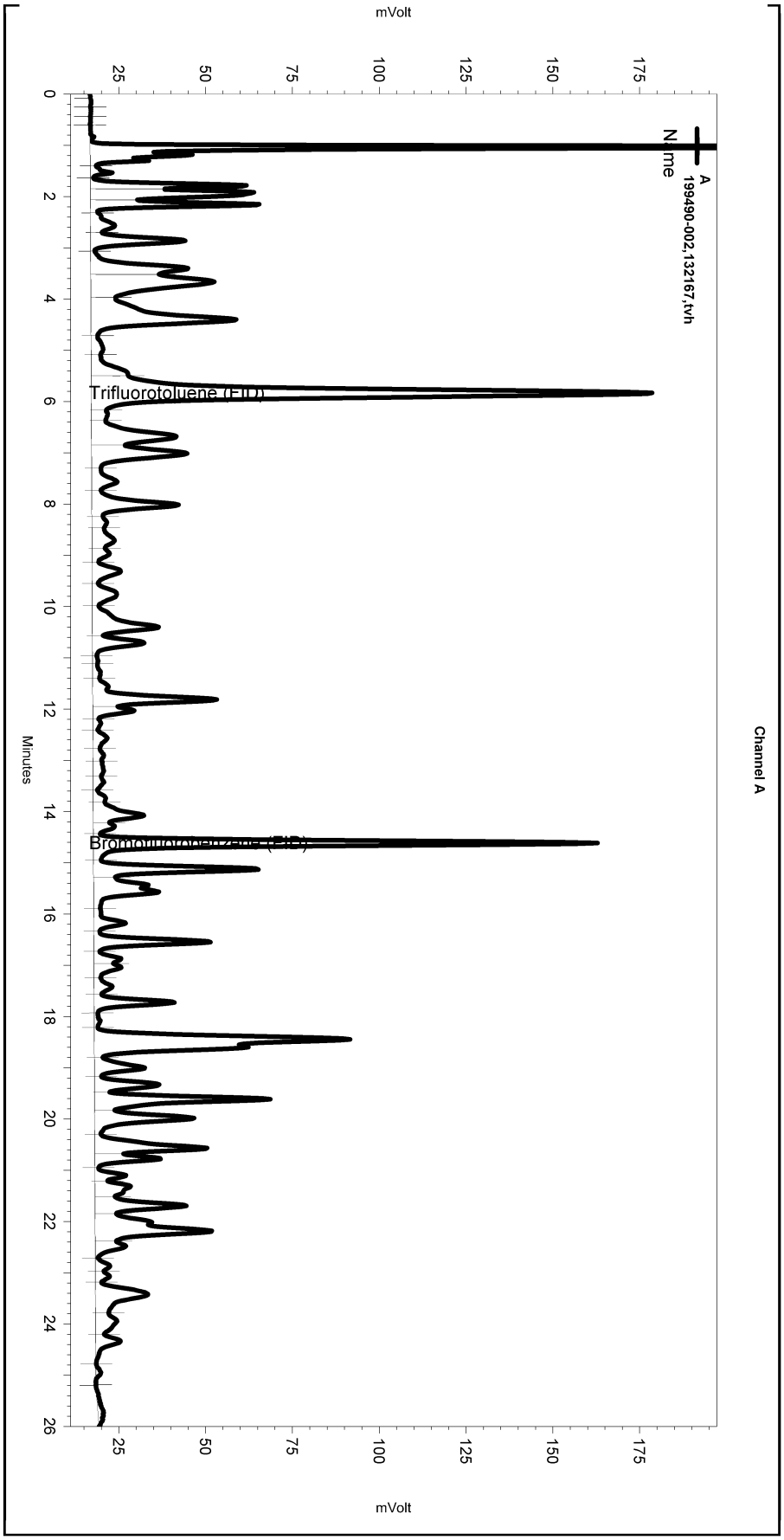

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Yes	Threshold	0	0	50

Manual Integration Fixes

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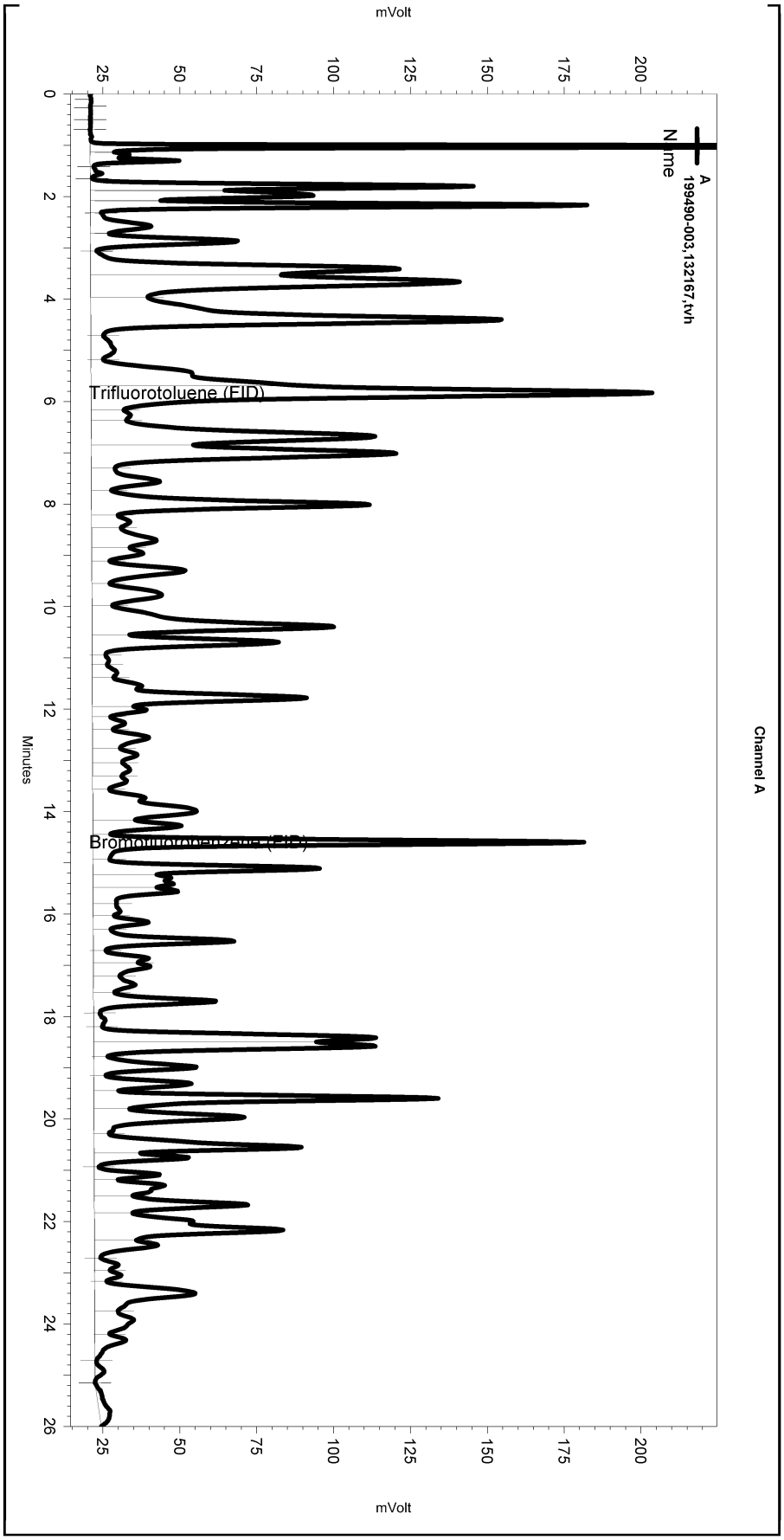
Vial & pH or Core ID: a



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Yes	Threshold	0	0	50

Manual Integration Fixes

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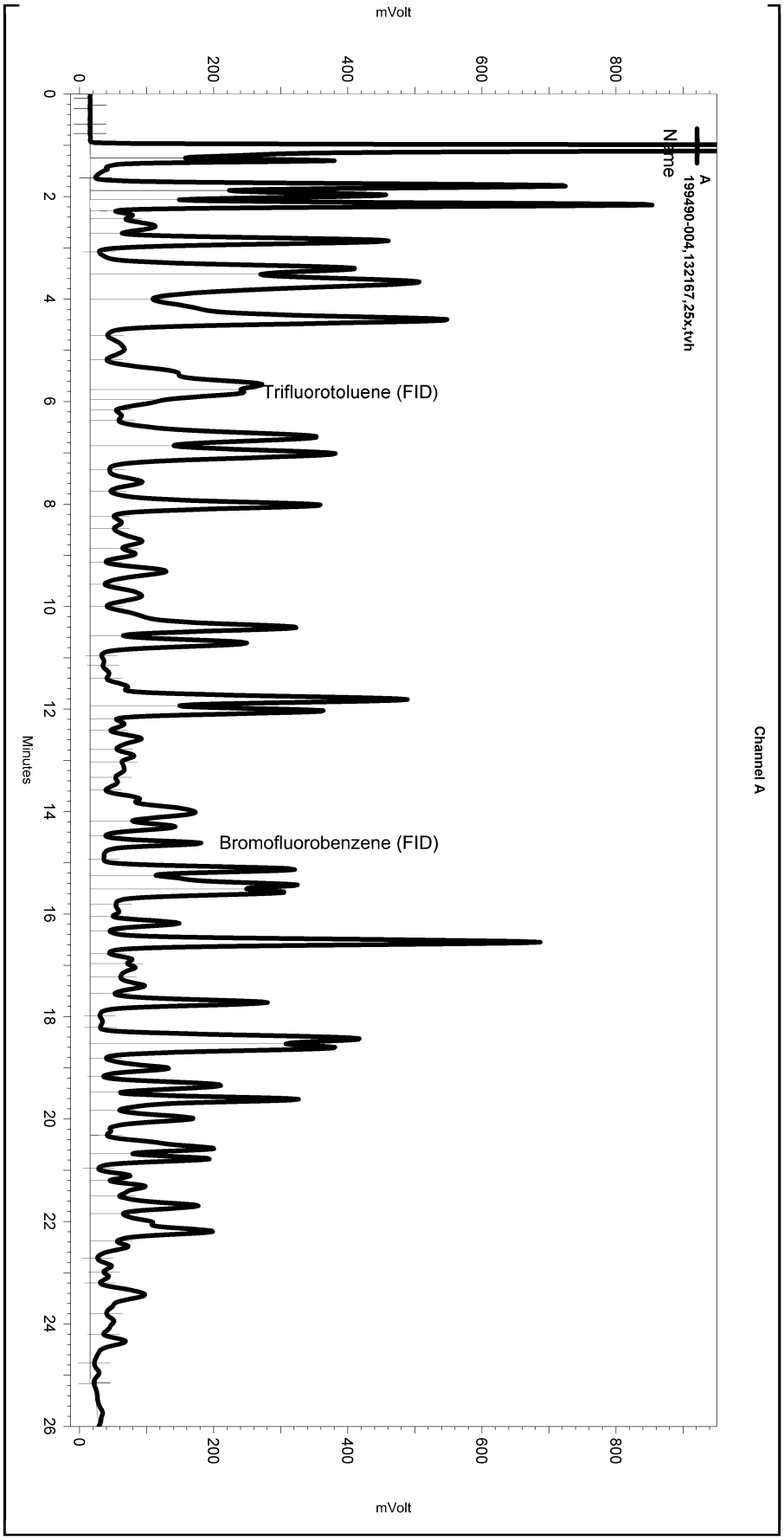
Vial & pH or Core ID: a



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Yes	Threshold	0	0	50

Manual Integration Fixes

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Yes	Split Peak	5.965	0	0

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Method Name: \\Lims\gdrive\ezchrom\Projects\GC04\Method\tvhbtxe302.met

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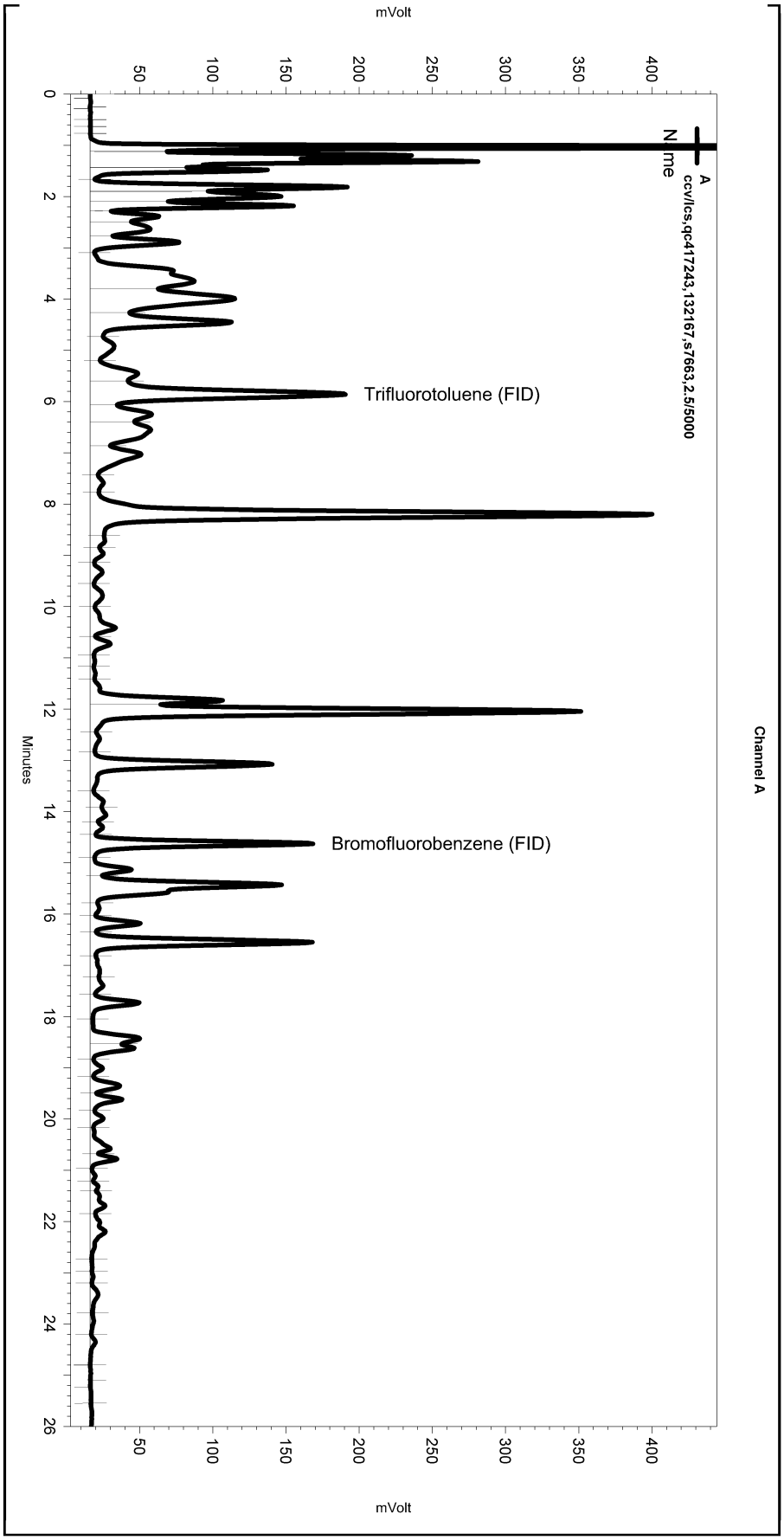

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Manual Integration Fixes

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Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value

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Curtis & Tompkins, Ltd.

BTXE & Oxygenates

Lab #:	199490	Location:	USTCF Claim No. 018639
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8260B
Field ID:	F3	Diln Fac:	0.9615
Lab ID:	199490-001	Batch#:	132362
Matrix:	Soil	Sampled:	11/27/07
Units:	ug/Kg	Received:	11/27/07
Basis:	as received	Analyzed:	12/04/07

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	96
MTBE	ND	4.8
Isopropyl Ether (DIPE)	ND	4.8
Ethyl tert-Butyl Ether (ETBE)	ND	4.8
1,2-Dichloroethane	ND	4.8
Benzene	ND	4.8
Methyl tert-Amyl Ether (TAME)	ND	4.8
Toluene	ND	4.8
1,2-Dibromoethane	ND	4.8
Ethylbenzene	ND	4.8
m,p-Xylenes	ND	4.8
o-Xylene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-124
1,2-Dichloroethane-d4	108	79-136
Toluene-d8	106	80-120
Bromofluorobenzene	99	80-122

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

BTXE & Oxygenates

Lab #:	199490	Location:	USTCF Claim No. 018639
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8260B
Field ID:	W7	Diln Fac:	0.9615
Lab ID:	199490-002	Batch#:	132362
Matrix:	Soil	Sampled:	11/27/07
Units:	ug/Kg	Received:	11/27/07
Basis:	as received	Analyzed:	12/04/07

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	96
MTBE	ND	4.8
Isopropyl Ether (DIPE)	ND	4.8
Ethyl tert-Butyl Ether (ETBE)	ND	4.8
1,2-Dichloroethane	ND	4.8
Benzene	ND	4.8
Methyl tert-Amyl Ether (TAME)	ND	4.8
Toluene	ND	4.8
1,2-Dibromoethane	ND	4.8
Ethylbenzene	ND	4.8
m,p-Xylenes	ND	4.8
o-Xylene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-124
1,2-Dichloroethane-d4	115	79-136
Toluene-d8	106	80-120
Bromofluorobenzene	100	80-122

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

BTXE & Oxygenates

Lab #:	199490	Location:	USTCF Claim No. 018639
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8260B
Field ID:	W8	Diln Fac:	0.9259
Lab ID:	199490-003	Batch#:	132362
Matrix:	Soil	Sampled:	11/27/07
Units:	ug/Kg	Received:	11/27/07
Basis:	as received	Analyzed:	12/04/07

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	93
MTBE	ND	4.6
Isopropyl Ether (DIPE)	ND	4.6
Ethyl tert-Butyl Ether (ETBE)	ND	4.6
1,2-Dichloroethane	ND	4.6
Benzene	ND	4.6
Methyl tert-Amyl Ether (TAME)	ND	4.6
Toluene	ND	4.6
1,2-Dibromoethane	ND	4.6
Ethylbenzene	ND	4.6
m,p-Xylenes	ND	4.6
o-Xylene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-124
1,2-Dichloroethane-d4	114	79-136
Toluene-d8	108	80-120
Bromofluorobenzene	98	80-122

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

BTXE & Oxygenates

Lab #:	199490	Location:	USTCF Claim No. 018639
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8260B
Field ID:	SOILD COMP	Diln Fac:	100.0
Lab ID:	199490-004	Batch#:	132418
Matrix:	Soil	Sampled:	11/27/07
Units:	ug/Kg	Received:	11/27/07
Basis:	as received	Analyzed:	12/05/07

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	10,000
MTBE	ND	500
Isopropyl Ether (DIPE)	ND	500
Ethyl tert-Butyl Ether (ETBE)	ND	500
1,2-Dichloroethane	ND	500
Benzene	ND	500
Methyl tert-Amyl Ether (TAME)	ND	500
Toluene	ND	500
1,2-Dibromoethane	ND	500
Ethylbenzene	4,300	500
m,p-Xylenes	4,600	500
o-Xylene	650	500

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-124
1,2-Dichloroethane-d4	105	79-136
Toluene-d8	109	80-120
Bromofluorobenzene	90	80-122
Trifluorotoluene (MeOH)	111	55-146

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

BTXE & Oxygenates

Lab #:	199490	Location:	USTCF Claim No. 018639
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8260B
Type:	BLANK	Basis:	as received
Lab ID:	QC418085	Diln Fac:	1.000
Matrix:	Soil	Batch#:	132362
Units:	ug/Kg	Analyzed:	12/04/07

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
Toluene	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-124
1,2-Dichloroethane-d4	102	79-136
Toluene-d8	108	80-120
Bromofluorobenzene	100	80-122

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

BTXE & Oxygenates

Lab #:	199490	Location:	USTCF Claim No. 018639
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8260B
Matrix:	Soil	Dil'n Fac:	1.000
Units:	ug/Kg	Batch#:	132362
Basis:	as received	Analyzed:	12/04/07

Type: BS Lab ID: QC418086

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	135.1	108	58-133
MTBE	25.00	25.04	100	66-120
Isopropyl Ether (DIPE)	25.00	28.06	112	57-120
Ethyl tert-Butyl Ether (ETBE)	25.00	26.95	108	65-120
1,2-Dichloroethane	25.00	27.18	109	69-124
Benzene	25.00	26.00	104	77-121
Methyl tert-Amyl Ether (TAME)	25.00	28.92	116	71-120
Toluene	25.00	27.53	110	79-122
1,2-Dibromoethane	25.00	26.78	107	77-120
Ethylbenzene	25.00	27.19	109	80-127
m,p-Xylenes	50.00	53.70	107	80-126
o-Xylene	25.00	26.20	105	80-124

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-124
1,2-Dichloroethane-d4	102	79-136
Toluene-d8	109	80-120
Bromofluorobenzene	97	80-122

Type: BSD Lab ID: QC418087

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	133.8	107	58-133	1	27
MTBE	25.00	25.93	104	66-120	3	20
Isopropyl Ether (DIPE)	25.00	28.64	115	57-120	2	20
Ethyl tert-Butyl Ether (ETBE)	25.00	27.39	110	65-120	2	20
1,2-Dichloroethane	25.00	28.10	112	69-124	3	20
Benzene	25.00	26.18	105	77-121	1	20
Methyl tert-Amyl Ether (TAME)	25.00	28.90	116	71-120	0	20
Toluene	25.00	26.79	107	79-122	3	20
1,2-Dibromoethane	25.00	26.90	108	77-120	0	20
Ethylbenzene	25.00	26.71	107	80-127	2	20
m,p-Xylenes	50.00	52.40	105	80-126	2	20
o-Xylene	25.00	26.10	104	80-124	0	20

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-124
1,2-Dichloroethane-d4	104	79-136
Toluene-d8	106	80-120
Bromofluorobenzene	98	80-122

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

BTXE & Oxygenates

Lab #:	199490	Location:	USTCF Claim No. 018639
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	132362
MSS Lab ID:	199588-013	Sampled:	11/30/07
Matrix:	Soil	Received:	11/30/07
Units:	ug/Kg	Analyzed:	12/04/07
Basis:	as received		

Type: MS Diln Fac: 0.9259
Lab ID: QC418195

Analyte	MSS Result	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	<5.394	231.5	193.7	84	41-131
MTBE	<0.4028	46.30	37.65	81	52-120
Isopropyl Ether (DIPE)	<0.2762	46.30	40.57	88	46-120
Ethyl tert-Butyl Ether (ETBE)	<0.3482	46.30	39.31	85	52-123
1,2-Dichloroethane	<0.3334	46.30	42.00	91	53-120
Benzene	<0.2721	46.30	39.10	84	57-123
Methyl tert-Amyl Ether (TAME)	<0.2252	46.30	41.05	89	57-120
Toluene	<0.3688	46.30	38.92	84	53-126
1,2-Dibromoethane	<0.2076	46.30	39.64	86	50-120
Ethylbenzene	<0.3600	46.30	36.70	79	51-130
m,p-Xylenes	<0.8273	92.59	71.79	78	49-128
o-Xylene	<0.4580	46.30	35.64	77	49-126

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-124
1,2-Dichloroethane-d4	109	79-136
Toluene-d8	108	80-120
Bromofluorobenzene	96	80-122

Type: MSD Diln Fac: 0.8929
Lab ID: QC418196

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	223.2	168.0	75	41-131	11	38
MTBE	44.64	32.95	74	52-120	10	27
Isopropyl Ether (DIPE)	44.64	36.60	82	46-120	7	27
Ethyl tert-Butyl Ether (ETBE)	44.64	35.12	79	52-123	8	27
1,2-Dichloroethane	44.64	34.76	78	53-120	15	27
Benzene	44.64	34.02	76	57-123	10	25
Methyl tert-Amyl Ether (TAME)	44.64	35.24	79	57-120	12	26
Toluene	44.64	33.37	75	53-126	12	27
1,2-Dibromoethane	44.64	31.93	72	50-120	18	26
Ethylbenzene	44.64	31.65	71	51-130	11	28
m,p-Xylenes	89.29	61.38	69	49-128	12	28
o-Xylene	44.64	30.01	67	49-126	14	28

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-124
1,2-Dichloroethane-d4	112	79-136
Toluene-d8	107	80-120
Bromofluorobenzene	98	80-122

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

BTXE & Oxygenates

Lab #:	199490	Location:	USTCF Claim No. 018639
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8260B
Type:	BLANK	Basis:	as received
Lab ID:	QC418338	Diln Fac:	1.000
Matrix:	Soil	Batch#:	132418
Units:	ug/Kg	Analyzed:	12/05/07

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
Toluene	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-124
1,2-Dichloroethane-d4	96	79-136
Toluene-d8	100	80-120
Bromofluorobenzene	96	80-122

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

BTXE & Oxygenates

Lab #:	199490	Location:	USTCF Claim No. 018639
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8260B
Type:	LCS	Basis:	as received
Lab ID:	QC418339	Diln Fac:	1.000
Matrix:	Soil	Batch#:	132418
Units:	ug/Kg	Analyzed:	12/05/07

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	102.8	82	58-133
MTBE	25.00	24.11	96	66-120
Isopropyl Ether (DIPE)	25.00	22.87	91	57-120
Ethyl tert-Butyl Ether (ETBE)	25.00	24.37	97	65-120
1,2-Dichloroethane	25.00	26.35	105	69-124
Benzene	25.00	26.08	104	77-121
Methyl tert-Amyl Ether (TAME)	25.00	26.49	106	71-120
Toluene	25.00	26.40	106	79-122
1,2-Dibromoethane	25.00	26.49	106	77-120
Ethylbenzene	25.00	26.90	108	80-127
m,p-Xylenes	50.00	53.52	107	80-126
o-Xylene	25.00	26.08	104	80-124

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-124
1,2-Dichloroethane-d4	94	79-136
Toluene-d8	101	80-120
Bromofluorobenzene	92	80-122

Curtis & Tompkins, Ltd.

Batch QC Report

BTXE & Oxygenates

Lab #:	199490	Location:	USTCF Claim No. 018639
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2005-65	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Dil'n Fac:	0.9434
MSS Lab ID:	199621-001	Batch#:	132418
Matrix:	Soil	Sampled:	12/04/07
Units:	ug/Kg	Received:	12/04/07
Basis:	as received	Analyzed:	12/05/07

Type: MS Lab ID: QC418402

Analyte	MSS Result	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	<5.699	235.8	172.3	73	41-131
MTBE	<0.4256	47.17	35.96	76	52-120
Isopropyl Ether (DIPE)	<0.2918	47.17	34.46	73	46-120
Ethyl tert-Butyl Ether (ETBE)	<0.3679	47.17	36.21	77	52-123
1,2-Dichloroethane	<0.3523	47.17	37.66	80	53-120
Benzene	<0.2875	47.17	37.03	78	57-123
Methyl tert-Amyl Ether (TAME)	<0.2380	47.17	39.69	84	57-120
Toluene	<0.3897	47.17	37.98	81	53-126
1,2-Dibromoethane	<0.2194	47.17	39.20	83	50-120
Ethylbenzene	<0.3804	47.17	36.27	77	51-130
m,p-Xylenes	<0.8742	94.34	72.68	77	49-128
o-Xylene	<0.4839	47.17	36.89	78	49-126

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-124
1,2-Dichloroethane-d4	97	79-136
Toluene-d8	103	80-120
Bromofluorobenzene	93	80-122

Type: MSD Lab ID: QC418403

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	235.8	172.1	73	41-131	0	38
MTBE	47.17	35.87	76	52-120	0	27
Isopropyl Ether (DIPE)	47.17	33.96	72	46-120	1	27
Ethyl tert-Butyl Ether (ETBE)	47.17	36.07	76	52-123	0	27
1,2-Dichloroethane	47.17	35.61	75	53-120	6	27
Benzene	47.17	35.72	76	57-123	4	25
Methyl tert-Amyl Ether (TAME)	47.17	39.95	85	57-120	1	26
Toluene	47.17	36.73	78	53-126	3	27
1,2-Dibromoethane	47.17	36.69	78	50-120	7	26
Ethylbenzene	47.17	35.64	76	51-130	2	28
m,p-Xylenes	94.34	71.04	75	49-128	2	28
o-Xylene	47.17	35.62	76	49-126	4	28

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-124
1,2-Dichloroethane-d4	97	79-136
Toluene-d8	103	80-120
Bromofluorobenzene	94	80-122

RPD= Relative Percent Difference

APPENDIX G

Historical Analytical Results

Table 1
Soil Analytical Results – Petroleum and Aromatic Hydrocarbons
2836 Union Street, Oakland, California

Sample ID	Sample Location	Sample Depth (feet)	TVHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
July 1998 UFST Removal Excavation Soil Samples								
7751-E	CF - excavation sidewall	8.5	*< 0.5*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.01*	*< 0.005*
7751-W	CF - excavation sidewall	8.5	**7.2**	*< 0.005*	0.012	0.065	0.021	*< 0.005*
7751-DISP	beneath dispenser, unsaturated zone	2.0	**2,100**	**2.8**	**16**	**15**	**93**	**5.1**
November 2005 Borehole Soil Samples								
BH-01-8’	CF: upper water-bearing zone	8	*< 1.0*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.01*	*< 0.021*
BH-01-17’	clay aquitard	17	*< 1.0*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.01*	*< 0.021*
BH-02-8.5’	CF: upper water-bearing zone	8.5	31	**0.093**	*< 0.005*	0.75	0.55	*< 0.022*
BH-02-13.5’	clay aquitard	13.5	3.0	0.012	*< 0.005*	0.057	0.134	**0.024**
BH-03-2.5’	unsaturated zone	2.5	**220**	**0.47**	**6.7**	**3.10**	**17.9**	*< 0.26*
BH-03-7’	unsaturated zone	7	**920**	**1.8**	**19**	**16**	**81**	*< 0.66*
BH-03-14.5’	clay aquitard	14.5	*< 1.0*	*< 0.005*	*< 0.005*	0.019	0.021	*< 0.02*
BH-04-10.5’	saturated zone -UFST excav. backfill	10.5	*< 0.93*	*< 0.005*	*< 0.005*	*< 0.005*	0.007	*< 0.019*
BH-04-14.5’	clay aquitard	14.5	*< 1.0*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.01*	*< 0.02*
April 2006 Borehole Soil Samples								
BH-05-5’	unsaturated zone	5	**310**	**0.32**	*< 0.25*	**3.8**	**7.9**	*< 0.25*
BH-05-7.5’	CF: upper water-bearing zone	7.5	**2,600**	*< 3.1*	**37**	**35**	**161**	*< 3.1*
BH-05-10’	saturated zone (upper)	10	**2,800**	*< 5.0*	*< 5.0*	**85**	**150**	*< 5.0*
BH-05-11.5’	clay aquitard	11.5	83	*< 0.2*	*< 0.2*	2.7	0.83	*< 0.2*
BH-06-5’	unsaturated zone	5	8.6	**0.170**	*< 0.017*	0.22	*< 0.017*	*< 0.017*
BH-06-7.5’	CF: upper water-bearing zone	7.5	**1,300**	0.025	*< 0.025*	0.38	0.034	*< 0.025*
BH-06-10’	saturated zone (upper)	10	9.2	*< 0.0048*	*< 0.0048*	*< 0.0048*	*< 0.0048*	*< 0.0048*
BH-07-5’	unsaturated zone	5	330	**0.34**	**2.20**	2.40	**11.9**	*< 0.25*

Table 1 (continued)

Sample ID	Sample Location	Sample Depth (feet)	TVHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
April 2006 Borehole Soil Samples — continued								
BH-07-7.5’	CF: upper water-bearing zone	7.5	**2,800**	*< 4.2*	**10**	**43**	**196**	*< 4.2*
BH-07-10’	clay aquitard	10	**640**	*< 0.17*	*< 0.17*	2.30	1.20	*< 0.17*
BH-07-11.5’	clay aquitard	11.5	25	*< 0.005*	*< 0.005*	0.012	0.0243	0.0057
BH-08-5’	unsaturated zone	5	30	**0.21**	*< 0.13*	1.1	1.36	**0.22**
BH-08-7.5’	CF: upper water-bearing zone	7.5	**5,300**	*< 6.3*	**88**	**79**	**380**	*< 6.3*
BH-08-10’	saturated zone (upper)	10	**1,100**	*< 2.0*	**11**	**18**	**86**	*< 2.0*
BH-08-11.5’	clay aquitard	11.5	2.3	**0.67**	0.096	0.26	0.54	**0.0098**
BH-09-11.5’	unsaturated zone	11.5	*< 0.97*	*< 0.0048*	*< 0.0048*	*< 0.0048*	*< 0.0048*	*< 0.0048*
BH-09-19.5’	CF: lower water-bearing zone	19.5	*< 0.92*	*< 0.0048*	*< 0.0048*	*< 0.0048*	*< 0.0048*	*< 0.0048*
BH-10-7.5’	CF: upper water-bearing zone	7.5	*< 0.99*	*< 0.0045*	*< 0.0045*	*< 0.0045*	*< 0.0045*	*< 0.0045*
BH-11-22’	CF: lower water-bearing zone	22	*< 1.1*	*< 0.0049*	*< 0.0049*	*< 0.0049*	*< 0.0049*	*< 0.0049*
BH-12-20.5’	CF: lower water-bearing zone	20.5	*< 1.0*	*< 0.0046*	*< 0.0046*	*< 0.0046*	*< 0.0046*	*< 0.0046*
BH-13-20.5’	CF: lower water-bearing zone	20.5	*< 1.0*	*< 0.0048*	*< 0.0048*	*< 0.0048*	*< 0.0048*	*< 0.0048*
ESLs [(a)]			*100*	*0.04*	*2.0*	*3.0*	*1.5*	*0.023*

Notes:

[(a)] ESLs = Water Board Environmental Screening Levels for residential or commercial/industrial sites where groundwater is a potential drinking water resource.

CF = capillary fringe
TVHg = total volatile hydrocarbons as gasoline
MTBE = methyl tertiary-butyl ether

All concentrations are in milligrams per kilogram (mg/kg). Samples in **bold-face type** exceed the ESL criterion.

Table 3
Groundwater Analytical Results –
Petroleum and Aromatic Hydrocarbons
2836 Union Street, Oakland, California

Sample ID	TVHg	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	MTBE
July 1998 UFST Removal Excavation Grab-Groundwater Sample						
7561-GW [a]	**4,200**	**15**	4.0	**140**	**170**	**150**
November 2005 Borehole Groundwater Samples						
BH-01-GW	**830**	0.76	*< 0.50*	*< 0.50*	*< 0.50*	**24**
BH-02-GW	**430,000**	**6,700**	**350**	**14,000**	**31,000**	*< 200*
BH-03-GW	**73,000**	**530**	**440**	**4,400**	**5,540**	*< 200*
BH-04-GW	**7,200**	*< 0.5*	*< 0.5*	18	1.2	*< 2.0*
April 2006 Borehole Groundwater Samples						
BH-05-GW	**53,000**	**570**	**680**	**4,600**	**3,270**	**60**
BH-06-GW	**5,000**	**82**	5.2	**290**	**35.5**	**14**
BH-07-GW	**32,000**	**230**	**120**	**1,600**	**2,560**	**43**
BH-08-GW	**120,000**	**1,200**	**9,300**	**4,400**	**20,400**	**120**
BH-09-GW	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*
BH-10-GW	*< 50*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	3.7
BH-11-GW	**1,500**	*< 8.3*	*< 8.3*	*< 8.3*	*< 8.3*	*< 8.3*
BH-12-GW	**1,200**	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*
BH-13-GW	**940**	*< 4.2*	*< 4.2*	*< 4.2*	*< 4.2*	*< 4.2*
ESLs [b]	100	1.0	40	30	13	5.0
MCLs	no level published	1.0	40	30	20	5.0

Notes:

[a] This sample had no detectable lead (< 0.05 mg/L).

[b] ESLs = Water Board Environmental Screening Levels for residential or commercial/industrial sites where groundwater is a potential drinking water resource.

MCLs = California Maximum Contaminant Levels.
TVHg = total volatile hydrocarbons as gasoline.
MTBE = methyl tertiary-butyl ether

All concentrations are in micrograms per liter (µg/L). Samples in **bold-face type** exceed the ESL or MCL criterion.

Table 2
Soil Sample Analytical Results – September/October 2006
2836 Union Street, Oakland, California

Sample ID	PID (ppmv)	Sample Depth (feet)	TVHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Total Lead
Borehole Soil Samples									
MW 2B-12	4.8	12-12.5	*<0.96*	*< 4.8*	*< 4.8*	*< 4.8*	*< 4.8*	*< 4.8*	*NA*
MW 2B-17	1.3	17-17.5	*<0.91*	*<4.5*	*<4.5*	*<4.5*	*<4.5*	**4.9**	*NA*
MW 2B-24	0.1	23-24	*<0.98*	*< 4.9*	*< 4.9*	*< 4.9*	*< 4.9*	*< 4.9*	*NA*
MW 1B-10	0	10-10.5	**790**	*<130*	*<130*	**1,100**	**130**	*<130*	*NA*
MW 1B-15	0	15-15.5	*<0.88*	*< 4.4*	*< 4.4*	*< 4.4*	*< 4.4*	**31**	*NA*
MW 1B-23	0	23-23.5	*<0.88*	*< 4.4*	*< 4.4*	*< 4.4*	*< 4.4*	*< 4.4*	*NA*
MW 3B-19	0	19-19.5	*< 1.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*NA*
BH 14-8.5	0	8.5-9	*<0.93*	*<4.6*	*<4.6*	*<4.6*	*<4.6*	*<4.6*	*NA*
BH 14-15	0	15-15.5	*<0.91*	*<4.5*	*<4.5*	*<4.5*	*<4.5*	**17**	*NA*
BH 14-19.5	0	19-19.5	*<0.94*	*<4.7*	*<4.7*	*<4.7*	*<4.7*	*<4.7*	*NA*
BH 14-24.5	0	24.5-25	*< 0.86*	*< 4.3*	*< 4.3*	*< 4.3*	*< 4.3*	*< 4.3*	*NA*
MW 4B-17	0	17-17.5	*<0.93*	*<4.6*	*<4.6*	*<4.6*	*<4.6*	*<4.6*	*NA*
MW 5B-8.5	24	8.5-9	**930**	*<130*	*<130*	**640**	*<130*	*<130*	*NA*
MW 5B-15	0.4	15-15.5	*<0.94*	*<4.7*	*<4.7*	*<4.7*	*<4.7*	**7.2**	*NA*
MW 5B-21.5	3.2	21.5-22	*<0.94*	*<4.7*	*<4.7*	*<4.7*	*<4.7*	*<4.7*	*NA*
MW 5B-24	5.2	24.24.5	*<0.89*	*< 4.5*	*< 4.5*	*< 4.5*	*< 4.5*	*< 4.5*	*NA*

Table 2 ***continued***

Sample ID	PID (ppmv)	Sample Depth (feet)	TVHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Total Lead
Excavation Wall Samples									
W1	250	6	**1,100**	**2.6**	**44**	**34**	**200**	*<10*	*<10*
W2	45	6	1.5	*< 0.005*	< 0.0091	< 0.012	0.038	*< 0.005*	*NA*
W3	120	6	**270**	*<0.10*	0.36	**7.4**	0.93	*<1.0*	*<1.0*
W4	30	7	*<1.0*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*	*NA*
W5	36	6	<1.1	*<5.3*	*<5.3*	*<5.3*	*<5.3*	*NA*	*NA*
W6	1518	6	**1,700**	*<250*	*<250*	**17,000**	**35,400**	*NA*	*NA*
Excavation Floor Samples									
F1	6	11	*<1.0*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*	*NA*
F2	14	11.5	*<1.0*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*	*NA*
Stockpile Comp			**840**	*<250*	*<250*	**5000**	**14,800**	*NA*	13
Soil ESLs			*100*	*0.04*	*2.0*	*3.0*	*1.5*	*0.023*	*50* [(a)]

Notes:

ESLs = Water Board Environmental Screening Levels for residential or commercial/industrial sites where groundwater is a potential drinking water resource.
MTBE = methyl *tertiary*-butyl ether
NA = not analyzed for this constituent
PID = photoionization detector (readings in ppmv)
ppmv = parts per million by volume air
TVHg = total volatile hydrocarbons as gasoline.

Samples in **bold-face type** exceed the ESL criterion.
All concentrations are in milligrams per kilogram (mg/kg).

Table 3
September-October 2006 Groundwater Sample Analytical Results

2836 Union Street, Oakland, California

Sample	TVHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
Monitoring Wells						
MW-1A	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
MW-1B	**350**	*<1.3*	*<1.3*	*<1.3*	*<1.3*	2.7
MW-2A	80	*<0.5*	*<0.5*	*<0.5*	*<0.5*	*<0.5*
MW-2B	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
MW-3A	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
MW-3B	**1,900**	*<10*	*<10*	*<10*	*<10*	*<10*
MW-4A	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
MW-4B	**1,100**	*<2.5*	*<2.5*	*<2.5*	*<2.5*	*<2.5*
MW-5A	*NS*	*NS*	*NS*	*NS*	*NS*	*NS*
MW-5B	**13,000**	**9.6**	0.6	21	1.9	**37**
Excavation Dewatering (a)						
EGW-1 (onset of pumping)	**21,000**	**140**	**370**	**1,100**	**1,970**	**110**
EGW-2 (920 gallons removed)	**49,000**	**310**	**930**	**1,700**	**4,500**	*NA*
EGW-3 (4200 gallons removed)	**5,200**	**110**	**75**	**240**	**470**	*NA*
Groundwater ESLs	100 / 500	1.0 / 46	40 / 130	30 / 290	13 / 13	5.0 / 1,800
MCLs	100	1.0	40	30	20	5.0

Notes:
[a] Sample collected from temporary excavation dewatering point.
ESLs = Water Board Environmental Screening Levels for residential or commercial/industrial sites where groundwater is a potential drinking water resource.
MCLs = Maximum Contaminant Levels
MTBE = methyl *tertiary*-butyl ether
NA = not analyzed for this constituent
NS = not sampled
TVHg = total volatile hydrocarbons as gasoline
Samples in **bold-face type** exceed the ESL criterion.
All concentrations are in micrograms per liter (µg/L).

TABLE B
Historical Groundwater Monitoring Well Groundwater Analytical Results
Petroleum and Aromatic Hydrocarbons (µg/L)
2836 Union Street, Oakland, California

MW-1A							
Sampling Event No.	**Date Sampled**	**TVH-g**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**MTBE**
1	Oct-06	NS	NS	NS	NS	NS	NS
2	Jan-07	790	94	< 0.5	8.6	< 0.5	100
3	Apr-07	760	63	<0.5	1.9	<0.5	150
4	Jul-07	NS	NS	NS	NS	NS	NS
5	Oct-07	830	28	<0.7	13	<0.7	110

MW-1B							
Sampling Event No.	**Date Sampled**	**TVH-g**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**MTBE**
1	Oct-06	350	<1.3	<1.3	<1.3	<1.3	2.7
2	Jan-07	350	<1.3	<1.3	<1.3	<1.3	3.6
3	Apr-07	320	<0.5	<0.5	<0.5	<0.5	4.2
4	Jul-07	200	<1.3	<1.3	<1.3	<1.3	3.2
5	Oct-07	230	<0.7	<0.7	<0.7	<0.7	6.0

MW-2A							
Sampling Event No.	**Date Sampled**	**TVH-g**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**MTBE**
1	Oct-06	80	<0.5	<0.5	<0.5	<0.5	<0.5
2	Jan-07	490	<0.5	<0.5	<0.5	<0.5	<0.5
3	Apr-07	83	<0.5	<0.5	<0.5	<0.5	<0.5
4	Jul-07	<50	<0.5	<0.5	<0.5	<0.5	<0.5
5	Oct-07	<50	<0.5	<0.5	<0.5	<0.5	<0.5

MW-2B							
Sampling Event No.	**Date Sampled**	**TVH-g**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**MTBE**
1	Oct-06	NS	NS	NS	NS	NS	NS
2	Jan-07	2,000	<0.5	1.1	6.7	0.8	19
3	Apr-07	84	<0.5	<0.5	<0.5	<0.5	18
4	Jul-07	580	<0.5	<0.5	<0.5	<0.5	6.0
5	Oct-07	1,700	<0.5	<0.5	<0.5	<0.5	83

MW-3A							
Sampling Event No.	**Date Sampled**	**TVH-g**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**MTBE**
1	Oct-06	NS	NS	NS	NS	NS	NS
2	Jan-07	NS	NS	NS	NS	NS	NS
3	Apr-07	<50	<0.5	<0.5	<0.5	<0.5	75
4	Jul-07	NS	NS	NS	NS	NS	NS
5	Oct-07	<50	<0.5	<0.5	<0.5	<0.5	<0.5

MW-3B							
Sampling Event No.	**Date Sampled**	**TVH-g**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**MTBE**
1	Oct-06	1,900	<10	<10	<10	<10	<10
2	Jan-07	1,900	<8.3	<8.3	<8.3	<8.3	<8.3
3	Apr-07	1,900	<0.5	<0.5	<0.5	<0.5	<0.5
4	Jul-07	1,200	<2.0	<2.0	<2.0	<2.0	<2.0
5	Oct-07	2,100	<7.1	<7.1	<7.1	<7.1	<7.1

MW-4A							
Sampling Event No.	**Date Sampled**	**TVH-g**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**MTBE**
1	Oct-06	NS	NS	NS	NS	NS	NS
2	Jan-07	<50	<0.5	<0.5	<0.5	<0.5	72
3	Apr-07	<50	<0.5	0.6	<0.5	0.6	77
4	Jul-07	<50	<0.5	<0.5	<0.5	<0.5	64
5	Oct-07	<50	<0.5	<0.5	<0.5	<0.5	73

MW-4B							
Sampling Event No.	**Date Sampled**	**TVH-g**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**MTBE**
1	Oct-06	1,100	<2.5	<2.5	<2.5	<2.5	<2.5
2	Jan-07	1,300	<4.2	<4.2	<4.2	<4.2	<4.2
3	Apr-07	1,300	<0.5	<0.5	<0.5	<0.5	<0.5
4	Jul-07	1,000	<4.2	<4.2	<4.2	<4.2	<4.2
5	Oct-07	1,400	<4.2	<4.2	<4.2	<4.2	<4.2

MW-5A							
Sampling Event No.	**Date Sampled**	**TVH-g**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**MTBE**
1	Oct-06	NS	NS	NS	NS	NS	NS
2	Jan-07	NS	NS	NS	NS	NS	NS
3	Apr-07	1,000	6.6	<0.5	29	7.6	79
4	Jul-07	NS	NS	NS	NS	NS	NS
5	Oct-07	820	6.6	<0.5	6.6	1.8	78

MW-5B							
Sampling Event No.	**Date Sampled**	**TVH-g**	**Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**MTBE**
1	Oct-06	13,000	9.6	0.6	21	1.9	37
2	Jan-07	6,600	4.0	<0.5	10	1.0	22
3	Apr-07	3,300	0.7	<0.5	2.7	<0.5	<0.5
4	Jul-07	2,000	1.1	<0.5	2.2	<0.5	26
5	Oct-07	1,200	<0.5	<0.5	<0.5	<0.5	45

Notes:

All concentrations reported in micrograms per liter.

TVH-g = Total volatile hydrocarbons – gasoline range.

NA = Not analyzed for this constituent in this event.

NS = Not sampled

TABLE C
Historical Groundwater Monitoring Well Groundwater Analytical Results
Lead Scavengers and Fuel Oxygenates (µg/L)
2836 Union Street, Oakland, California

MW-1A							
Sampling Event No.	**Date Sampled**	**EDC**	**EDB**	**ETBE**	**DIPE**	**TAME**	**TBA**
1	Oct-06	NS	NS	NS	NS	NS	NS
2	Jan-07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3	Apr-07	NA	NA	NA	NA	NA	NA
4	Jul-07	NA	NA	NA	NA	NA	NA
5	Oct-07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

MW-1B							
Sampling Event No.	**Date Sampled**	**EDC**	**EDB**	**ETBE**	**DIPE**	**TAME**	**TBA**
1	Oct-06	3.1	<1.3	<1.3	<1.3	<1.3	<25
2	Jan-07	3.3	<1.3	<1.3	<1.3	<1.3	<25
3	Apr-07	4.8	<0.5	4.8	4.8	4.8	<10
4	Jul-07	3.4	<1.3	<1.3	<1.3	<1.3	<25
5	Oct-07	3.3	<1.3	<1.3	<1.3	<1.3	<25

MW-2A							
Sampling Event No.	**Date Sampled**	**EDC**	**EDB**	**ETBE**	**DIPE**	**TAME**	**TBA**
1	Oct-06	<0.5	<0.5	<0.5	<0.5	<0.5	<10
2	Jan-07	NA	NA	NA	NA	NA	NA
3	Apr-07	NA	NA	NA	NA	NA	NA
4	Jul-07	NA	NA	NA	NA	NA	NA
5	Oct-07	NA	NA	NA	NA	NA	NA

MW-2B							
Sampling Event No.	**Date Sampled**	**EDC**	**EDB**	**ETBE**	**DIPE**	**TAME**	**TBA**
1	Oct-06	NS	NS	NS	NS	NS	NS
2	Jan-07	4.1	<0.5	<0.5	<0.5	<0.5	<10
3	Apr-07	6.9	<0.5	<0.5	<0.5	<0.5	<10
4	Jul-07	1.4	<0.5	<0.5	<0.5	<0.5	<10
5	Oct-07	4.1	<0.5	<0.5	<0.5	<0.5	<10

MW-3A							
Sampling Event No.	**Date Sampled**	**EDC**	**EDB**	**ETBE**	**DIPE**	**TAME**	**TBA**
1	Oct-06	NS	NS	NS	NS	NS	NS
2	Jan-07	NS	NS	NS	NS	NS	NS
3	Apr-07	0.9	<0.5	<0.5	<0.5	<0.5	14
4	Jul-07	NS	NS	NS	NS	NS	NS
5	Oct-07	NS	NS	NS	NS	NS	NS

MW-3B							
Sampling Event No.	**Date Sampled**	**EDC**	**EDB**	**ETBE**	**DIPE**	**TAME**	**TBA**
1	Oct-06	<10	<10	<10	<10	<10	<200
2	Jan-07	NA	NA	NA	NA	NA	NA
3	Apr-07	NA	NA	NA	NA	NA	NA
4	Jul-07	NA	NA	NA	NA	NA	NA
5	Oct-07	NA	NA	NA	NA	NA	NA

MW-4A							
Sampling Event No.	**Date Sampled**	**EDC**	**EDB**	**ETBE**	**DIPE**	**TAME**	**TBA**
1	Oct-06	NS	NS	NS	NS	NS	NS
2	Jan-07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
3	Apr-07	NA	NA	NA	NA	NA	NA
4	Jul-07	NA	NA	NA	NA	NA	NA
5	Oct-07	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

MW-4B							
Sampling Event No.	**Date Sampled**	**EDC**	**EDB**	**ETBE**	**DIPE**	**TAME**	**TBA**
1	Oct-06	<2.5	<0.5	<1	<1	<2.5	<50
2	Jan-07	NA	NA	NA	NA	NA	NA
3	Apr-07	NA	NA	NA	NA	NA	NA
4	Jul-07	NA	NA	NA	NA	NA	NA
5	Oct-07	NA	NA	NA	NA	NA	NA

MW-5A							
Sampling Event No.	**Date Sampled**	**EDC**	**EDB**	**ETBE**	**DIPE**	**TAME**	**TBA**
1	Oct-06	NS	NS	NS	NS	NS	NS
2	Jan-07	NS	NS	NS	NS	NS	NS
3	Apr-07	<0.5	<0.5	<0.5	<0.5	4.3	<10
4	Jul-07	NS	NS	NS	NS	NS	NS
5	Oct-07	NS	NS	NS	NS	NS	NS

MW-5B							
Sampling Event No.	**Date Sampled**	**EDC**	**EDB**	**ETBE**	**DIPE**	**TAME**	**TBA**
1	Oct-06	<0.5	<0.5	<0.5	<0.5	1.5	<10
2	Jan-07	<0.5	<0.5	<0.5	<0.5	<0.5	<10
3	Apr-07	NA	NA	NA	NA	NA	NA
4	Jul-07	NA	NA	NA	NA	NA	NA
5	Oct-07	<0.5	<0.5	<0.5	<0.5	<0.5	<10

Notes:

NA = Not analyzed for this constituent. NS = Not sampled

EDB = Ethylene dibromide (1,2-dibromoethane). EDC = Ethylene dichloride (1,2-dichloroethane).

DIPE = isopropyl ether. ETBE = Ethyl-tertbutyl ether. TAME = Tert-amylmethylether

TBA = Tertiary butyl alcohol