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ENVIRONMENTAL HEALTH

# THIRD QUARTER 2005 GROUNDWATER MONITORING REPORT

## FORMER RUSS ELLIOTT, INC. FACILITY
## 2526 WOOD STREET
## OAKLAND, CALIFORNIA
### ALAMEDA COUNTY HEALTH CASE NO. RO000040

*Prepared for*

**MS. JEANNETTE ELLIOTT**
**SAN LEANDRO, CALIFORNIA**

**September 2005**

STELLAR
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GEOSCIENCE & ENGINEERING CONSULTING

September 23, 2005



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

Subject: Third Quarter 2005 Groundwater Monitoring Report
Former Russ Elliott, Inc. Facility – 2526 Wood Street, Oakland, California
Alameda County Health Case No. RO000040

Dear Mr. Chan:

This report documents the seventh consecutive groundwater monitoring event (Q3 2005) conducted in August 2005 by Stellar Environmental Solutions, Inc. (SES) at the referenced site. Three site groundwater monitoring wells were installed and first sampled in February 2004 to evaluate impacts from two former onsite underground fuel storage tanks. The scope of work was conducted in accordance with the Alameda County Health-approved SES technical workplan. This report was uploaded to the State Water Resources Control Board's GeoTracker system .

In our professional opinion, continued groundwater monitoring is warranted to evaluate plume stability over time. Please contact us at (510) 644-3123 if you have any questions.

Sincerely,

Bruce Rucker, R.G. (#6814), R.E.A.
Project Manager and Senior Geologist

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

cc: Ms. Jeannette Elliott – Property Owner

# THIRD QUARTER 2005 GROUNDWATER MONITORING REPORT

## FORMER RUSS ELLIOTT, INC. FACILITY
## 2526 WOOD STREET
## OAKLAND, CALIFORNIA
### ALAMEDA COUNTY HEALTH CASE NO. RO000040

***Prepared for:***

**MS. JEANNETTE ELLIOTT**
**1744 SKYVIEW DRIVE**
**SAN LEANDRO, CALIFORNIA 94577**

***Prepared by:***

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**2198 SIXTH STREET**
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**September 23, 2005**

**Project No. 2003-41**

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# 1.0 INTRODUCTION

## PROJECT BACKGROUND

Stellar Environmental Solutions, Inc. (SES) was retained by Ms. Jeannette Elliott (property owner) to conduct ongoing groundwater monitoring and sampling activities at 2526 Wood Street in Oakland, California. The work is designed to evaluate impacts from former onsite underground fuel storage tanks (UFSTs). Previous site corrective actions and investigations are summarized later in this report. The Alameda County Department of Environmental Health (Alameda County Health) is the lead regulatory agency for the investigation, and has assigned the site as Fuel Leak Case No. RO000040. The California GeoTracker Global ID for the facility is T0600102110.

## SITE AND VICINITY DESCRIPTION

The project site is a former roofing company (Russ Elliott, Inc.) located at 2526 Wood Street, Oakland, Alameda County, California (site). The business ceased operations at the site in early 2004, and the property is currently occupied by a construction firm. The property was recently sold; however, the previous property owner (Ms. Jeannette Elliott) remains responsible for the UFST-related site investigation.

The property is approximately 380 feet long (between Wood Street and Willow Street) by approximately 120 feet wide. The long axis of the site (parallel to 26$^{th}$ Street) is oriented approximately northeast to southwest. Figure 1 is a site location map. Figure 2 shows the location of the former site UFSTs in relation to the site buildings and adjacent streets.

The former UFSTs and current area of investigation are situated in the largely unpaved service yard near the western border of the subject property (near 26$^{th}$ Street). Access to this area is provided either through a chain link gate on 26$^{th}$ Street or a gate operated by the current tenant on Willow Street. The area available for exterior drilling is limited by adjacent buildings and an active railroad spur that services an adjacent parcel. Nearby land use is wholly commercial and light industrial (there are no residential or other sensitive land uses in the immediate vicinity).

Downgradient (to the west) land use includes streets, then undeveloped land with freeway overpasses, then San Francisco Bay (a total of approximately 3,000 feet from the subject property).


N

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

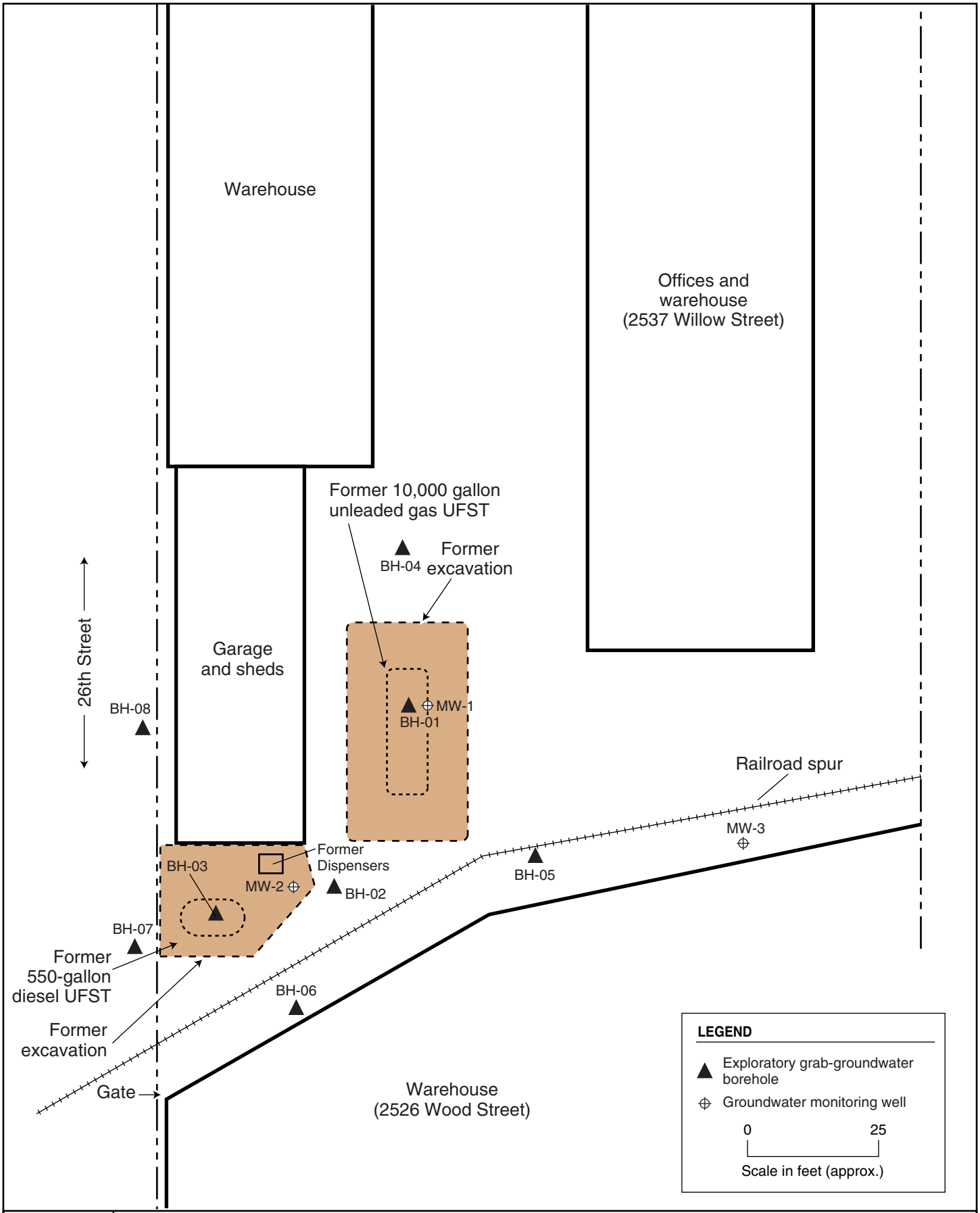
2526 Wood Street
Oakland, CA

By: MJC

JULY 2003

Figure 1

2003-36-01




**SITE PLAN AND HISTORICAL SAMPLING LOCATIONS**

| | | |
|---|---|---|
| **2526 Wood Street**<br>**Oakland, CA** | **By: MJC** | **JUNE 2004** |
| | **Figure 2** | |

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Geoscience & Engineering Consulting

2003-41-22

## PREVIOUS INVESTIGATIONS AND CORRECTIVE ACTIONS

### UFST Removals

Two UFSTs were located near the western border of the subject property (near 26th Street), approximately 40 feet from each other. Both UFSTs were utilized for fueling company vehicles, and shared a common dispenser island that was located between them. Both UFSTs were removed under permit and regulatory oversight.

The 550-gallon diesel UFST was removed in 1995, and the 10,000-gallon gasoline UFST was removed in 2002. The confirmation soil and water sampling conducted during the UFST removals suggested an historical leak in the UFST and/or piping. No UFST closure documentation report was submitted for these UFST removals by the contractor that conducted the removals.

A UFST closure documentation report prepared by SES (SES, 2003a), that discussed both UFST removals, was submitted to both the Oakland Fire Department and Alameda County Health.

### 2003 Preliminary Site Assessment

Concurrent with the UFST closure documentation report, SES submitted to Alameda County Health a technical workplan for a Preliminary Site Assessment (PSA) (consisting of exploratory borehole drilling and sampling) to evaluate the potential for residual contamination (SES, 2003b). Alameda County Health subsequently approved the technical workplan (Alameda County Health, 2003). The investigation, conducted in 2003, included advancing and sampling (of soil and groundwater) from eight exploratory boreholes. A PSA documentation report was submitted to Alameda County Health (SES, 2003c).

Groundwater contaminants detected above screening-level criteria include diesel, gasoline, benzene, methyl *tertiary*-butyl ether (MTBE), and *tertiary*-butyl alcohol (TBA). The only soil contaminant detected above screening-level criteria was MTBE; however, that contamination was confined to the immediate vicinity of the former gasoline UFST. No soil contamination was detected beneath the upper water-bearing zone.

### Groundwater Monitoring Well Installation

On behalf of the property owner, SES submitted to Alameda County Health a technical workplan for a program of groundwater monitoring well installation, sampling, and reporting (SES, 2004a). Alameda County Health subsequently approved the well installation workplan (Alameda County Health, 2004). Three groundwater monitoring wells were installed, developed, surveyed, and sampled in February 2004 (SES, 2004b).

### Groundwater Monitoring Well Sampling

Groundwater monitoring well monitoring/sampling events have been conducted on a quarterly basis since February 2004.

## OBJECTIVES AND SCOPE OF WORK

This report discusses the following activities conducted/coordinated by SES between July 1 and September 30, 2005:

- Collecting water levels in site wells to determine shallow groundwater flow direction;
- Sampling site wells for contaminant analysis and indicators of natural attenuation; and
- Disposing of approximately 150 gallons of purge water from previous monitoring events, stored onsite in 55-gallon drums.

## REGULATORY OVERSIGHT

The lead regulatory agency for the site investigation and remediation is Alameda County Health. All workplans and reports are submitted to this agency. The most recent Alameda County Health directive regarding the site (letter dated January 6, 2004) approved the well installation and quarterly groundwater monitoring and sampling.

Electronic Data Format (EDF) files from all groundwater monitoring events have been successfully uploaded to the State Water Resources Control Board's GeoTracker database, in accordance with that agency's requirements for EDF submittals. Since August 2005, technical reports have also been uploaded to Alameda County Health's "ftp" system.

# 2.0 PHYSICAL SETTING

Following is a brief summary of the site hydrogeologic conditions based on geologic logging and water level measurements collected at the site since October 2003.

A detailed discussion of site lithology and hydrogeology was provided in the well installation report (SES, 2004a). The following summarizes site conditions. A total of 11 exploratory boreholes at the subject property have been geologically logged by a California Registered Geologist using the visual method of the Unified Soils Classification System. The majority of site boreholes have been advanced to 20 feet below ground surface (bgs). That interval includes the upper water-bearing zone and the underlying low-permeability non-water-bearing zone (aquitard).

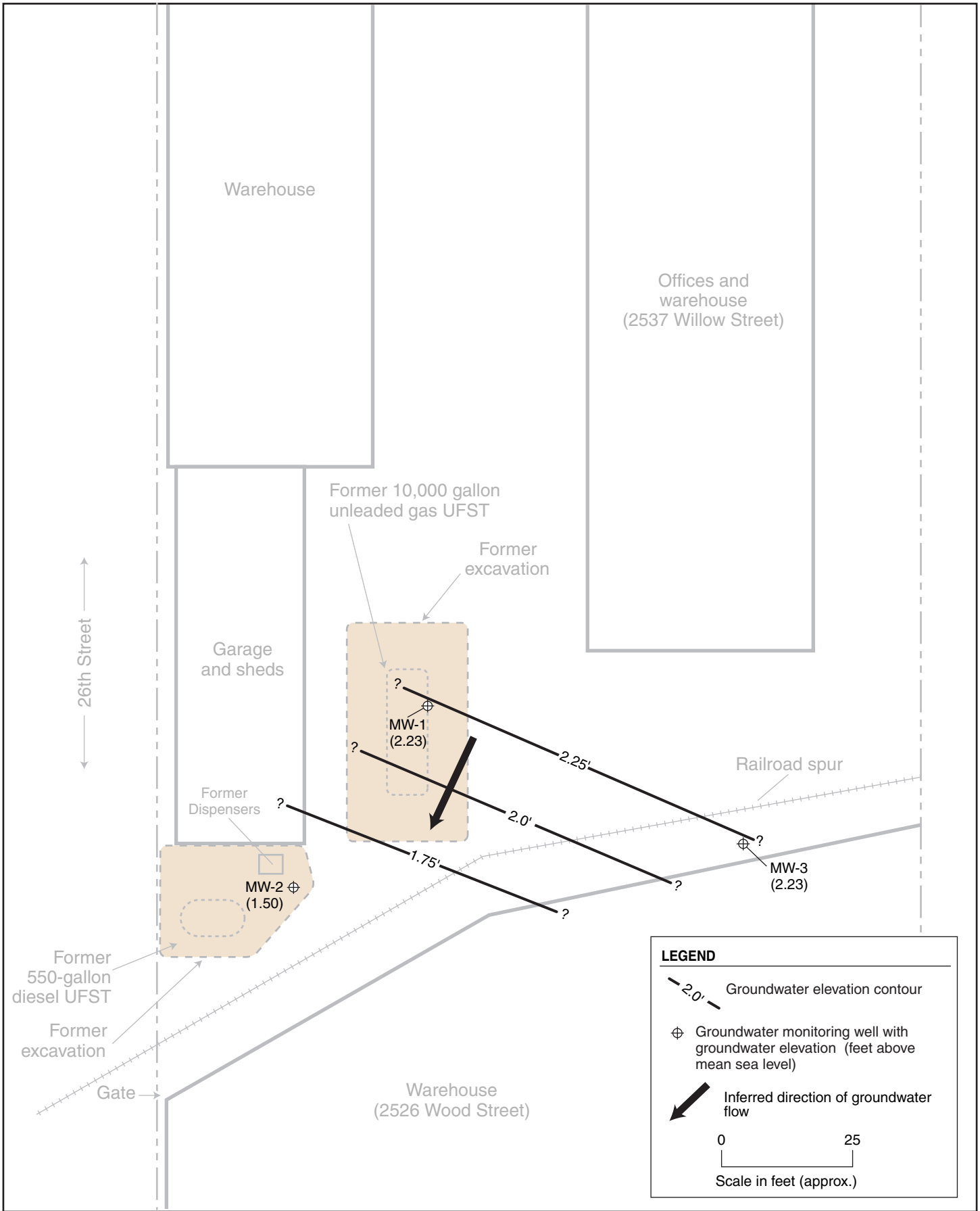
## LITHOLOGY

In general, native soil consists primarily of clay (often silty), with interbedded sandy and gravelly zones. The upper 2 to 3 feet is dry, gravelly, sandy fill material. In the majority of the boreholes, this is underlain by a sand (often silty and clayey) varying in thickness from 1 to 6 feet, in which water was encountered (see below). This is underlain by a clay unit, occasionally with interbedded sand stringers. In some of the boreholes, this clay unit extends to total depth. In other boreholes, this clay unit is underlain by a sand unit, which in turn is underlain by a low-permeability clay (often gravelly). The shallow site lithology is typical of alluvial fan and stream depositional environments in this area, with lower-permeability (clay and silt) overbank deposits, and higher-permeability (sand and gravel) channel deposits, with significant lateral and depth variation over short distances.

## GROUNDWATER HYDROLOGY

Two shallow water-bearing zones were encountered in native soils in the majority of site boreholes. The top of the upper zone (possibly a perched water zone) was encountered at depths between approximately 4 and 8 feet bgs, in a sandy zone. Water was then encountered again at depths between approximately 13.5 and 17.5 feet bgs. In some of the boreholes, this deeper water was encountered at the top of the sand zone (when present); in other boreholes, it was within the lower clay unit. Water levels in wells MW-1 and MW-2 (installed in the former UFST backfill areas) are likely influenced by direct infiltration during winter recharge events due to the higher permeability of excavation backfill material.

Depth to groundwater (equilibrated in wells) in the current monitoring event ranged from approximately 4.7 to 4.8 feet below grade (corresponding to 1.5 to 2.2 feet above mean sea level). Figure 3 is a groundwater elevation and contour map for the current event. Table 1 (Section 3.0) summarizes current groundwater level data. Groundwater flow direction during the current event was to the southeast. The groundwater flow direction varies seasonally.




# GROUNDWATER ELEVATION MAP — AUGUST 26, 2005

| | | | |
|---|---|---|---|
| 2526 Wood Street<br>Oakland, CA | By: MJC | SEPTEMBER 2005 | Stellar Environmental Solutions, Inc.<br>Geoscience & Engineering Consulting |
| | Figure 3 | | |

2003-41-41

# 3.0 Q3 2005 GROUNDWATER MONITORING AND SAMPLING ACTIVITIES

This section presents the groundwater monitoring and sampling methods for the most recent groundwater monitoring/sampling event. Analytical results are discussed in a subsequent section. Activities included:

- Measuring static water levels with an electric water level indicator;
- Purging wells to obtain representative formation water (and collecting aquifer stability parameters between each purging); and
- Collecting post-purge groundwater samples for laboratory analysis.

On August 26, 2005, groundwater monitoring well water level measurements, purging, and sampling activities were conducted by EnTech Analytical Labs (Santa Clara, CA), under the supervision of SES personnel. Table 1 shows the well construction and groundwater elevation data. Appendix A contains the groundwater monitoring field records for the sampling event.

**Table 1**
**Groundwater Monitoring Well Construction and Groundwater Elevation Data**
**August 26, 2005 Monitoring Event**
**2526 Wood Street, Oakland, California**

| Well | Well Depth [a] | Screened Interval | TOC Elevation [b] | Groundwater Depth [c] | Groundwater Elevation [b] |
|---|---|---|---|---|---|
| MW-1 | 20 | 5 to 20 | 6.95 | 4.72 | 2.23 |
| MW-2 | 20 | 5 to 20 | 6.29 | 4.79 | 1.50 |
| MW-3 | 20 | 5 to 20 | 6.94 | 4.71 | 2.23 |

Notes:

[a] Well depths are expressed in feet bgs, and are approximate.
[b] All elevations are expressed as feet above mean sea level.
[c] Groundwater depths are expressed in feet bgs relative to the top of well casing.

TOC = Top of casing.

All wells are 2-inch-diameter.

MW-1 elevation was resurveyed in April 2005 after the well box was damaged and replaced.

As the first task of the monitoring event, static water levels were measured using an electric water level indicator. Each well was then purged (with a downhole pump) of three wetted casing volumes. Aquifer stability parameters were measured between each purged casing volume to ensure that representative formation water entered the well before sampling. Neither separate-phase petroleum product nor sheen was observed during well purging/sampling.

The "GeoWell" data for this event (water levels) were uploaded in EDF format to the State Water Resources Control Board's GeoTracker on-line database.

# 4.0 REGULATORY CONSIDERATIONS

## REGULATORY STATUS

The lead regulatory agency for petroleum contamination cases in the City of Oakland is Alameda County Health, which is a Local Oversight Program (LOP) for the Regional Water Quality Control Board, San Francisco Bay Region (Water Board). As such, Alameda County Health directly oversees soil and groundwater investigations/remediation on UFST sites (with or without Water Board guidance) until determining that case closure is appropriate, at which time Alameda County Health recommends case closure to the Water Board. Alameda County Health has designated the subject property case as Fuel Leak Case No. RO00040. The site is listed in the Water Board's GeoTracker database of reported releases from petroleum UFSTs (Water Board Case No. 01-2294 and Global ID No. T0600102110).

## RESIDUAL CONTAMINATION REGULATORY CONSIDERATIONS

The most applicable published numerical criteria governing residual soil and groundwater contamination at this site are the Water Board's Environmental Screening Levels (ESLs) (Water Board, 2005). ESLs are screening-level criteria used to evaluate whether additional investigation and/or remediation are warranted. Criteria to be considered in using the ESLs include:

- contamination is limited to surface soil (less than 10 feet deep) or to subsurface soil;
- soil is fine-grained or coarse-grained;
- land use is residential or commercial/industrial; and
- groundwater *is* or *is not* a known or potential drinking water source.

For the detected site contaminants, the ESL values are the same for surface soil and subsurface soil.

The appropriate ESLs for this site are for coarse-grained soil (a conservative assumption, as grain-size analysis has not been conducted) and commercial/industrial land use (because the owner has no plans to redevelop the property with residential land use). Qualifying for the (usually higher) ESL values for sites where groundwater *is not* a current or potential drinking water source requires obtaining a site-specific variance from the Water Board. The Water Board completed an East Bay Beneficial Use Study (Water Board, 1999) that covers the Richmond-to-Hayward East Bay Basin Area and, based on multiple technical criteria, divides the Basin into three zones:

- Zone A (significant drinking water resource);
- Zone B (groundwater unlikely to be used as drinking water source); and
- Zone C (shallow groundwater proposed for redesignation as Municipal Supply Beneficial Use). This classification indicates that groundwater could not reasonably be expected to serve a public water supply; however, it does not specifically address private water supply wells that might be used for drinking water. In accordance with State Water Resources Control Board Resolution 92-49, pollution sites within this zone must not pose a potential impact to human health or ecologic receptors, and the groundwater contamination plume must be stable or reducing.

The subject site falls within Zone C. The most conservative assumption for the site is that there is a potential for private drinking water wells to be impacted. However, the site location (with no residential downgradient land use) suggests that the less conservative ESLs ("a potential or current drinking water source is not threatened") may be appropriate when the site is considered for case closure. Until case closure is considered, this report (and future reports) will discuss residual soil and groundwater contamination in the context of the more conservative ESL criteria.

## SITE CLOSURE CRITERIA

Alameda County Health and the Water Board generally require that the following criteria be met before issuing regulatory closure of petroleum release cases:

1. The contaminant source (UFSTs and obviously-contaminated backfill material) has been removed. This criterion has been met, and the available soil analytical results indicate that the residual MTBE soil contamination in the immediate vicinity of the former UFSTs will not be an appreciable long-term source of groundwater contamination.
2. The groundwater contaminant plume is stable or reducing—i.e., groundwater contamination is not increasing in concentration or lateral extent. This criterion has not yet been met, and will be evaluated based on the ongoing quarterly groundwater sampling program.
3. If residual contamination (soil or groundwater) exists, there is no reasonable risk to sensitive receptors (i.e., surface water or water supply wells) or to site occupants. This criterion is generally met by conducting a sensitive receptor survey and/or a Risk-Based Corrective Action (RBCA) assessment that models the fate and transport of residual contamination in the context of potential impacts to sensitive receptors. This task is generally conducted after the previous two criteria have been met. Based on the apparent absence of benzene (the probable "risk driver" compound for this site) at elevated concentrations and the likely absence of sensitive receptors, if private wells are eliminated as potential receptors, the site would likely pass the RBCA assessment.

# 5.0 Q3 2005 MONITORING EVENT ANALYTICAL RESULTS

This section discusses the findings of the current sampling event. Historical groundwater monitoring well analytical results are included as Appendix D.

All groundwater samples in the current sampling event were analyzed for:

- Total volatile hydrocarbons – gasoline range (TVHg), by modified EPA Method 8015;
- Total extractable hydrocarbons – diesel range (TEHd), by modified EPA Method 8015;
- Benzene, toluene, ethylbenzene, and xylenes (BTEX), by EPA Method 8020;
- MTBE, by EPA Method 8260;
- Fuel oxygenates (*tertiary*-amyl methyl ether [TAME], di-isopropyl ether [DIPE], and TBA), by EPA Method 8260; and
- Lead scavengers (1,2-dichloroethane [EDC] and 1,2-dibromomethane [EDB]), by EPA Method 8260.

All groundwater samples were analyzed by EnTech Analytical Labs, which maintains current ELAP certifications for all of the analytical methods utilized in this investigation. Appendix B contains the certified analytical laboratory report and chain-of-custody record for this event.

Table 2 summarizes the groundwater sample analytical results from the current well sampling event. Figure 4 displays the groundwater analytical results on the site plan.

Only three contaminants were detected in the current event. MTBE was detected at concentrations between 120 µg/L (MW-2) and 310 µg/L (MW-1). The Water Board ESL criterion for MTBE is 5.0 µg/L. Gasoline was also detected at concentrations between 110 µg/L (MW-2) and 220 µg/L (MW-1); the ESL is 100 µg/L. Contaminants analyzed for and not detected in the current event include diesel, BTEX, lead scavengers, and fuel oxygenates. No contamination was detected in well MW-3.

The analytical laboratory report was uploaded in EDF format to the GeoTracker on-line database.

## Table 2
## August 26, 2005 Groundwater Analytical Results
## 2526 Wood Street, Oakland [(a)]

| Sample I.D. | TEHd | TVHg | Benzene | Toluene | Ethylbenzene | Total Xylenes | MTBE [(b)] | Fuel Oxygenates and Lead Scavengers [(b)] |
|---|---|---|---|---|---|---|---|---|
| MW-1 | *< 500* | **220** | *< 0.5* | *< 0.5* | *< 0.5* | *< 1.0* | **310** | *ND* |
| MW-2 | *< 50* | **110** | *< 0.5* | *< 0.5* | *< 0.5* | *< 1.0* | **120** | *ND* |
| MW-3 | *< 50* | *< 50* | *< 0.5* | *< 0.5* | *< 0.5* | *< 1.0* | *< 1.0* | *ND* |
| **Groundwater ESLs** | 100 | 100 | 1.0 | 40 | 30 | 13 | 5.0 | not applicable |

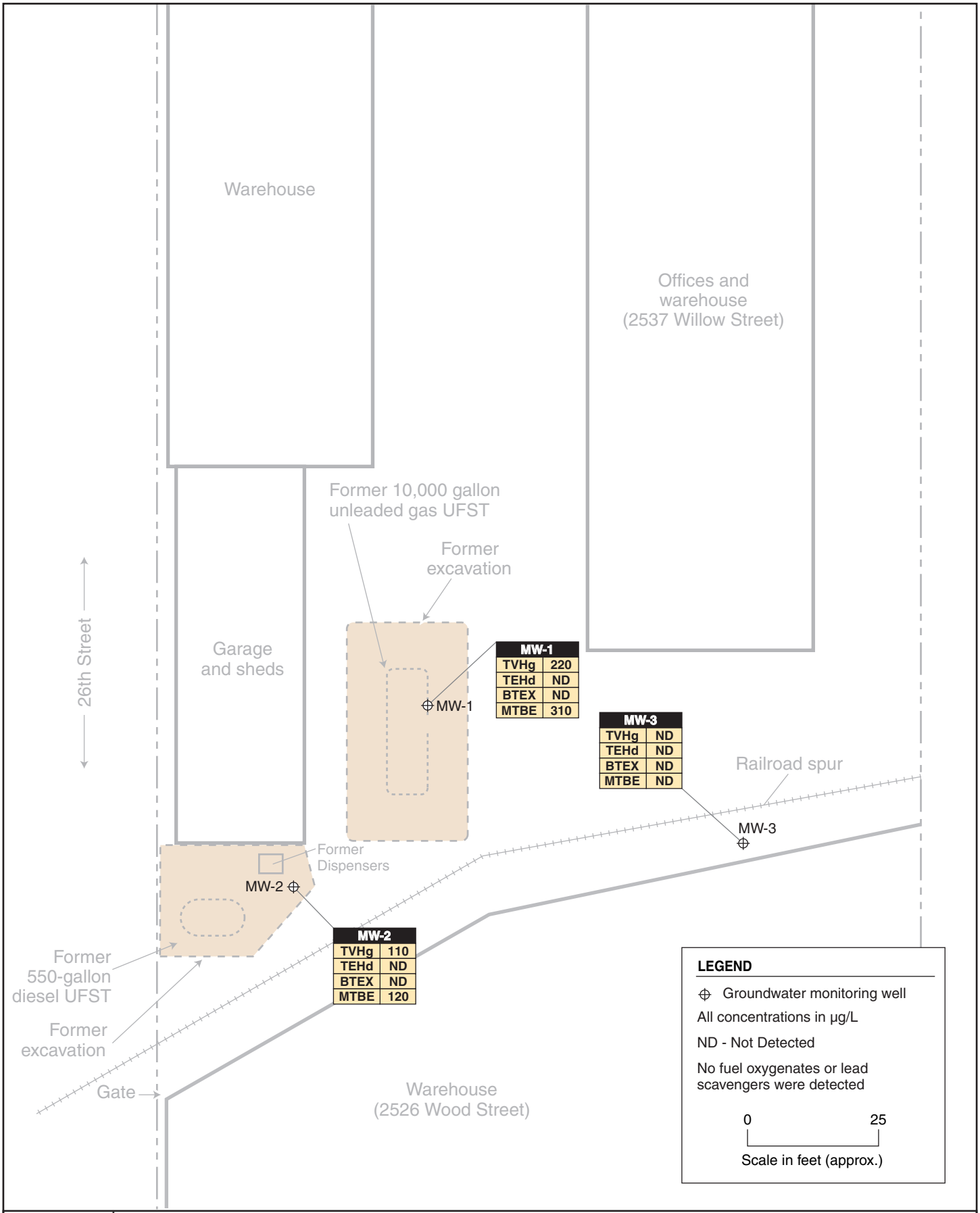
Notes:

[(a)] All concentrations are in µg/L.
[(b)] Full list of fuel oxygenates and lead scavengers is included in Appendix B.

MTBE = methyl *tertiary*-butyl ether
TEHd = total extractable hydrocarbons – diesel range
TVHg = total volatile hydrocarbons – gasoline range

ESLs = Regional Water Quality Control Board, San Francisco Bay Region, Environmental Screening Levels (Water Board, 2005) for commercial/industrial sites where groundwater is a potential drinking water source.

ND = not detected above method reporting limits




**AUGUST 2005 GROUNDWATER ANALYTICAL RESULTS**

| | | |
|---|---|---|
| **2526 Wood Street Oakland, CA** | By: MJC | SEPTEMBER 2005 |
| | **Figure 4** | |

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# 6.0 WASTEWATER DISPOSAL

Three 55-gallon drums of waste water (from purging of wells prior to groundwater sampling) were generated during the six previous groundwater monitoring events. A composite sample of the drummed water was collected by SES on June 21, 2005 and analyzed for the site contaminants of concern. The sample contained no gasoline, BTEX, or MTBE, but did contain 1,100 µg/L of diesel.

The water was profiled (copy included in Appendix C) by North State Environmental. The water was transported offsite on July 6, 2005 by North State Environmental for disposal at the DK Environmental facility in Vernon, California. Documentation of the wastewater analysis, profiling transport, and disposal is included in Appendix C of this report.

# 7.0 SUMMARY, CONCLUSIONS, OPINION, AND RECOMMENDATIONS

## SUMMARY AND CONCLUSIONS

The available data support the following findings and conclusions:

- Two UFSTs containing diesel and gasoline were removed from the site in 1995 and 2002, respectively. Excavation confirmation soil samples indicated that MTBE was the sole contaminant of concern in soil, although pit water samples contained elevated levels of diesel, gasoline, and MTBE. A UFST closure documentation report discussing both UFST removals was submitted to the appropriate regulatory agencies in 2003.
- A Preliminary Site Assessment (exploratory borehole drilling and sampling program) was conducted in October 2003; activities included advancing and sampling eight exploratory boreholes to a maximum depth of 25 feet below grade. Hydrocarbon contamination was most pronounced in samples from the areas of the two former UFSTs and to the south-southwest.
- Three shallow site groundwater monitoring wells were installed, developed, and surveyed in February 2004, and have been sampled on a quarterly basis since that time.
- Site lithology ranges from low-permeability silts and clays to higher-permeability (and water-bearing) sands and gravels. There are two shallow water bearing zones: the top of the upper zone (potentially a seasonally-perched zone), which is encountered at depths between 4 and 8 feet bgs; and the top of the third zone, which is encountered at depths between approximately 13.5 and 17.5 feet bgs. The lower water-bearing zone is underlain by a low-permeability, non-water-bearing zone.
- Local groundwater flow direction varies from south (generally in the rainy season) to west (generally in the dry season). Historical data show the expected seasonal trend of lower groundwater elevations in the dry season, increasing with the onset of rains. The site data suggest that backfill material in one or both of the former UFST excavations may be influencing apparent flow direction.
- The only soil contaminant historically detected above ESL criteria in residual soils (including UFST removal, borehole, and well installation phases) is MTBE, at locations within 15 feet of the former UFST excavations. The maximum detected MTBE

concentration in soil is between the most restrictive (residential, groundwater used) and the least restrictive (commercial/industrial, groundwater not used) Water Board ESL criteria.

- In the current monitoring event, neither diesel, BTEX, lead scavengers, nor fuel oxygenates were detected. The only contaminants detected above ESL criteria were MTBE (in MW-1 and MW-2) and gasoline (also in MW-1 and MW-2).
- The current monitoring wells appear adequate to define local groundwater flow direction and evaluate site-sourced hydrochemistry, although continued groundwater monitoring is warranted to ensure that groundwater contamination above regulatory agency levels of concern is not migrating offsite.
- The property owner is pursuing reimbursement from the State of California Underground Storage Tank Cleanup Fund (Fund) for regulatory agency-directed corrective action and investigation costs. The initial Claim Application was submitted to the Fund in February 2004.
- All required electronic uploads for previous work have been made to the State Water Resources Control Board's GeoTracker on-line database system, including a Portable Data Format (pdf) copy of this report.

**PROPOSED ACTIONS**

- The property owner proposes to continue the quarterly groundwater monitoring well monitoring and sampling program, in accordance with the technical workplan approved by Alameda County Health. This will include electronic uploads (water levels, groundwater analytical data, and technical reports) for future monitoring events to the GeoTracker system.
- Future groundwater monitoring will continue to focus on the evaluation of the magnitude and extent of groundwater contamination, particularly with regard to plume stability. If future monitoring indicates that offsite migration of contamination is occurring, additional assessment activities—i.e., sensitive receptor survey; vicinity well survey; RBCA study; and/or additional exploratory boreholes/groundwater monitoring wells—will be considered. If the data indicate that the plume is contained onsite, and has been reduced by attenuation to low concentrations and stable conditions, SES will evaluate the data in the context of meeting regulatory closure criteria.
- The property owner will continue to pursue reimbursement of eligible incurred corrective action costs from the California UST Cleanup Fund.

# 8.0 REFERENCES AND BIBLIOGRAPHY


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SES, 2004a. Workplan for Groundwater Characterization – Russ Elliott, Inc. Facility, 2526 Wood Street, Oakland, California. January 8.

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SES, 2003a. Underground Fuel Storage Tanks Closure Documentation and Assessment Report, Russ Elliott, Inc. – 2526 Wood Street, Oakland, California. August 15.

SES, 2003b. Workplan for Preliminary Site Assessment – Russ Elliott, Inc. Facility, 2526 Wood Street, Oakland, California. August 20.

SES, 2003c. Preliminary Site Assessment Report – Russ Elliott, Inc. Facility, 2526 Wood Street, Oakland, California. November 19.

# 9.0 LIMITATIONS

This report has been prepared for the exclusive use of Ms. Jeannette Elliott, her authorized representatives, and the regulatory agencies. 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 on a review of previous investigators' findings at the site, as well as site investigations conducted by SES since 2003. This report has been prepared in accordance with generally accepted methodologies and standards of practice. The SES personnel who performed this limited remedial investigation 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.

The findings of this report are valid as of the date of this report. Site conditions may change with the passage of time, natural processes, or human intervention, which can invalidate the findings and conclusions presented in this report. As such, this report should be considered a reflection of the current site conditions as based on the activities completed.

# APPENDIX A

## Well Monitoring and Sampling Field Records

# FLUID-LEVEL MONITORING DATA

**Project No:** _____ **Date:** 8-26-05

**Project/Site Location:** Russ Elliot, 2526 Wood St., Oakland, CA

**Technician:** SC **Method:** ELECTRONIC

| Well | Depth to Water (feet) | Depth to Product (feet) | Product Thickness (feet) | Total Well Depth (feet) | Comments |
|---|---|---|---|---|---|
| MW-1 | 4.72 | | | 11.27 | @1140 |
| MW-2 | 4.79 | | | 15.06 | @1130 |
| MW-3 | 4.71 | | | 18.18 | @1125 |
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Measurements referenced to top of well casing. NORTH

# WELL PURGING/SAMPLING DATA

Project Number: _____ Date: 8-26-05

Project / Site Location: RUSS ELLIOT
2526 WOOD ST. , OAKLAND CA

Sampler/Technician:

| Casing Diameter (inches) | 0.75 | 2 | 4 | 6 |
|---|---|---|---|---|
| Casing Volumes (gallons) | 0.02 | 0.2 | 0.7 | 1.52 |

**Well No.** MW-1

| | |
|---|---|
| A. Total Well Depth | 11.27 |
| B. Depth To Water | 4.72 |
| C. Water Height (A-B) | 6.55 |
| D. Well Casing Diameter | 2 |
| E. Casing Volume | 0.2 |
| F. Single Case Volume (CxE) | 1.31 |
| G. Case Volume(s)(CxEx3) | 3.93 |
| H. 80% Recharge Level | 6.03 |

| *Purge Event* | |
|---|---|
| Start Time: | 1320 |
| Finish Time: | 1330 |
| *Post Purge Measurement* | |
| Depth to Water | 4.76 |
| Time Measured: | 1333 |
| *Recharge/Sample Time* | |
| Depth to Water: | 4.76 |
| Time Measured: | 1410 |

| Well Fluid Parameters: | | | | |
|---|---|---|---|---|
| Gals. | 0 | 1 | 2.25 | 3.41 |
| pH | 8.56 | 8.42 | 8.24 | 8.19 |
| T (°C) | 23.3 | 22.7 | 21.5 | 22.1 |
| Cond. | 940 | 938 | 947 | 939 |
| DO mg/L | 2.02 | → | → | → |
| DO % | 35.2 | → | → | → |
| Turbidity | | | | |
| ORP | | | | |

| Summary Data: | |
|---|---|
| Total Gallons Purged: | 3.41 |
| Purge device: | DC 60 |
| Sampling Device: | DISP. BAILER |
| Sample Collection Time: | 1415 |
| Sample Appearance/Odor: | |

POST PURGE

**Well No.** MW-2

| | |
|---|---|
| A. Total Well Depth | 15.06 |
| B. Depth To Water | 4.79 |
| C. Water Height (A-B) | 10.27 |
| D. Well Casing Diameter | 2 |
| E. Casing Volume | 0.2 |
| F. Single Case Volume (CxE) | 2.1 |
| G. Case Volume(s)(CxEx3) | 6.3 |
| H. 80% Recharge Level | 6.89 |

| *Purge Event* | |
|---|---|
| Start Time: | 1245 |
| Finish Time: | 1310 |
| *Post Purge Measurement* | |
| Depth to Water | 11.25 |
| Time Measured: | 1315 |
| *Recharge/Sample Time* | |
| Depth to Water: | 6.77 |
| Time Measured: | 1400 |

| Well Fluid Parameters: | | | | |
|---|---|---|---|---|
| Gals. | 0 | 2 | 4 | 6.3 |
| pH | 7.20 | 7.14 | 7.18 | 7.21 |
| T (°C) | 24.3 | 22.0 | 20.8 | 21.3 |
| Cond. | 646 | 676 | 621 | 704 |
| DO mg/L | 3.63 | → | → | → |
| DO % | 37.8 | → | → | → |
| Turbidity | | | | |
| ORP | | | | |

| Summary Data: | |
|---|---|
| Total Gallons Purged: | 6.3 |
| Purge device: | DC 60 |
| Sampling Device: | DISP. BAILER |
| Sample Collection Time: | 1405 |
| Sample Appearance/Odor: | |

POST PURGE

# WELL PURGING/SAMPLING DATA

Project Number: _____ Date: 8-26-05

Project / Site Location: RUSS ELLIOT
2526 WOOD ST., OAKLAND CA

Sampler/Technician:

| Casing Diameter (inches) | 0.75 | 2 | 4 | 6 |
|---|---|---|---|---|
| Casing Volumes (gallons) | 0.02 | 0.2 | 0.7 | 1.52 |

**Well No.** MW-3

| | |
|---|---|
| A. Total Well Depth | 18.18 |
| B. Depth To Water | 4.71 |
| C. Water Height (A-B) | 13.47 |
| D. Well Casing Diameter | 2 |
| E. Casing Volume | 0.2 |
| F. Single Case Volume (CxE) | 2.69 |
| G. Case Volume(s)(CxEx3) | 8.1 |
| H. 80% Recharge Level(F+B) | 9.4 |

| ***Purge Event*** | |
|---|---|
| Start Time: | 1150 |
| Finish Time: | 1215 |
| ***Post Purge Measurement*** | |
| Depth to Water | 15.06 |
| Time Measured: | 1217 |
| ***Recharge/Sample Time*** | |
| Depth to Water: | 6.85 |
| Time Measured: | 1345 |

**Well Fluid Parameters:**

| Gals. | 0 | 2.5 | 6.0 | 8.1 |
|---|---|---|---|---|
| pH | 6.77 | 6.81 | 6.84 | 6.89 |
| T (°C) | 24.7 | 21.3 | 19.8 | 19.3 |
| Cond. | 1041 | 1278 | 1429 | 1558 |
| DO mg/L | 2.83 | → | → | → |
| DO % | ~~33.5~~ | → | → | → |
| Turbidity | 33.9 | | | |
| ORP | | | | |

POST PURGE

| **Summary Data:** | |
|---|---|
| Total Gallons Purged: | 8.1 |
| Purge device: | DC 60 |
| Sampling Device: | DISP. BAILER |
| Sample Collection Time: | 1350 |
| Sample Appearance/Odor: | |

**Well No.** _____

| | |
|---|---|
| A. Total Well Depth | |
| B. Depth To Water | |
| C. Water Height (A-B) | |
| D. Well Casing Diameter | |
| E. Casing Volume | |
| F. Single Case Volume (CxE) | |
| G. Case Volume(s)(CxEx ) | |
| H. 80% Recharge Level | |

| ***Purge Event*** | |
|---|---|
| Start Time: | |
| Finish Time: | |
| ***Post Purge Measurement*** | |
| Depth to Water | |
| Time Measured: | |
| ***Recharge/Sample Time*** | |
| Depth to Water: | |
| Time Measured: | |

**Well Fluid Parameters:**

| Gals. | | | | |
|---|---|---|---|---|
| pH | | | | |
| T (°C) | | | | |
| Cond. | | | | |
| DO mg/L | | | | |
| DO % | | | | |
| Turbidity | | | | |
| ORP | | | | |

| **Summary Data:** | |
|---|---|
| Total Gallons Purged: | |
| Purge device: | |
| Sampling Device: | |
| Sample Collection Time: | |
| Sample Appearance/Odor: | |

# APPENDIX B

## Analytical Laboratory Report and Chain-of-Custody Record

# Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Bruce Rucker
Stellar Environmental Sol.
2198 Sixth Stree Suite 201
Berkeley, CA 94710

**Certificate ID: 45072 - 9/12/2005 2:45:16 PM**

**Order Number: 45072**
**Project Name: Russ Elliott**

**Date Received: 08/29/2005**
**P.O. Number: Russ Elliott**
**Global ID: T0600102110**

## Certificate of Analysis - Final Report

On August 29, 2005, samples were received under chain of custody for analysis.
Entech analyzes samples "as received" unless otherwise noted. The following results are included:

| Matrix | Test | Comments |
|---|---|---|
| Liquid | EDF<br>TPH-Extractable<br>TPH as Gasoline<br>BTEX<br>EPA 8260B EPA 624 | |

Entech Analytical Labs, Inc. is certified for environmental analyses by the State of California (#2346).
If you have any questions regarding this report, please call us at 408-588-0200 ext. 225.

Sincerely,

for

Laurie Glantz-Murphy
Laboratory Director

# Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

**Stellar Environmental Sol.**
**2198 Sixth Stree Suite 201**
**Berkeley, CA 94710**
**Attn: Bruce Rucker**

## Certificate of Analysis - Data Report

Date Received: 8/29/2005
Project ID: Russ Elliott
Project Name: Russ Elliott
GlobalID: T0600102110
P.O. Number: Russ Elliott
Sample Collected by: Client

**Lab # :** 45072-001 **Sample ID: MW-1** **Matrix:** Liquid **Sample Date:** 8/26/2005 2:15 PM

**EPA 3510C EPA 8015 MOD. (Extractable)** **TPH-Extractable**

| Parameter | Result | Qual | D/P-F | Detection Limit | Units | Prep Date | Prep Batch | Analysis Date | QC Batch |
|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel | ND | | 10 | 500 | µg/L | 8/29/2005 | DW050829 | 8/30/2005 | DW050829 |

2900 ppb Motor Oil. No Diesel pattern present.

| Surrogate | Surrogate Recovery | Control Limits (%) |
|---|---|---|
| o-Terphenyl | 56.2 | 22 - 133 |

Analyzed by: JHsiang
Reviewed by: dba

**EPA 5030C EPA 8015 MOD. (Purgeable)** **TPH as Gasoline**

| Parameter | Result | Qual | D/P-F | Detection Limit | Units | Prep Date | Prep Batch | Analysis Date | QC Batch |
|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 220 | | 1 | 50 | µg/L | N/A | N/A | 8/30/2005 | WGC4050830A |

TPH as Gasoline reported value is a result of high concentration of MTBE within the TPH as Gasoline quantitation range.

| Surrogate | Surrogate Recovery | Control Limits (%) |
|---|---|---|
| 4-Bromofluorobenzene | 92.5 | 65 - 135 |

Analyzed by: mruan
Reviewed by: MaiChiTu

**EPA 8020** **BTEX**

| Parameter | Result | Qual | D/P-F | Detection Limit | Units | Prep Date | Prep Batch | Analysis Date | QC Batch |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 1 | 0.50 | µg/L | N/A | N/A | 8/30/2005 | WGC4050830A |
| Toluene | ND | | 1 | 0.50 | µg/L | N/A | N/A | 8/30/2005 | WGC4050830A |
| Ethyl Benzene | ND | | 1 | 0.50 | µg/L | N/A | N/A | 8/30/2005 | WGC4050830A |
| Xylenes, Total | ND | | 1 | 0.50 | µg/L | N/A | N/A | 8/30/2005 | WGC4050830A |

| Surrogate | Surrogate Recovery | Control Limits (%) |
|---|---|---|
| 4-Bromofluorobenzene | 93.7 | 65 - 135 |

Analyzed by: mruan
Reviewed by: MaiChiTu

**EPA 5030C EPA 8260B EPA 624** **8260Petroleum**

| Parameter | Result | Qual | D/P-F | Detection Limit | Units | Prep Date | Prep Batch | Analysis Date | QC Batch |
|---|---|---|---|---|---|---|---|---|---|
| Methyl-t-butyl Ether | 310 | | 5 | 5.0 | µg/L | N/A | N/A | 9/5/2005 | WM2050905 |
| tert-Butyl Ethyl Ether | ND | | 5 | 25 | µg/L | N/A | N/A | 9/5/2005 | WM2050905 |
| tert-Butanol (TBA) | ND | | 5 | 50 | µg/L | N/A | N/A | 9/5/2005 | WM2050905 |
| Diisopropyl Ether | ND | | 5 | 25 | µg/L | N/A | N/A | 9/5/2005 | WM2050905 |
| tert-Amyl Methyl Ether | ND | | 5 | 25 | µg/L | N/A | N/A | 9/5/2005 | WM2050905 |
| 1,2-Dichloroethane | ND | | 5 | 2.5 | µg/L | N/A | N/A | 9/5/2005 | WM2050905 |
| 1,2-Dibromoethane (EDB) | ND | | 5 | 2.5 | µg/L | N/A | N/A | 9/5/2005 | WM2050905 |
| Ethanol | ND | | 5 | 500 | µg/L | N/A | N/A | 9/5/2005 | WM2050905 |

| Surrogate | Surrogate Recovery | Control Limits (%) |
|---|---|---|
| 4-Bromofluorobenzene | 110 | 70 - 125 |
| Dibromofluoromethane | 107 | 70 - 125 |
| Toluene-d8 | 110 | 70 - 125 |

Analyzed by: MTu
Reviewed by: ECunniffe

Detection Limit = Detection Limit for Reporting.
D/P-F = Dilution and/or Prep Factor includes sample volume adjustments.
ND = Not Detected at or above the Detection Limit.
Qual = Data Qualifier

# Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

**Stellar Environmental Sol.**
**2198 Sixth Stree Suite 201**
**Berkeley, CA 94710**
**Attn: Bruce Rucker**

## Certificate of Analysis - Data Report

Date Received: 8/29/2005
Project ID: Russ Elliott
Project Name: Russ Elliott
GlobalID: T0600102110
P.O. Number: Russ Elliott
Sample Collected by: Client

**Lab # :** 45072-002 **Sample ID: MW-2** **Matrix:** Liquid **Sample Date:** 8/26/2005 2:05 PM

**EPA 3510C EPA 8015 MOD. (Extractable)** **TPH-Extractable**

| Parameter | Result | Qual | D/P-F | Detection Limit | Units | Prep Date | Prep Batch | Analysis Date | QC Batch |
|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel | ND | | 1 | 50 | µg/L | 8/29/2005 | DW050829 | 8/30/2005 | DW050829 |

550 ppb Motor Oil. No Diesel pattern present.

| Surrogate | Surrogate Recovery | Control Limits (%) |
|---|---|---|
| o-Terphenyl | 41.0 | 22 - 133 |

Analyzed by: JHsiang
Reviewed by: dba

**EPA 5030C EPA 8015 MOD. (Purgeable)** **TPH as Gasoline**

| Parameter | Result | Qual | D/P-F | Detection Limit | Units | Prep Date | Prep Batch | Analysis Date | QC Batch |
|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | 110 | | 1 | 50 | µg/L | N/A | N/A | 8/30/2005 | WGC4050830A |

TPH as Gasoline reported value is a result of high concentration of MTBE within the TPH as Gasoline quantitation range.

| Surrogate | Surrogate Recovery | Control Limits (%) |
|---|---|---|
| 4-Bromofluorobenzene | 97.3 | 65 - 135 |

Analyzed by: mruan
Reviewed by: MaiChiTu

**EPA 8020** **BTEX**

| Parameter | Result | Qual | D/P-F | Detection Limit | Units | Prep Date | Prep Batch | Analysis Date | QC Batch |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 1 | 0.50 | µg/L | N/A | N/A | 8/30/2005 | WGC4050830A |
| Toluene | ND | | 1 | 0.50 | µg/L | N/A | N/A | 8/30/2005 | WGC4050830A |
| Ethyl Benzene | ND | | 1 | 0.50 | µg/L | N/A | N/A | 8/30/2005 | WGC4050830A |
| Xylenes, Total | ND | | 1 | 0.50 | µg/L | N/A | N/A | 8/30/2005 | WGC4050830A |

| Surrogate | Surrogate Recovery | Control Limits (%) |
|---|---|---|
| 4-Bromofluorobenzene | 93.2 | 65 - 135 |

Analyzed by: mruan
Reviewed by: MaiChiTu

**EPA 5030C EPA 8260B EPA 624** **8260Petroleum**

| Parameter | Result | Qual | D/P-F | Detection Limit | Units | Prep Date | Prep Batch | Analysis Date | QC Batch |
|---|---|---|---|---|---|---|---|---|---|
| Methyl-t-butyl Ether | 120 | | 1 | 1.0 | µg/L | N/A | N/A | 9/3/2005 | WM2050902 |
| tert-Butyl Ethyl Ether | ND | | 1 | 5.0 | µg/L | N/A | N/A | 9/3/2005 | WM2050902 |
| tert-Butanol (TBA) | ND | | 1 | 10 | µg/L | N/A | N/A | 9/3/2005 | WM2050902 |
| Diisopropyl Ether | ND | | 1 | 5.0 | µg/L | N/A | N/A | 9/3/2005 | WM2050902 |
| tert-Amyl Methyl Ether | ND | | 1 | 5.0 | µg/L | N/A | N/A | 9/3/2005 | WM2050902 |
| 1,2-Dichloroethane | ND | | 1 | 0.50 | µg/L | N/A | N/A | 9/3/2005 | WM2050902 |
| 1,2-Dibromoethane (EDB) | ND | | 1 | 0.50 | µg/L | N/A | N/A | 9/3/2005 | WM2050902 |
| Ethanol | ND | | 1 | 100 | µg/L | N/A | N/A | 9/3/2005 | WM2050902 |

| Surrogate | Surrogate Recovery | Control Limits (%) |
|---|---|---|
| 4-Bromofluorobenzene | 108 | 70 - 125 |
| Dibromofluoromethane | 99.3 | 70 - 125 |
| Toluene-d8 | 111 | 70 - 125 |

Analyzed by: MTu
Reviewed by: ECunniffe

Detection Limit = Detection Limit for Reporting.
D/P-F = Dilution and/or Prep Factor includes sample volume adjustments.
ND = Not Detected at or above the Detection Limit.
Qual = Data Qualifier

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**Stellar Environmental Sol.**
**2198 Sixth Stree Suite 201**
**Berkeley, CA 94710**
**Attn: Bruce Rucker**

## Certificate of Analysis - Data Report

Date Received: 8/29/2005
Project ID: Russ Elliott
Project Name: Russ Elliott
GlobalID: T0600102110
P.O. Number: Russ Elliott
Sample Collected by: Client

**Lab # :** 45072-003 **Sample ID: MW-3** **Matrix:** Liquid **Sample Date:** 8/26/2005 1:50 PM

**EPA 3510C EPA 8015 MOD. (Extractable)** **TPH-Extractable**

| Parameter | Result | Qual | D/P-F | Detection Limit | Units | Prep Date | Prep Batch | Analysis Date | QC Batch |
|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel | ND | | 1 | 50 | µg/L | 8/29/2005 | DW050829 | 8/30/2005 | DW050829 |

| Surrogate | Surrogate Recovery | Control Limits (%) |
|---|---|---|
| o-Terphenyl | 56.7 | 22 - 133 |

Analyzed by: JHsiang
Reviewed by: dba

**EPA 5030C EPA 8015 MOD. (Purgeable)** **TPH as Gasoline**

| Parameter | Result | Qual | D/P-F | Detection Limit | Units | Prep Date | Prep Batch | Analysis Date | QC Batch |
|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | ND | | 1 | 50 | µg/L | N/A | N/A | 8/30/2005 | WGC4050830A |

| Surrogate | Surrogate Recovery | Control Limits (%) |
|---|---|---|
| 4-Bromofluorobenzene | 99.7 | 65 - 135 |

Analyzed by: mruan
Reviewed by: MaiChiTu

**EPA 8020** **BTEX**

| Parameter | Result | Qual | D/P-F | Detection Limit | Units | Prep Date | Prep Batch | Analysis Date | QC Batch |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | | 1 | 0.50 | µg/L | N/A | N/A | 8/30/2005 | WGC4050830A |
| Toluene | ND | | 1 | 0.50 | µg/L | N/A | N/A | 8/30/2005 | WGC4050830A |
| Ethyl Benzene | ND | | 1 | 0.50 | µg/L | N/A | N/A | 8/30/2005 | WGC4050830A |
| Xylenes, Total | ND | | 1 | 0.50 | µg/L | N/A | N/A | 8/30/2005 | WGC4050830A |

| Surrogate | Surrogate Recovery | Control Limits (%) |
|---|---|---|
| 4-Bromofluorobenzene | 96.2 | 65 - 135 |

Analyzed by: mruan
Reviewed by: MaiChiTu

**EPA 5030C EPA 8260B EPA 624** **8260Petroleum**

| Parameter | Result | Qual | D/P-F | Detection Limit | Units | Prep Date | Prep Batch | Analysis Date | QC Batch |
|---|---|---|---|---|---|---|---|---|---|
| Methyl-t-butyl Ether | ND | | 1 | 1.0 | µg/L | N/A | N/A | 9/3/2005 | WM2050902 |
| tert-Butyl Ethyl Ether | ND | | 1 | 5.0 | µg/L | N/A | N/A | 9/3/2005 | WM2050902 |
| tert-Butanol (TBA) | ND | | 1 | 10 | µg/L | N/A | N/A | 9/3/2005 | WM2050902 |
| Diisopropyl Ether | ND | | 1 | 5.0 | µg/L | N/A | N/A | 9/3/2005 | WM2050902 |
| tert-Amyl Methyl Ether | ND | | 1 | 5.0 | µg/L | N/A | N/A | 9/3/2005 | WM2050902 |
| 1,2-Dichloroethane | ND | | 1 | 0.50 | µg/L | N/A | N/A | 9/3/2005 | WM2050902 |
| 1,2-Dibromoethane (EDB) | ND | | 1 | 0.50 | µg/L | N/A | N/A | 9/3/2005 | WM2050902 |
| Ethanol | ND | | 1 | 100 | µg/L | N/A | N/A | 9/3/2005 | WM2050902 |

| Surrogate | Surrogate Recovery | Control Limits (%) |
|---|---|---|
| 4-Bromofluorobenzene | 110 | 70 - 125 |
| Dibromofluoromethane | 101 | 70 - 125 |
| Toluene-d8 | 110 | 70 - 125 |

Analyzed by: MTu
Reviewed by: ECunniffe

Detection Limit = Detection Limit for Reporting.
D/P-F = Dilution and/or Prep Factor includes sample volume adjustments.
ND = Not Detected at or above the Detection Limit.
Qual = Data Qualifier

# Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

**Laboratory Control Sample / Duplicate - Liquid - EPA 8015 MOD. (Extractable) - TPH-Extractable**

**QC/Prep Batch ID: DW050829**

Reviewed by: dba - 08/31/05

**QC/Prep Date: 8/29/2005**

## LCS

| Parameter | Method Blank | Spike Amt | SpikeResult | Units | % Recovery | Recovery Limits |
|---|---|---|---|---|---|---|
| TPH as Diesel | <50 | 1000 | 948 | µg/L | 94.8 | 40 - 138 |
| TPH as Motor Oil | <200 | 1000 | 822 | µg/L | 82.2 | 40 - 138 |

| Surrogate | % Recovery | Control Limits |
|---|---|---|
| o-Terphenyl | **95.5** | 22 - 133 |

## LCSD

| Parameter | Method Blank | Spike Amt | SpikeResult | Units | % Recovery | RPD | RPD Limits | Recovery Limits |
|---|---|---|---|---|---|---|---|---|
| TPH as Diesel | <50 | 1000 | 848 | µg/L | 84.8 | **11** | 25.0 | 40 - 138 |
| TPH as Motor Oil | <200 | 1000 | 809 | µg/L | 80.9 | **1.6** | 25.0 | 40 - 138 |

| Surrogate | % Recovery | Control Limits |
|---|---|---|
| o-Terphenyl | **87.2** | 22 - 133 |

# Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

## Laboratory Control Sample / Duplicate - Liquid - EPA 8015 MOD. (Purgeable) - TPH as Gasoline

**QC Batch ID: WGC4050830A**

Reviewed by: MaiChiTu - 09/01/05

**QC Batch ID Analysis Date: 8/30/2005**

### LCS

| Parameter | Method Blank | Spike Amt | SpikeResult | Units | % Recovery | Recovery Limits |
|---|---|---|---|---|---|---|
| TPH as Gasoline | <50 | 250 | 240 | µg/L | 96.0 | 65 - 135 |

| Surrogate | % Recovery | Control Limits |
|---|---|---|
| 4-Bromofluorobenzene | **98.6** | 65 - 135 |

### LCSD

| Parameter | Method Blank | Spike Amt | SpikeResult | Units | % Recovery | RPD | RPD Limits | Recovery Limits |
|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | <50 | 250 | 224 | µg/L | 89.6 | **6.9** | 25.0 | 65 - 135 |

| Surrogate | % Recovery | Control Limits |
|---|---|---|
| 4-Bromofluorobenzene | **102** | 65 - 135 |

## Laboratory Control Sample / Duplicate - Liquid - EPA 8020 - BTEX

**QC Batch ID: WGC4050830A**

Reviewed by: MaiChiTu - 09/01/05

**QC Batch ID Analysis Date: 8/30/2005**

### LCS

| Parameter | Method Blank | Spike Amt | SpikeResult | Units | % Recovery | Recovery Limits |
|---|---|---|---|---|---|---|
| Benzene | <0.50 | 8.0 | 7.67 | µg/L | 95.9 | 65 - 135 |
| Ethyl Benzene | <0.50 | 8.0 | 7.50 | µg/L | 93.8 | 65 - 135 |
| Toluene | <0.50 | 8.0 | 8.00 | µg/L | 100 | 65 - 135 |
| Xylenes, total | <0.50 | 24 | 22.6 | µg/L | 94.1 | 65 - 135 |

| Surrogate | % Recovery | Control Limits |
|---|---|---|
| 4-Bromofluorobenzene | **93.3** | 65 - 135 |

### LCSD

| Parameter | Method Blank | Spike Amt | SpikeResult | Units | % Recovery | RPD | RPD Limits | Recovery Limits |
|---|---|---|---|---|---|---|---|---|
| Benzene | <0.50 | 8.0 | 8.08 | µg/L | 101 | **5.2** | 25.0 | 65 - 135 |
| Ethyl Benzene | <0.50 | 8.0 | 7.71 | µg/L | 96.4 | **2.8** | 25.0 | 65 - 135 |
| Toluene | <0.50 | 8.0 | 8.28 | µg/L | 104 | **3.4** | 25.0 | 65 - 135 |
| Xylenes, total | <0.50 | 24 | 23.2 | µg/L | 96.7 | **2.7** | 25.0 | 65 - 135 |

| Surrogate | % Recovery | Control Limits |
|---|---|---|
| 4-Bromofluorobenzene | **96** | 65 - 135 |

# Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

**Matrix Spike / Matrix Spike Duplicate - Liquid - EPA 8015 MOD. (Purgeable) - TPH as Gasoline**

**QC Batch ID: WGC4050830A**

Reviewed by: MaiChiTu - 09/01/05

**QC Batch ID Analysis Date: 8/30/2005**

**MS** Sample Spiked: 45072-003

| Parameter | Sample Result | Spike Amount | Spike Result | Units | Analysis Date | % Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| TPH as Gasoline | ND | 250 | 231 | µg/L | 8/30/2005 | 92.4 | 65 - 135 |

| Surrogate | % Recovery | Control Limits |
|---|---|---|
| 4-Bromofluorobenzene | 98.8 | 65 - 135 |

**MSD** Sample Spiked: 45072-003

| Parameter | Sample Result | Spike Amount | Spike Result | Units | Analysis Date | % Recovery | RPD | RPD Limits | Recovery Limits |
|---|---|---|---|---|---|---|---|---|---|
| TPH as Gasoline | ND | 250 | 243 | µg/L | 8/30/2005 | 97.2 | 5.1 | 25.0 | 65 - 135 |

| Surrogate | % Recovery | Control Limits |
|---|---|---|
| 4-Bromofluorobenzene | 101 | 65 - 135 |

# Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

**Matrix Spike / Matrix Spike Duplicate - Liquid - EPA 8020 - BTEX**

**QC Batch ID: WGC4050830A**

Reviewed by: MaiChiTu - 09/01/05

**QC Batch ID Analysis Date: 8/30/2005**

**MS** Sample Spiked: 45072-003

| Parameter | Sample Result | Spike Amount | Spike Result | Units | Analysis Date | % Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Benzene | ND | 2.8 | 2.77 | µg/L | 8/30/2005 | 98.5 | 65 - 135 |
| Ethyl Benzene | ND | 3.7 | 3.06 | µg/L | 8/30/2005 | 82.7 | 65 - 135 |
| Toluene | ND | 16 | 15.6 | µg/L | 8/30/2005 | 95.2 | 65 - 135 |
| Xylenes, total | ND | 20 | 16.6 | µg/L | 8/30/2005 | 85.2 | 65 - 135 |

| Surrogate | % Recovery | Control Limits |
|---|---|---|
| 4-Bromofluorobenzene | 104 | 65 - 135 |

**MSD** Sample Spiked: 45072-003

| Parameter | Sample Result | Spike Amount | Spike Result | Units | Analysis Date | % Recovery | RPD | RPD Limits | Recovery Limits |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | ND | 2.8 | 2.81 | µg/L | 8/30/2005 | 100 | 1.4 | 25.0 | 65 - 135 |
| Ethyl Benzene | ND | 3.7 | 2.83 | µg/L | 8/30/2005 | 76.5 | 7.8 | 25.0 | 65 - 135 |
| Toluene | ND | 16 | 14.6 | µg/L | 8/30/2005 | 89.2 | 6.5 | 25.0 | 65 - 135 |
| Xylenes, total | ND | 20 | 16.2 | µg/L | 8/30/2005 | 83.1 | 2.6 | 25.0 | 65 - 135 |

| Surrogate | % Recovery | Control Limits |
|---|---|---|
| 4-Bromofluorobenzene | 105 | 65 - 135 |

# Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

**Method Blank - Liquid - EPA 8260B - 8260Petroleum**

**QC Batch ID: WM2050902**

Validated by: ECunniffe - 09/06/05

**QC Batch Analysis Date: 9/2/2005**

| Parameter | Result | DF | PQLR | Units |
|---|---|---|---|---|
| 1,2-Dibromoethane (EDB) | ND | 1 | 0.50 | µg/L |
| 1,2-Dichloroethane | ND | 1 | 0.50 | µg/L |
| Diisopropyl Ether | ND | 1 | 5.0 | µg/L |
| Ethanol | ND | 1 | 100 | µg/L |
| Methyl-t-butyl Ether | ND | 1 | 1.0 | µg/L |
| tert-Amyl Methyl Ether | ND | 1 | 5.0 | µg/L |
| tert-Butanol (TBA) | ND | 1 | 10 | µg/L |
| tert-Butyl Ethyl Ether | ND | 1 | 5.0 | µg/L |

| Surrogate for Blank | % Recovery | Control Limits |
|---|---|---|
| 4-Bromofluorobenzene | **111** | 70 - 125 |
| Dibromofluoromethane | **100** | 70 - 125 |
| Toluene-d8 | **110** | 70 - 125 |

# Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

**Laboratory Control Sample / Duplicate - Liquid - EPA 8260B - 8260Petroleum**

**QC Batch ID: WM2050902**

Reviewed by: ECunniffe - 09/06/05

**QC Batch ID Analysis Date: 9/2/2005**

## LCS

| Parameter | Method Blank | Spike Amt | SpikeResult | Units | % Recovery | Recovery Limits |
|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | <0.50 | 20 | 18.4 | µg/L | 91.8 | 70 - 130 |
| Benzene | <0.50 | 20 | 21.3 | µg/L | 107 | 70 - 130 |
| Chlorobenzene | <0.50 | 20 | 22.6 | µg/L | 113 | 70 - 130 |
| Methyl-t-butyl Ether | <1.0 | 20 | 19.0 | µg/L | 94.9 | 70 - 130 |
| Toluene | <0.50 | 20 | 22.0 | µg/L | 110 | 70 - 130 |
| Trichloroethene | <0.50 | 20 | 22.7 | µg/L | 113 | 70 - 130 |

| Surrogate | % Recovery | Control Limits |
|---|---|---|
| 4-Bromofluorobenzene | **112** | 70 - 125 |
| Dibromofluoromethane | **102** | 70 - 125 |
| Toluene-d8 | **109** | 70 - 125 |

## LCSD

| Parameter | Method Blank | Spike Amt | SpikeResult | Units | % Recovery | RPD | RPD Limits | Recovery Limits |
|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | <0.50 | 20 | 18.2 | µg/L | 91.0 | **0.90** | 25.0 | 70 - 130 |
| Benzene | <0.50 | 20 | 20.8 | µg/L | 104 | **2.6** | 25.0 | 70 - 130 |
| Chlorobenzene | <0.50 | 20 | 21.6 | µg/L | 108 | **4.2** | 25.0 | 70 - 130 |
| Methyl-t-butyl Ether | <1.0 | 20 | 17.9 | µg/L | 89.6 | **5.7** | 25.0 | 70 - 130 |
| Toluene | <0.50 | 20 | 21.3 | µg/L | 106 | **3.4** | 25.0 | 70 - 130 |
| Trichloroethene | <0.50 | 20 | 22.1 | µg/L | 110 | **2.7** | 25.0 | 70 - 130 |

| Surrogate | % Recovery | Control Limits |
|---|---|---|
| 4-Bromofluorobenzene | **110** | 70 - 125 |
| Dibromofluoromethane | **102** | 70 - 125 |
| Toluene-d8 | **108** | 70 - 125 |

# Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

**Method Blank - Liquid - EPA 8260B - 8260Petroleum**

**QC Batch ID: WM2050905**

Validated by: ECunniffe - 09/07/05

**QC Batch Analysis Date: 9/5/2005**

| Parameter | Result | DF | PQLR | Units |
|---|---|---|---|---|
| 1,2-Dibromoethane (EDB) | ND | 1 | 0.50 | µg/L |
| 1,2-Dichloroethane | ND | 1 | 0.50 | µg/L |
| Diisopropyl Ether | ND | 1 | 5.0 | µg/L |
| Ethanol | ND | 1 | 100 | µg/L |
| Methyl-t-butyl Ether | ND | 1 | 1.0 | µg/L |
| tert-Amyl Methyl Ether | ND | 1 | 5.0 | µg/L |
| tert-Butanol (TBA) | ND | 1 | 10 | µg/L |
| tert-Butyl Ethyl Ether | ND | 1 | 5.0 | µg/L |

| Surrogate for Blank | % Recovery | Control Limits |
|---|---|---|
| 4-Bromofluorobenzene | **108** | 70 - 125 |
| Dibromofluoromethane | **98.9** | 70 - 125 |
| Toluene-d8 | **110** | 70 - 125 |

# Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

**Laboratory Control Sample / Duplicate - Liquid - EPA 8260B - 8260Petroleum**

**QC Batch ID: WM2050905**

Reviewed by: ECunniffe - 09/07/05

**QC Batch ID Analysis Date: 9/5/2005**

## LCS

| Parameter | Method Blank | Spike Amt | SpikeResult | Units | % Recovery | Recovery Limits |
|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | <0.50 | 20 | 18.2 | µg/L | 91.2 | 70 - 130 |
| Benzene | <0.50 | 20 | 21.0 | µg/L | 105 | 70 - 130 |
| Chlorobenzene | <0.50 | 20 | 21.8 | µg/L | 109 | 70 - 130 |
| Methyl-t-butyl Ether | <1.0 | 20 | 17.8 | µg/L | 89.0 | 70 - 130 |
| Toluene | <0.50 | 20 | 21.1 | µg/L | 106 | 70 - 130 |
| Trichloroethene | <0.50 | 20 | 22.1 | µg/L | 111 | 70 - 130 |

| Surrogate | % Recovery | Control Limits |
|---|---|---|
| 4-Bromofluorobenzene | **109** | 70 - 125 |
| Dibromofluoromethane | **99** | 70 - 125 |
| Toluene-d8 | **107** | 70 - 125 |

## LCSD

| Parameter | Method Blank | Spike Amt | SpikeResult | Units | % Recovery | RPD | RPD Limits | Recovery Limits |
|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethene | <0.50 | 20 | 18.4 | µg/L | 92.2 | **1.1** | 25.0 | 70 - 130 |
| Benzene | <0.50 | 20 | 21.4 | µg/L | 107 | **1.8** | 25.0 | 70 - 130 |
| Chlorobenzene | <0.50 | 20 | 22.4 | µg/L | 112 | **2.4** | 25.0 | 70 - 130 |
| Methyl-t-butyl Ether | <1.0 | 20 | 18.5 | µg/L | 92.5 | **3.9** | 25.0 | 70 - 130 |
| Toluene | <0.50 | 20 | 21.9 | µg/L | 109 | **3.6** | 25.0 | 70 - 130 |
| Trichloroethene | <0.50 | 20 | 22.7 | µg/L | 114 | **2.5** | 25.0 | 70 - 130 |

| Surrogate | % Recovery | Control Limits |
|---|---|---|
| 4-Bromofluorobenzene | **108** | 70 - 125 |
| Dibromofluoromethane | **99.1** | 70 - 125 |
| Toluene-d8 | **106** | 70 - 125 |

# Entech Analytical Labs, Inc.

3334 Victor Court (408) 588-0200
Santa Clara, CA 95054 (408) 588-0201 - Fax

# Chain of Custody / Analysis Request

| Attention to: | Phone No.: | Purchase Order No.: | Invoice to: (If Different) | Phone: |
|---|---|---|---|---|
| BRUCE RUCKER | (510) 644-3123 | | | |
| **Company Name:** | **Fax No.:** | **Project No.:** | **Company:** | **Quote No.:** |
| STELLAR ENV. SOLUTIONS | (510) 644-3859 | .1.con | | |
| **Mailing Address:** | **Email Address:** | **Project Name:** | **Billing Address: (If Different)** | |
| 2198 SIXTH ST. SUITE 201 | bruckere@stellar-environmental | RUSS ELLIOTT | | |
| **City:** | **State:** / **Zip Code:** | **Project Location:** | **City:** / **State:** / **Zip:** | |
| BERKELEY | CA 94710 | 2526 WOOD ST., OAKLAND. | | |

Sampler: S. CASSADY

Field Org. Code:

Global ID: T0600102118

**Turn Around Time**
- ❑ Same Day ❑ 1 Day
- ❑ 2 Day ❑ 3 Day
- ❑ 4 Day ❑ 5 Day
- ❑ 10 Day

**Order ID:**

FIELD PT. ID ARE SAME AS CLIENT ID

| Client ID / Field Point | Lab. No. | Sample Date | Sample Time | Matrix | No. of Containers | GC/MS Methods: EPA 8260B | BTEX ❑, MTBE ❑ TPH Gas ❑ by 8260B | 5 Oxygenates (MTBE, TBA, ETBA, DIPE, TAME) ✗ Ethanol ✗ | Lead Scavengers (1,2-DCA & EDB) | Base/Neutral/Acid Organics | 8270C ❑, PAH - 8270C ❑, PAH - 8270C SIM ❑ | TPH Extractable: Diesel ✗ Motor Oil ❑, Other ❑, | w/ Si-Gel Cleanup ❑ | Pesticides-8081 ❑ | PCBs - 8082 ❑ | GC Methods: TPH as Gas/BTEX ✗ MTBE ❑ by 8015M/8020 | Methanol by 8015M | General Chemistry: Anions: F ❑, Cl ❑, Br ❑, SO4 ❑, NO3 ❑, NO2 ❑, PO4 ❑ | pH ❑ TSS ❑ SC ❑ TOC ❑ TRPH ❑ O & G ❑ | Metals - Circle Below Total ❑ Dissolved ❑ STLC ❑ TCLP ❑ | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1 | | 8-26-05 | 1415 | GW | 6 | | | X | | | | X | | X | | X | | | | | #5072-001 |
| MW-2 | | ↓ | 1405 | ↓ | ↓ | | | X | | | | X | | X | | X | | | | | 002 |
| MW-3 | | ↓ | 1350 | ↓ | ↓ | | | X | | | | X | | X | | X | | | | | 003 |

| Relinquished by: | Received by: | Date: | Time: |
|---|---|---|---|
| Scott Cassady | Diane Thuan | 8-29-05 | 1510 |
| Relinquished by: | Received by: | Date: | Time: |
| Relinquished by: | Received by: | Date: | Time: |

**Special Instructions or Comments**

- ❑ EDD Report
- ✗ EDF Report
- ❑ Plating
- ❑ LUFT-5
- ❑ RCRA-8
- ❑ PPM-13
- ❑ CAM-17

**Metals:**
Al, As, Sb, Ba, Be, Bi, B, Cd, Ce, Ca, Cr, Co, Cs, Cu, Fe, Pb, Mg, Mn,
Ga, Ge, Hg, In, Li, Mo, Ni, P, K, Si, Ag, Na, S, Se, Sr, Ta, Te, Tl, Sn, Ti, Zn, V, W, Zr

# APPENDIX C

## Wastewater Disposal Documentation

# Wastewater Profile Sample
# Laboratory Report

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

# A N A L Y T I C A L  R E P O R T

Prepared for:

Stellar Environmental Solutions
2198 6th Street
Suite 201
Berkeley, CA 94710

Date: 27-JUN-05
Lab Job Number: 180132
Project ID: 2003-43
Location: Former Russ Elliot Fac.

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.

Reviewed by: _____
Project Manager

Reviewed by: _____
Operations Manager

Curtis & Tompkins, Ltd.

# CASE NARRATIVE

| | |
|---|---|
| Laboratory number: | **180132** |
| Client: | **Stellar Environmental Solutions** |
| Project: | **2003-43** |
| Location: | **Former Russ Elliot Fac.** |
| Request Date: | **06/21/05** |
| Samples Received: | **06/21/05** |

This hardcopy data package contains sample and QC results for one water sample, requested for the above referenced project on 06/21/05. The sample was received cold and intact.

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

**TPH-Extractables by GC (EPA 8015B):**
No analytical problems were encountered.

180132

# 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 Ms. Jeannette Elliott
Site Address 2526 Wood Street
Oakland, California

Project Name Former Russ Elliott Facility
Project Number 2003-43

Method of Shipment Hand Delivery
Shipment No. _____
Airbill No. _____
Cooler No. _____
Project Manager Bruce Rucker
Telephone No. (510) 644-3123
Fax No. (510) 644-3859
Samplers: (Signature) Joseph Dinan

| Field Sample Number | Location/ Depth | Date | Time | Sample Type | Type/Size of Container | Preservation: Cooler | Preservation: Chemical | Filtered | No. of Containers | Analysis Required: TEHd | Analysis Required: TVHg + BTEX + MTBE | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Drum Water Comp | N/A | 06/21 | 1200 | H2O | 1-L amber glass | yes | none | | 1 | X | | |
| | | | | | 40 ml VOAs | yes | HCl | | 3 | | X | |

Relinquished by:
Signature Joseph Dinan
Printed Joe Dinan
Company Stellar Environmental
Date 06/21/2005
Time 12:40

Received by:
Signature Lavanne Curtis
Printed Lavanne Curtis
Company C+T
Date 6/21/05
Time 12:40

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

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

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

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

Turnaround Time: 5 Day TAT

Comments:
Sample is a composite of 3 55-gallon drums.

Cold & intact.

2000-30-01

Curtis & Tompkins, Ltd.

# Curtis & Tompkins Laboratories Analytical Report

| | | | |
|---|---|---|---|
| Lab #: | 180132 | Location: | Former Russ Elliot Fac. |
| Client: | Stellar Environmental Solutions | Prep: | EPA 5030B |
| Project#: | 2003-43 | | |
| Field ID: | DRUM WATER COMP | Batch#: | 103124 |
| Matrix: | Water | Sampled: | 06/21/05 |
| Units: | ug/L | Received: | 06/21/05 |
| Diln Fac: | 1.000 | Analyzed: | 06/21/05 |

Type: SAMPLE Lab ID: 180132-001

| Analyte | Result | RL | Analysis |
|---|---|---|---|
| Gasoline C7-C12 | ND | 50 | EPA 8015B |
| MTBE | ND | 2.0 | EPA 8021B |
| 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) | 90 | 63-141 | EPA 8015B |
| Bromofluorobenzene (FID) | 91 | 79-139 | EPA 8015B |
| Trifluorotoluene (PID) | 90 | 63-133 | EPA 8021B |
| Bromofluorobenzene (PID) | 96 | 79-128 | EPA 8021B |

Type: BLANK Lab ID: QC298160

| Analyte | Result | RL | Analysis |
|---|---|---|---|
| Gasoline C7-C12 | ND | 50 | EPA 8015B |
| MTBE | ND | 2.0 | EPA 8021B |
| 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) | 93 | 63-141 | EPA 8015B |
| Bromofluorobenzene (FID) | 92 | 79-139 | EPA 8015B |
| Trifluorotoluene (PID) | 94 | 63-133 | EPA 8021B |
| Bromofluorobenzene (PID) | 99 | 79-128 | EPA 8021B |

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

## Curtis & Tompkins Laboratories Analytical Report

| | | | |
|---|---|---|---|
| Lab #: | 180132 | Location: | Former Russ Elliot Fac. |
| Client: | Stellar Environmental Solutions | Prep: | EPA 5030B |
| Project#: | 2003-43 | Analysis: | EPA 8021B |
| Type: | LCS | Diln Fac: | 1.000 |
| Lab ID: | QC298161 | Batch#: | 103124 |
| Matrix: | Water | Analyzed: | 06/21/05 |
| Units: | ug/L | | |

| Analyte | Spiked | Result | %REC | Limits |
|---|---|---|---|---|
| MTBE | 20.00 | 20.89 | 104 | 67-125 |
| Benzene | 20.00 | 20.99 | 105 | 80-120 |
| Toluene | 20.00 | 21.33 | 107 | 80-120 |
| Ethylbenzene | 20.00 | 21.57 | 108 | 80-120 |
| m,p-Xylenes | 20.00 | 21.99 | 110 | 80-120 |
| o-Xylene | 20.00 | 21.66 | 108 | 80-120 |

| Surrogate | %REC | Limits |
|---|---|---|
| Trifluorotoluene (PID) | 96 | 63-133 |
| Bromofluorobenzene (PID) | 101 | 79-128 |

Curtis & Tompkins, Ltd.

Batch QC Report

## Curtis & Tompkins Laboratories Analytical Report

| | | | |
|---|---|---|---|
| Lab #: | 180132 | Location: | Former Russ Elliot Fac. |
| Client: | Stellar Environmental Solutions | Prep: | EPA 5030B |
| Project#: | 2003-43 | Analysis: | EPA 8015B |
| Type: | LCS | Diln Fac: | 1.000 |
| Lab ID: | QC298162 | Batch#: | 103124 |
| Matrix: | Water | Analyzed: | 06/21/05 |
| Units: | ug/L | | |

| Analyte | Spiked | Result | %REC | Limits |
|---|---|---|---|---|
| Gasoline C7-C12 | 2,000 | 2,069 | 103 | 80-120 |

| Surrogate | %REC | Limits |
|---|---|---|
| Trifluorotoluene (FID) | 112 | 63-141 |
| Bromofluorobenzene (FID) | 102 | 79-139 |

Curtis & Tompkins, Ltd.

Batch QC Report

## Curtis & Tompkins Laboratories Analytical Report

| | | | |
|---|---|---|---|
| Lab #: | 180132 | Location: | Former Russ Elliot Fac. |
| Client: | Stellar Environmental Solutions | Prep: | EPA 5030B |
| Project#: | 2003-43 | Analysis: | EPA 8015B |
| Field ID: | DRUM WATER COMP | Batch#: | 103124 |
| MSS Lab ID: | 180132-001 | Sampled: | 06/21/05 |
| Matrix: | Water | Received: | 06/21/05 |
| Units: | ug/L | Analyzed: | 06/21/05 |
| Diln Fac: | 1.000 | | |

Type: MS Lab ID: QC298211

| Analyte | MSS Result | Spiked | Result | %REC | Limits |
|---|---|---|---|---|---|
| Gasoline C7-C12 | 25.34 | 2,000 | 1,954 | 96 | 80-120 |

| Surrogate | %REC | Limits |
|---|---|---|
| Trifluorotoluene (FID) | 102 | 63-141 |
| Bromofluorobenzene (FID) | 94 | 79-139 |

Type: MSD Lab ID: QC298212

| Analyte | Spiked | Result | %REC | Limits | RPD | Lim |
|---|---|---|---|---|---|---|
| Gasoline C7-C12 | 2,000 | 2,024 | 100 | 80-120 | 4 | 20 |

| Surrogate | %REC | Limits |
|---|---|---|
| Trifluorotoluene (FID) | 104 | 63-141 |
| Bromofluorobenzene (FID) | 95 | 79-139 |

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

# Total Extractable Hydrocarbons

| | | | |
|---|---|---|---|
| Lab #: | 180132 | Location: | Former Russ Elliot Fac. |
| Client: | Stellar Environmental Solutions | Prep: | EPA 3520C |
| Project#: | 2003-43 | Analysis: | EPA 8015B |
| Field ID: | DRUM WATER COMP | Sampled: | 06/21/05 |
| Matrix: | Water | Received: | 06/21/05 |
| Units: | ug/L | Prepared: | 06/23/05 |
| Diln Fac: | 1.000 | Analyzed: | 06/24/05 |
| Batch#: | 103242 | | |

Type: SAMPLE Lab ID: 180132-001

| Analyte | Result | RL |
|---|---|---|
| Diesel C10-C24 | 1,100 H Y | 50 |

| Surrogate | %REC | Limits |
|---|---|---|
| Hexacosane | 102 | 55-143 |

Type: BLANK Cleanup Method: EPA 3630C
Lab ID: QC298617

| Analyte | Result | RL |
|---|---|---|
| Diesel C10-C24 | ND | 50 |

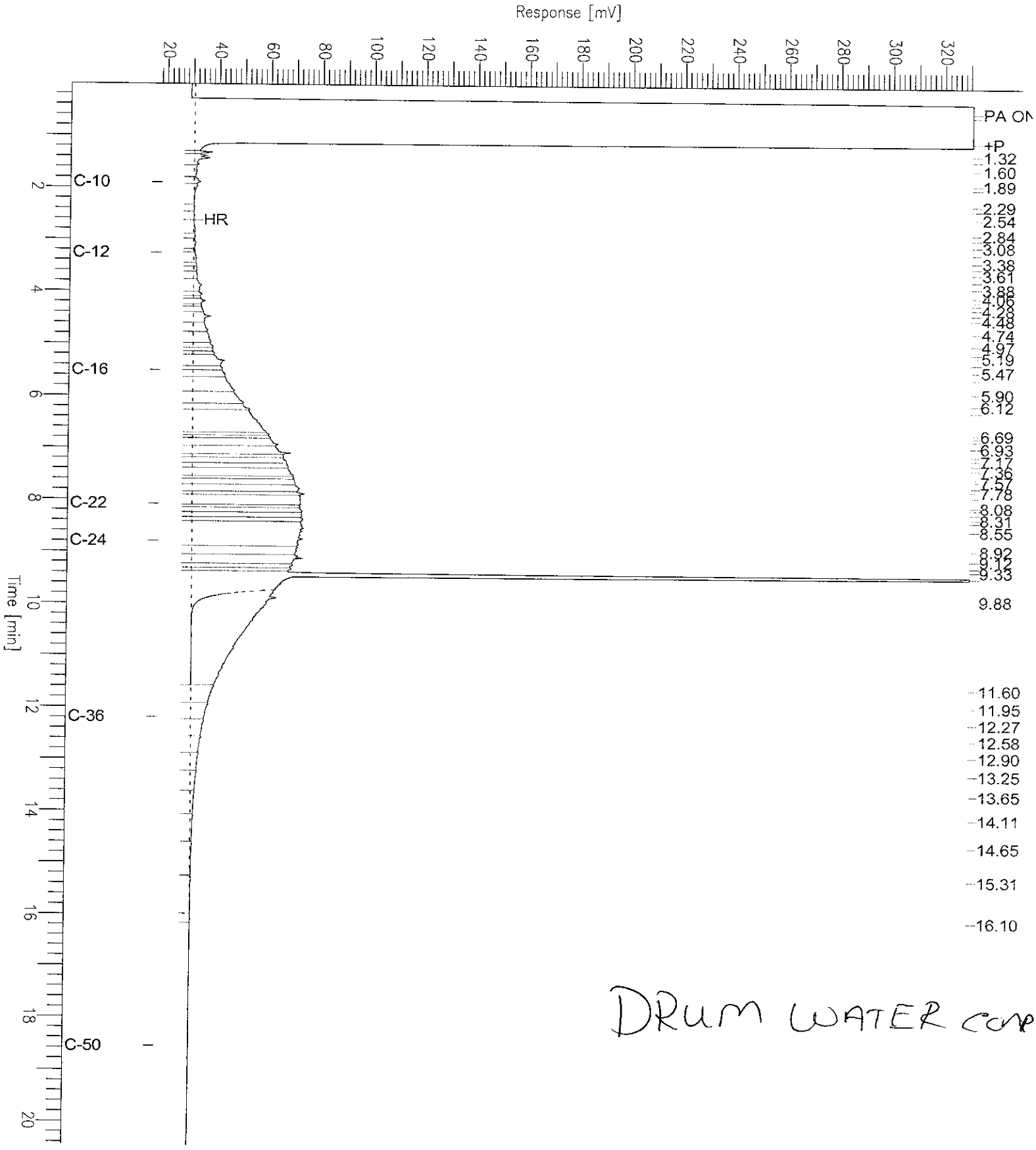
| Surrogate | %REC | Limits |
|---|---|---|
| Hexacosane | 121 | 55-143 |

H= Heavier hydrocarbons contributed to the quantitation
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected
RL= Reporting Limit

# Chromatogram

Sample Name : 180132-001,103242
FileName : G:\GC11\CHA\175A009.RAW
Method : ATEH156S.MTH
Start Time : 0.01 min End Time : 20.45 min
Scale Factor: 0.0 Plot Offset: 18 mV

Sample #: 103242 Page 1 of 1
Date : 6/26/05 11:24 AM
Time of Injection: 6/24/05 08:34 PM
Low Point : 17.94 mV High Point : 330.71 mV
Plot Scale: 312.8 mV




DRUM WATER cont

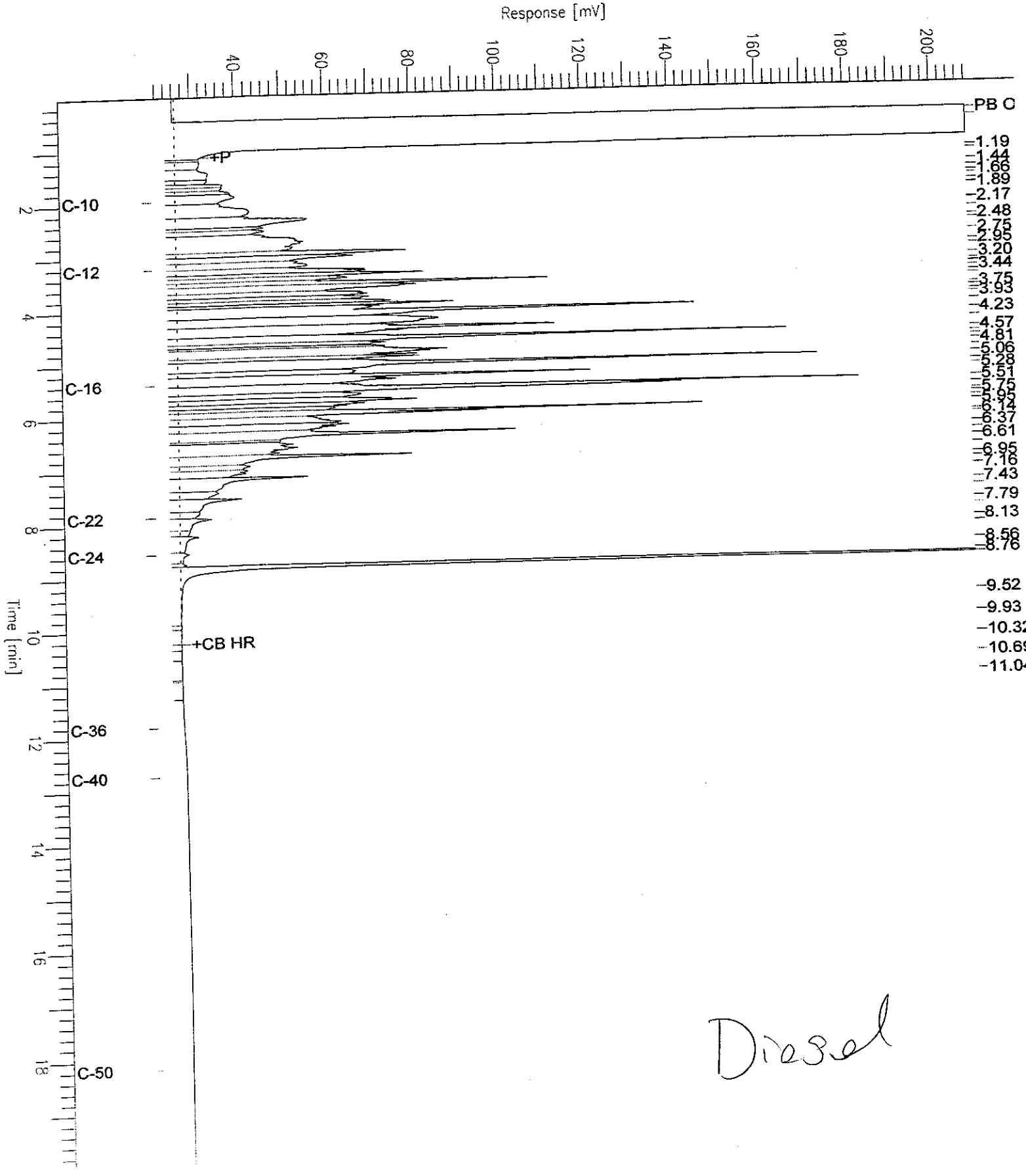
# Chromatogram

Sample Name : ccv,S778,dsl
FileName : G:\GC15\CHB\175B003.RAW
Method : BTEH159S.MTH
Start Time : 0.01 min
Scale Factor: 0.0

End Time : 19.97 min
Plot Offset: 21 mV

Sample #: 500mg/L
Date : 6/24/05 11:19 AM
Time of Injection: 6/24/05 10:12 AM
Low Point : 21.07 mV
High Point : 208.17 mV
Plot Scale: 187.1 mV






Diesel

Curtis & Tompkins, Ltd.

Batch QC Report

## Total Extractable Hydrocarbons

| | | | |
|---|---|---|---|
| Lab #: | 180132 | Location: | Former Russ Elliot Fac. |
| Client: | Stellar Environmental Solutions | Prep: | EPA 3520C |
| Project#: | 2003-43 | Analysis: | EPA 8015B |
| Matrix: | Water | Batch#: | 103242 |
| Units: | ug/L | Prepared: | 06/23/05 |
| Diln Fac: | 1.000 | Analyzed: | 06/24/05 |

Type: BS
Lab ID: QC298618
Cleanup Method: EPA 3630C

| Analyte | Spiked | Result | %REC | Limits |
|---|---|---|---|---|
| Diesel C10-C24 | 2,500 | 2,750 | 110 | 50-133 |

| Surrogate | %REC | Limits |
|---|---|---|
| Hexacosane | 116 | 55-143 |

Type: BSD
Lab ID: QC298619
Cleanup Method: EPA 3630C

| Analyte | Spiked | Result | %REC | Limits | RPD | Lim |
|---|---|---|---|---|---|---|
| Diesel C10-C24 | 2,500 | 2,706 | 108 | 50-133 | 2 | 40 |

| Surrogate | %REC | Limits |
|---|---|---|
| Hexacosane | 117 | 55-143 |

RPD= Relative Percent Difference

# Wastewater Profile and Transport Documentation

D/K Environmental
3650 East 26th Street
Vernon, CA. 90023
Tel: (323) 268-5056
Fax: (323) 268-9672
E.P.A. # CAT 080033681

# Hazardous Waste Profile Sheet

Price: | Category: | For office use only, do not write in this area

Comments:

Waste description, qualifying parameters and price are based on profile submitted — Waste I.D. # (Assigned by DKE)

**A. CUSTOMER INFORMATION**

Name of Company North State Environmental — EPA ID #: CAR 000 159 459

Facility Address 815 Dubuque Avenue — Mailing Address PO Box 2145

So. San Francisco, CA 94080 — PO Box 214 So. San Francisco, CA 94083

Contact Terry Haehne — Title Sales Mgr. — Phone ( ) 650.588.2838 — Fax ( ) 650.588.1950

**B. GENERATOR INFORMATION** (if different than customer)

Name of Company Ms. Joanne Elliott — US EPA # N/A

Facility Address 2526 Wood Street

Oakland, CA — 24 Hour Contact Terry Haehne — Phone ( ) 650.588.2838

Contact Same — Title Sales Mgr. — Phone ( ) Same — Fax ( ) 650.588.1950

**C. WASTE STREAM INFORMATION**

Process Generating Waste Site Assessment from leaking underground

Waste Name Water

Packaging: ☐ Bulk Liquid ☐ Bulk Solid ☐ Lab Pack ☒ Drums ☒ Size 55 gal. Other Gas Tank

Volume 3 x 55 gal. ☐ Gallons ☐ Lbs. ☐ Cubic Yards Per: ☐ Month ☐ Quarter ☒ Year

**D. PHYSICAL CHARACTERISTICS OF WASTE**

1. General Characteristics

Color Clear — ☒ Liquid 100 % free — ☐ Solid — ☐ Single Layer — ☐ Double Layer — ☐ Multi Layer

Odor — ☒ None ☐ Strong ☐ Mild — ☐ Sludge ☐ Powder

2. Specific Gravity

☐ <0.8 ☐ 1.4 - 1.7 ☒ 0.8-1.0 ☐ >1.7 ☐ 1.0-1.2 ☐ _____ Exact ☐ 1.2-1.4

3. Flash Point

☐ < 100F ☒ > 200F ☐ 100-140F ☐ 140-200F Method _____

4. pH: ☐ <2 ☐ 2-4 ☐ 4-7 ☒ 7 ☐ 7-10 ☐ 10 - < 12.5 ☐ > 12.5 ☐ Range _____

**E. CHEMICAL COMPOSITION**

| | |
|---|---|
| Water | 100 % |
| | % |
| | % |
| | % |
| | % |
| TOTAL | 100% |

**F. METALS**

| YES | NO | | | YES | NO | | |
|---|---|---|---|---|---|---|---|
| ☐ | ☒ | Arsenic(As) | PPM | ☐ | ☒ | Mercury (Hg) | PPM |
| ☐ | ☒ | Barium(Ba) | PPM | ☐ | ☒ | Nickel(Ni) | PPM |
| ☐ | ☒ | Cadmium(Cd) | PPM | ☐ | ☒ | Selenium(Se) | PPM |
| ☐ | ☒ | Chromium(Cr) | PPM | ☐ | ☒ | Silver(Ag) | PPM |
| ☐ | ☒ | Copper(Cu) | PPM | ☐ | ☒ | Thallium(Tl) | PPM |
| ☐ | ☒ | Lead(Pb) | PPM | ☐ | ☒ | Zinc(Zn) | PPM |
| ☐ | ☒ | (Hexa) Chrome | PPM | ☐ | ☐ | Other | PPM |
| ☐ | ☐ | Other | PPM | ☐ | ☐ | Other | PPM |

☒ Total, ppm ☐ Extract(TCLP)

5. Is this waste subject to RCRA Subpart CC Controls? ☐ Yes ☒ No Volatile Organic concentration, if known _____ ppmw

6. Is this waste subject to Benzene Waste Operation NESHAP? ☐ YES ☒ NO. If yes, what is the SIC code for operations generating this waste? _____

7. If this waste includes any RCRA Codes D001 through D043, can this waste reasonably be expected to exceed the 40CFR268.48 Universal Treatment Standards (UT for any Underlying Hazardous Constituent(s)? ☐ YES ☒ NO. If yes, complete Attachment 1 UTS Table.

8. This waste is (check one): ☒ Wastewater ☐ Non-wastewater

9. Does wastewater treatment of this waste generate an F006 or F019 waste? ☐ YES ☒ NO

**G. HAZARDOUS CHARACTERISTICS** (From CFR-40) Is the waste?

☒ None ☐ Pyrophoric ☐ Infectious/Pathogenic ☐ Reactive
☐ Radioactive ☐ PCBs ☒ Explosive/Shock Sensitive ☐ Pesticides/Herbicides

**H. OTHER COMPONENTS**

| YES | NO | | | YES | NO | | |
|---|---|---|---|---|---|---|---|
| ☐ | ☒ | Cyanides | PPM | ☐ | ☒ | Halogenated Organics | PPM |
| ☐ | ☒ | Chelating Agents | PPM | ☐ | ☒ | Aromatic Hydrocarbons | PPM |
| ☐ | ☒ | Silicates | PPM | | | | |
| ☐ | ☒ | Ammonia | PPM | | | | |
| ☐ | ☒ | Phosphates | PPM | | | | |
| ☐ | ☒ | Phenols | PPM | | | | |

**I. SHIPPING INFORMATION**

D.O.T. Proper Shipping Name Water, non-hazardous waste Liquid

UN/NA # _____ Hazardous Class _____ R.Q. _____

RCRA Waste? ☐ Yes ☒ No ☐ Code _____

CA Hazardous Waste? ☐ Yes ☒ No ☐ Code _____

"I hereby certify that this waste is non-hazardous in accordance with both Federal and State of California Hazardous Waste Statutes and Regulations."
(check here if you are certifying that this waste is non-hazardous) ☒

Special Handling Information _____

I certify and warrant that the above information, the information attached, and the waste stream as described is true and correct to the best of my knowledge and ability no will deliberate omissions exist, and that all hazards have been disclosed, and that a sample has been or is being sent to the proper facility. If this certification is made by a broke undersigned signs as an authorized agent of the generator, and has confirmed the information contained in this Profile Sheet from information provided by the generato additional information as it has determined to be reasonably necessary.

Joanne Elliott — SIGNATURE

Sales Mgr. — TITLE

6/28/05 — DATE

# NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

**NON-HAZARDOUS WASTE MANIFEST**

1. Generator's US EPA ID No.: N/A

Manifest Document No.: N750274

2. Page 1 of

3. Generator's Name and Mailing Address:
JEANETTE ELLIOTT
1744 SKYVIEW DRIVE,
SAN LEANDRO, CA 94577

SITE = 2526 WOOD STREET
OAKLAND, CA

4. Generator's Phone: (510) 644-3123

5. Transporter 1 Company Name: NORTH STATE ENVIRONMENTAL

6. US EPA ID Number:

A. State Transporter's ID:

B. Transporter 1 Phone:

7. Transporter 2 Company Name:

8. US EPA ID Number:

C. State Transporter's ID:

D. Transporter 2 Phone:

9. Designated Facility Name and Site Address:
D, K. ENVIRONMENTAL
3650 EAST 26TH STREET, LOS ANGELES, CA 90223

10. US EPA ID Number:

E. State Facility's ID:

F. Facility's Phone: (323) 268-5056

| 11. WASTE DESCRIPTION | 12. Containers No. | 12. Containers Type | 13. Total Quantity | 14. Unit Wt./Vol. |
|---|---|---|---|---|
| a. NON-HAZARDOUS WASTE, LIQUID (WATER) | 3 | DM | 165 | G |
| b. | | | | |
| c. | | | | |
| d. | | | | |

G. Additional Descriptions for Materials Listed Above:
A. 350629-15

H. Handling Codes for Wastes Listed Above:

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: MICHAEL DINGA
Signature:
Date: Month 7 Day 16 Year 05

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name:
Signature:
Date: Month 7 Day 16 Year 05

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name:
Signature:
Date: Month Day Year

19. Discrepancy Indication Space

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

Printed/Typed Name:
Signature:
Date: Month Day Year

GENERATOR
TRANSPORTER
FACILITY
NON-HAZARDOUS WASTE

# APPENDIX D

## Historical Groundwater Monitoring Well Analytical Results

**Table D-1**
**Historical Groundwater Monitoring Well Groundwater Analytical Results**
**2526 Wood Street, Oakland**

| Sample I.D. | TEHd | TVHg | Benzene | Toluene | Ethyl-benzene | Total Xylenes | MTBE | Fuel Oxygenates [(a)] |
|---|---|---|---|---|---|---|---|---|
| **February 2004 Event** | | | | | | | | |
| MW-1 | *<50* | **172** | **1.2** | *<0.5* | *<0.5* | *<1.0* | **578** | **TAME = 3 \| TBA = 19** |
| MW-2 | *<50* | **72** | *<0.5* | *<0.5* | *<0.5* | *<1.0* | **16.4** | *ND* |
| MW-3 | *<50* | **58** | *<0.5* | **0.6** | *<0.5* | *<1.0* | *<0.5* | *ND* |
| **May 2004 Event** | | | | | | | | |
| MW-1 | *<50* | *< 50* | *<0.5* | *<0.5* | *<0.5* | *<1.0* | **399** | **TAME = 2** |
| MW-2 | *<50* | **83** | *<0.5* | *<0.5* | *<0.5* | *<1.0* | **1,230** | **TAME = 52 \| DIPE = 0.6 TBA = 243** |
| MW-3 | *<50* | *< 50* | *<0.5* | *<0.5* | *<0.5* | *<1.0* | *<0.5* | *ND* |
| **August 2004 Event** | | | | | | | | |
| MW-1 | *<50* | *< 50* | *<0.5* | *<0.5* | *<0.5* | *<1.0* | **1,210** | **TAME = 3 \| TBA = 78** |
| MW-2 | *<50* | *< 50* | *<0.5* | *<0.5* | *<0.5* | *<1.0* | **769** | **TAME = 6 \| TBA = 81** |
| MW-3 | *<50* | *< 50* | *<0.5* | *<0.5* | *<0.5* | *<1.0* | *<0.5* | *ND* |
| **November 2004 Event** | | | | | | | | |
| MW-1 | *<50* | *< 50* | *<0.5* | *<0.5* | *<0.5* | *<1.0* | **83** | *ND* |
| MW-2 | *<50* | **271** | **102** | *<0.5* | *<0.5* | **1.3** | **1,820** | **TAME = 139 \| TBA = 486** |
| MW-3 | *<50* | *< 50* | *<0.5* | *<0.5* | *<0.5* | *<1.0* | *<0.5* | *ND* |
| **February 2005 Event** | | | | | | | | |
| MW-1 | *<50* | *< 50* | *<0.5* | *<0.5* | *<0.5* | *<1.0* | **12.6** | *ND* |
| MW-2 | *<50* | *< 50* | *<0.5* | *<0.5* | *<0.5* | *<1.0* | **4.8** | *ND* |
| MW-3 | *<50* | *< 50* | *<0.5* | *<0.5* | *<0.5* | *<1.0* | *<0.5* | *ND* |

## Table D-1 *continued*

| Sample I.D. | TEHd | TVHg | Benzene | Toluene | Ethyl-benzene | Total Xylenes | MTBE | Fuel Oxygenates [(a)] |
|---|---|---|---|---|---|---|---|---|
| **May 2005 Event** | | | | | | | | |
| MW-1 | *<50* | *< 50* | *<0.5* | *<0.5* | *<0.5* | *<1.0* | **116** | *ND* |
| MW-2 | *<50* | *< 50* | *<0.5* | *<0.5* | *<0.5* | *<1.0* | **100** | TAME = 4<br>TBA = 48 |
| MW-3 | *<50* | *< 50* | *<0.5* | *<0.5* | *<0.5* | *<1.0* | *<0.5* | *ND* |
| **August 2005 Event** | | | | | | | | |
| MW-1 | *<500* | **220** | *<0.5* | *<0.5* | *<0.5* | *<1.0* | **310** | *ND* |
| MW-2 | *<50* | **110** | *<0.5* | *<0.5* | *<0.5* | *<1.0* | **100** | *ND* |
| MW-3 | *<50* | *< 50* | *<0.5* | *<0.5* | *<0.5* | *<1.0* | *<1.0* | *ND* |

Notes:

[(a)] Table reports only detected fuel oxygenates and lead scavengers.

DIPE = di-isopropyl ether.
MTBE = methyl *tertiary*-butyl ether;
TBA = *tertiary*-butyl alcohol
TEHd = total extractable hydrocarbons – diesel range
TVHg = total volatile hydrocarbons – gasoline range
TAME = *tertiary*-amyl methyl ether

ND = not detected above method reporting limits

All results in µg/L.