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# UST-RELATED SUBSURFACE SITE INVESTIGATION

1001 77<sup>TH</sup> AVENUE OAKLAND, CALIFORNIA

Prepared for:

ACTS COMMUNITY DEVELOPMENT OAKLAND, CALIFORNIA

November 2005





GEOSCIENCE & ENGINEERING CONSULTING

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By lopprojectop at 10:17 am, Jan 12, 2006

November 7, 2005

Bishop Robert C. Jackson Acts Community Development c/o Acts Full Gospel Church 1034 66<sup>th</sup> Avenue Oakland, CA 94621

Subject: Report of Findings for UST-Related Subsurface Site Investigation

1001 77<sup>th</sup> Avenue, Oakland, California

#### Dear Bishop Jackson:

We, the undersigned consultant, have been retained by you (as property owner) to provide a subsurface site investigation of the subject property, following a Phase I and initial Phase II investigation that indicated the current or historical presence of fuel underground storage tank(s) on the property. This subsurface investigation focused on: 1) evaluating whether groundwater quality is being impacted by the hydrocarbons detected in soils; and 2) more precisely determining the extent of soil contamination. Grab-groundwater samples show a gasoline, diesel, and motor oil plume, with some offsite components toward Spencer Street.

Please call the undersigned at (510) 644-3123 if you have any questions regarding this report of findings. Thank you again for the opportunity to provide you with the requested technical services.

Sincerely,

Senior Environmental Scientist

Bruce Rucker, R.G., R.E.A.

Brue M. Pluly.

Project Manager

## UST-RELATED SUBSURFACE SITE INVESTIGATION

## 1001 77<sup>TH</sup> AVENUE OAKLAND, CALIFORNIA

#### Prepared for:

### ACTS COMMUNITY DEVELOPMENT 1034 66<sup>TH</sup> AVENUE OAKLAND, CA 94621

#### Prepared by:

STELLAR ENVIRONMENTAL SOLUTIONS, INC. 2198 SIXTH STREET, SUITE 201 BERKELEY, CALIFORNIA 94710

**November 7, 2005** 

Project No. 2005-51

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#### **EXECUTIVE SUMMARY**

Stellar Environmental Solutions, Inc. (SES) was contracted by Acts Community Development ("User" of this ESA) to perform a subsurface site investigation at 1001 77<sup>th</sup> Avenue in Oakland, California. This work followed a preliminary site investigation in August 2005 in which the discovery of some subsurface contamination suggested the possible existence of a former (or intact, but unused and buried) underground fuel storage tank (UFST). The current (October 2005) field investigation was designed to further evaluate the potential location of the UFST(s), and to determine the initial extent of shallow groundwater contamination from the petroleum hydrocarbons associated with the site.

#### **FINDINGS**

Seven boreholes were drilled and sampled in two mobilizations, focusing on the downgradient portion of the site. Fifteen soil samples were collected from depths starting at 7 feet below ground surface (bgs) (within the unsaturated zone, corresponding to typical UFST base depth) and continuing through the capillary fringe and saturated zone, and into the underlying clay aquitard.

Shallow soils encountered are typical alluvial deposits. A surficial clay layer is underlain by a more permeable, water-bearing sand and gravel unit, which is underlain by at least 3 feet of non-water-bearing clay. The boreholes did not encounter non-native (backfill) material indicative of a UFST excavation.

Groundwater appears to occur at depths of approximately 10 and 13 feet bgs, under confining or semi-confining conditions. All boreholes were underlain by a low permeability, non-water-bearing clay aquitard.

Trace to low concentrations of petroleum hydrocarbons (gasoline, diesel, and motor oil) were detected in multiple borehole soil samples, with the highest concentrations in the borehole located at the southeast corner of the property. The presence of hydrocarbon contamination in unsaturated zone soil samples suggests an onsite release (rather than migration onto the site from an upgradient source). The relatively low soil contaminant concentrations do not correlate with the elevated dissolved contaminant concentrations, suggesting that existing site boreholes have not intercepted the inferred zone of higher soil contamination (former UFST excavation).

The primary contaminants detected in site groundwater are also gasoline, diesel, and motor oil, which all exceed their Regional Water Quality Control Board Environmental Screening Level (ESL) criteria. Contaminant distribution in groundwater suggests a contaminant source area in the southeastern portion of the property, with contamination extending to the west, following the inferred local groundwater flow direction. Groundwater contamination extends offsite to the west an unknown distance, although likely less than 100 feet. Neither aromatic hydrocarbons, methyl tertiary-butyl ether, nor metals appear to be present in soil or groundwater at concentrations of concern.

Contamination detected in soil and groundwater samples are indicative of a UFST release of both volatile-range and extractable-range petroleum hydrocarbons. Continued groundwater degradation will occur unless the source area (contaminated soil and/or UFST) is removed. Removing the contaminant source will decrease the time required to achieve regulatory site closure.

#### OPINIONS AND RECOMMENDATIONS

Recommended regulatory action to achieve site closure (or a no-further-action finding) at a UFST leakage site with enough residual contamination to cause dissolved petroleum in groundwater above the regulatory ESLs involves removal of the contamination source area. In this case, the required action would be removal of the UFST(s) or the remaining contaminated backfill in the former UFST area.

SES recommends a magnetometer survey to confirm whether there is in fact an existing UFST. If a UFST is found, it should be removed and soils corrective action (excavation and disposal) should be conducted to the extent practical. If a UFST is not found, Acts Community Development should consider whether additional investigation and/or corrective action should be conducted to minimize environmental liability, in conjunction with addressing Alameda County Environmental Health Department (Alameda County Health) requirements.

Because the groundwater concentrations constitute a contaminant release, this report should be submitted to Alameda County Health. Based on the data, it is likely that Alameda County Health will determine that the site meets the criteria for formal listing as a UFST release. It is also likely that Alameda County Health will require additional site characterization (either additional borehole sampling and/or groundwater monitoring well installation and periodic monitoring). Site listing by Alameda County Health will also trigger the requirement to upload electronic data from the previous and future investigations to the State Water Resources Control Board "Geotracker" database and Alameda County Health's Electronic Report Upload "ftp" system.

As a cost-savings measure, we recommend that the non-hazardous waste soil (drill cuttings) be held onsite until it is determined that no additional drilling will be conducted.

#### 1.0 INTRODUCTION

#### **BACKGROUND INFORMATION**

Stellar Environmental Solutions, Inc. (SES) is pleased to submit this report of findings for the recent subsurface investigation at the referenced site. The work was conducted in accordance with our July 26, 2005 proposal and subsequent Change Orders No 1 and No. 2. We understand that Acts Community Development (the current property owner) is considering selling the property, and that the potential buyer requested this investigation.

This report discusses the findings of the following site activities:

- Environmental Transaction Screen (June 2005) (BASICS Environmental, 2005a).
- Local Agency File Review (July 2005) (BASICS Environmental, 2005b).
- Phase II exploratory borehole drilling (August 2005) (Stellar Environmental Solutions, Inc., 2005).
- Additional site characterization via borehole drilling (October 2005).

#### The BASICS Environmental documents concluded that:

- The subject property was utilized as "gas and oil station" from at least the 1950s through the 1970s, based on Sanborn Fire Insurance Zonation Map notations.
- The subject property was utilized for auto repair (Collins & Collins) from 1984 to the 1990s.
- Acts Community Development has utilized the building since approximately 2002 for the storage of building maintenance equipment and construction-type equipment (but not chemicals) for use on Acts Community Development properties.
- No specific regulatory information was found, nor field observations made, to support the presence of underground fuel storage tanks (UFSTs).
- A limited Phase II investigation should be conducted to evaluate the potential for any subsurface hydrocarbon contamination associated with the property's former usage.

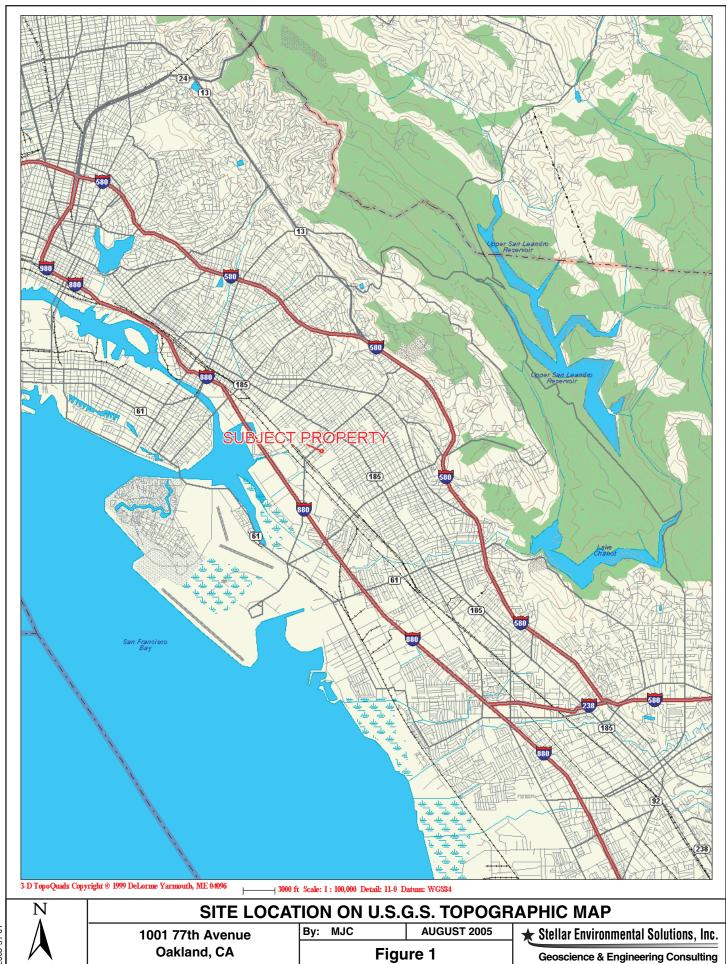
#### SUBJECT PROPERTY DESCRIPTION

The subject property description is based on our August 3, 2005 site inspection and the drilling mobilizations on August 16 and October 18, 2005. The approximately 5,250-square foot (105-foot by 50-foot) rectangular-shaped subject property is developed with one approximately 2,800-square foot, one-story concrete building. The building contains several open areas (accessible by truck doors) and several offices and office support rooms. The interior floor is entirely concrete, with no evidence of former UFSTs (i.e., there are no cold pours/patches in flooring or vent pipes).

The rear (north) and left (west) sides of the building have thin (6-foot-wide) strips of open ground. The right (east) exterior and front (south) exterior are paved (with concrete and asphalt) with no evidence of former UFSTs. The entire property is enclosed by chain-link fencing (sides and rear) and a metal gate (front). Adjacent uses include:

- A residence (to the north);
- A paved parking area, then a residence (to the east);
- A sidewalk, then 77<sup>th</sup> Avenue, then an industrial building (to the south); and
- A sidewalk, then Spencer Street, then a commercial building (to the west).

Figure 1 shows the site location.



#### 2.0 UFST ASSESSMENT AND DRILLING ACTIVITIES

## ASSESSMENT OF POTENTIAL UNDERGROUND FUEL STORAGE TANKS

The previous assessments revealed no records of potential UFSTs at the applicable regulatory agencies: City of Oakland Fire Department (the lead regulatory agency for permitting UFSTs); City of Oakland Building Department; Department of Toxic Substances Control (DTSC); Regional Water Quality Control Board (Water Board); and Alameda County Environmental Health Department (Alameda County Health). We reviewed the Oakland Fire Department site file (records back to 1991, included in Appendix A) and confirmed that it had no UFST-related file for the property.

According to the Basics Environmental June 2005 report, historical Sanborn Fire Insurance Zonation Maps (copies not included in their reports) showed the notation "gas and oil" for the subject property. We thus obtained and reviewed all available Sanborn maps for the subject property (1925, 1950, 1952, 1960, 1965, 1968, and 1969). We reviewed the Sanborn maps to determine if a UFST was in fact noted, or if the maps contained any other information that might indicate the potential location of a UFST. The maps contained the following information:

- 1925. The subject property was undeveloped.
- 1950. The current subject property building has been built (although not fully extended to the east and west). The building is indicated to be used for auto repairing. There is a "Gas and "Oil" notation adjacent to the front of the building, but no specific indication of UFSTs. A "Gas and Oil" notation on Sanborn maps generally (but not always) refers to UFSTs.
- 1952. The subject property building has been extended to the east (its current configuration at that portion of the building), and there is an additional illegible map notation on that building extension. "Gas and Oil" is again noted on the map.
- 1960. The subject property building has been extended slightly to the west (its current configuration at that portion of the building). The eastern addition (noted on the 1952 map) is indicated to be used for auto servicing, and the remainder of the building is used for auto repairing. "Gas and Oil" is again noted on the map.

■ 1965, 1968, and 1969. These maps show no subject property changes relative to the 1960 map.

Appendix A contains copies of the Sanborn maps we reviewed.

In summary, the subject property building was constructed between 1925 and 1950, has been used wholly for auto servicing, and is documented as utilizing "Gas and Oil" (generally indicative of a UFST) from at least 1950 to 1969. There were no regulatory agency records for a UFST, although UFSTs were typically required to be permitted by that time.

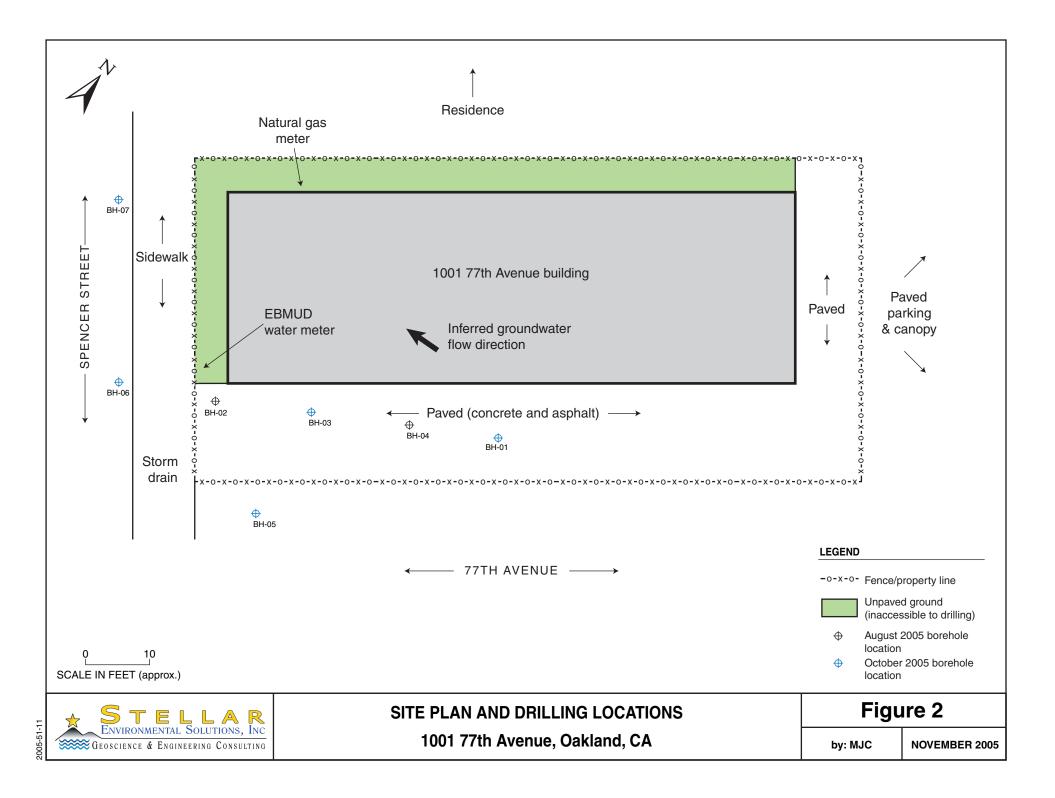
#### BOREHOLE LOCATION SELECTION

If a UFST is/was present, it almost certainly was located on the subject property itself (i.e., not in the sidewalks or street), on the exterior of the building. The most likely location for the UFST would be the historically (and currently) open, paved area in front of the building. There is insufficient space on the north and west sides for installation of a UFST. Local groundwater flow direction is likely to the west (toward San Francisco Bay) following local topography. Therefore, the western edge of the subject property is the area most likely to show site-sourced contamination that migrates downgradient in groundwater. Due to site access constraints, the majority of the western portion of the subject property was inaccessible to drilling. We therefore drilled the two boreholes as follows (locations shown on Figure 2):

- *BH-01*. Located in the approximate east-west center of the property, in the center of the exterior paved area.
- *BH-02*. Located at the most downgradient possible location, on the western property line immediately adjacent to the building.

#### PERMITTING AND PLANNING

Prior to drilling, SES marked the drilling locations with white paint and reported the planned drilling activities to Underground Service Alert of Northern California (USA North), which notified local utility companies to conduct a site-specific survey and mark underground utilities. We obtained and paid for the required borehole drilling permits from Alameda County Public Works Agency (ACPWA) (permit copy included as Appendix B). We notified ACPWA of the drilling schedule, however, ACPWA did not conduct an inspection.



#### AUGUST 2005 EXPLORATORY BOREHOLE DRILLING AND SAMPLING

Exploratory borehole drilling and sampling was conducted on August 16, 2005. Drilling was conducted by Precision Sampling (C-57 License No. 636387), under the direct supervision of a SES field representative. The boreholes were drilled with a truck-mounted Geoprobe<sup>TM</sup> rig. Boreholes were drilled with 2-inch-diameter steel outer drive casing lined with acetate sampling sleeves. Figure 2 shows the borehole locations. Appendix C contains photodocumentation of the drilling activities.

Two boreholes (BH-01 and BH-02) were advanced as shown on Figure 2. These locations were selected as likely areas to intercept UFST-sourced contamination. Site lithology was determined by geologic logging of continuous core samples (results discussed in a subsequent section). Soil samples were submitted for laboratory analysis from depths of 8 feet below ground surface (bgs) and 10 feet bgs in BH-01, and from 8 and 13 feet bgs in BH-02. The upper (8-foot-deep) samples in each borehole were collected at the depth likely to be just below a typical UFST. The lower samples in each borehole were collected from the capillary fringe (just above first occurrence of groundwater). A grab-groundwater sample was also collected from each borehole with a new disposable bailer. Samples were labeled, chilled, and transported to the analytical laboratory under chain-of-custody documentation.

Following completion of drilling and sampling activities, the boreholes were tremie-grouted to surface with a slurry of neat Portland cement and potable water. Drill cuttings from the investigation were placed in a labeled, covered, 5-gallon bucket, which was left onsite.

#### OCTOBER 2005 EXPLORATORY BOREHOLE DRILLING AND SAMPLING

Based on the findings of the August 2005 investigation, SES recommended and was subsequently retained to conduct additional site characterization. The objective of the additional characterization was to provide additional data on the extent and magnitude of residual soil and groundwater contamination.

Exploratory borehole drilling and sampling was conducted on October 18, 2005. Drilling was conducted by EnProb Environmental Probing (C-57 License No. 777007), under the direct supervision of a SES field representative. Pre-field work planning activities were the same as for the August 2005 drilling, except that we also obtained a City of Oakland Engineering Department "Excavation Permit," which was required for drilling in the public streets. Representatives from both the City of Oakland Engineering Department and ACPWA conducted inspections while we were onsite.

Borehole drilling and sampling activities were conducted following the same protocols as the August 2005 investigation. A total of five boreholes were advanced (BH-03 through BH-08). Borehole locations were selected based on the analytical results of the August 2005 investigation, indicating a likely source area between boreholes BH-01 and BH-02, and a likely westerly groundwater flow direction. Boreholes BH-03 and BH-04 were drilled between previous boreholes BH-01 and BH-02 to provide more definition on the inferred contaminant source area. Boreholes BH-05 through BH-08 were drilled in the presumed downgradient direction to evaluate the downgradient extent of the contaminant plume.

Soil samples from each borehole were collected from the following depth intervals:

- **BH-03:** 9.5 feet bgs (an interval within the unsaturated zone that exhibited petroleum odor); 11.5 feet bgs (the capillary fringe zone just above first occurrence of groundwater); and 12 feet bgs (in the saturated zone).
- **BH-04:** 8.5 feet bgs (the unsaturated zone); and 10 feet bgs (the capillary fringe zone just above first occurrence of groundwater).
- **BH-05:** 7 feet bgs (an interval within the unsaturated zone that exhibited petroleum odor); 12 feet bgs (the capillary fringe zone just above first occurrence of groundwater); and 13 feet bgs (in the saturated zone).
- **BH-06 and BH-07:** 7.5 feet bgs (the capillary fringe zone just above first occurrence of groundwater).

#### LABORATORY ANALYSES

The soil and groundwater samples (both August and October 2005 investigations) were analyzed for:

- Total volatile hydrocarbons (TVH), gasoline range by EPA Method 8015M;
- Total extractable hydrocarbons (TEH), gasoline, diesel, kerosene, and motor oil ranges (TEHg, TEHd, TEHk, and TEHmo, respectively) by EPA Method 8015M;
- Benzene, toluene, ethylbenzene, and xylenes (BTEX) and methyl *tertiary*-butyl ether (MTBE) by EPA Method 8020; and
- Five LUFT metals (cadmium, chromium, lead, nickel, and zinc) by EPA 6000/7000 series; (BH-01 and BH-02 only)

Curtis and Tompkins, Ltd. (a California-certified analytical laboratory) completed all laboratory analyses.

## 3.0 PHYSICAL SETTING AND REGULATORY CONSIDERATIONS

#### TOPOGRAPHY AND DRAINAGE

The mean elevation of the property is approximately 33 feet above mean sea level (amsl), and the general topographic gradient in the site vicinity is slight and to the west-northwest (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) located approximately 2 miles west of the subject property. We observed no stormwater drains or inlets of the property; stormwater drains were observed in the surrounding streets. Site stormwater runoff (including roof-sourced runoff) would be expected to drain onto the ground and enter the municipal storm water system. According to the commercially-available database, the site is not located within a flood zone or wetlands.

#### GEOLOGY, LITHOLOGY, AND HYDROGEOLOGY

The subject property and vicinity are underlain by Bay Mud deposits of Holocene age that may be locally interbedded with higher-permeability alluvial sands and gravels. Shallow site lithology was determined in the current investigations by the visual method of the Unified Soils Classification System (USCS) using continuous core soil samples from the two borehole programs. Appendix D contains borehole geologic logs from the October 2005 investigation (borehole logs were not generated for the two boreholes advanced in August 2005).

Native materials encountered in boreholes consisted predominantly of clays varying in color from light blue-gray to black, and varying in texture from stiff and dry in the upper portion of the borehole to slightly stiff-soft in lower portions of the boreholes. Gravel and sand zones were present at various depths in boreholes, between approximately 5 and 15 feet bgs. These more permeable zones were predominantly 2 feet thick or less and overlain/underlain by clay.

Water (i.e., saturated cuttings and measurable water levels) was encountered at depths between 8 feet bgs (boreholes on the western side of the property) and 13 feet bgs (boreholes in the central portion of the study area). In all boreholes, groundwater was first encountered in the uppermost permeable unit (sand or gravel). Water levels rose appreciably (2.5 to 6.5 feet) indicating confining or semi-confining conditions in the shallow aquifer.

In all boreholes, the water-bearing permeable zone was underlain by a low permeability non-water-bearing clay zone, at least 3 feet thick.

The observed local heterogeneities in shallow lithology and groundwater levels are typical of the alluvial deposits in this area.

#### REGULATORY CONSIDERATIONS

#### **Screening Levels**

The 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 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.

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

#### **Hazardous Waste Criteria**

Soils can be classified as hazardous (which requires special disposal if removed, but doesn't necessarily require cleanup). The most commonly applied hazardous criteria are based on both total and soluble concentrations relative to State of California numerical criteria (Total Threshold Limit Concentrations [TTLCs]) and Soluble Threshold Limit Concentrations [STLCs]). Generally, total concentrations are first determined to reduce the number of samples that might require further STLC classification (by the California Waste Extraction Test [WET]) method. No hazardous waste criteria are published for petroleum or aromatic hydrocarbons, although elevated concentrations of these contaminants would require further testing to determine if the waste would be classified by other hazardous criteria (i.e., ignitability and/or toxicity).

#### 4.0 INVESTIGATION FINDINGS

This section discusses the findings of the August and October 2005 subsurface site investigations and also presents the preceding site investigation data. Based on these data, a conceptual site model has been developed.

#### DRILLING OBSERVATIONS AND ANALYTICAL RESULTS

#### **Drilling Observations**

Petroleum odor was evident in the following boreholes only:

- BH-03, in the unsaturated zone, between approximately 9.5 and 11 feet below grade.
- BH-05, in the unsaturated zone between 7 and 13 feet below grade, and in the saturated zone between 13 and 14 feet below grade.

We observed no non-native (backfill) material indicative of a UFST excavation in any of the eight exploratory boreholes.

#### **Analytical Results**

Tables 1 through 4 summarize the analytical results for the soil and groundwater samples. Appendix E contains the certified analytical laboratory reports and chain-of-custody records for the two drilling phases.

#### Petroleum Hydrocarbons

Because of the uncertain contents of a potential onsite UFST, we requested that the analytical laboratory report extractable hydrocarbons as three separate compounds: diesel, kerosene, and motor oil. Note that the diesel and kerosene ranges overlap, such that the true concentration of hydrocarbons in these ranges is not additive. However, concentrations detected in the motor oil range do not overlap with diesel or kerosene.

Trace to low concentrations (none exceeding Water Board ESL criteria) of volatile-range (gasoline) and extractable-range (diesel, kerosene, motor oil) hydrocarbons were found in site soils; the highest concentrations were in the motor oil range.

Table 1
August 16 and October 18, 2005 Soil Analytical Results – Petroleum and Aromatic Hydrocarbons 1001 77<sup>th</sup> Avenue, Oakland, California

Sample ID (showing depth)	Zone Sampled	TVHg	TEHd	TEHk	ТЕНто	Benzene	Toluene	Ethyl- Benzene	Total Xylenes	MTBE	
August 2005 Borehole Sampling Program											
BH-01-8'	UZ	< 1.1	3.4	< 1.0	<5	< 0.0053	< 0.0053	< 0.0053	< 0.0106	< 0.021	
BH-01-10'	CF	< 1.1	< 1.0	< 1.0	<5	< 0.0054	< 0.0054	< 0.0054	< 0.0108	< 0.022	
BH-02-8'	UZ	< 1.0	4.5	1.2	15	< 0.0051	< 0.0051	< 0.0051	< 0.0102	< 0.020	
BH-02-13'	CF	< 1.0	5.4	1.7	16	< 0.0050	< 0.0050	< 0.0050	< 0.0100	< 0.020	
October 2005 Bor	ehole Sampli	ing Program									
BH-03-9.5'	UZ	19	9.0	11	< 5.0	< 0.0056	< 0.0056	0.120	0.0956	< 0.022	
BH-03-11.5'	CF	< 0.92	2.1	1.1	< 5.0	< 0.0046	< 0.0046	< 0.0046	< 0.0092	< 0.018	
BH-03-12'	SZ	< 1.0	< 1.0	< 1.0	< 5.0	< 0.0052	< 0.0052	< 0.0052	< 0.0104	< 0.021	
BH-04-8.5'	CF	< 0.91	2.9	< 1.0	5.3	< 0.0045	< 0.0045	< 0.0045	< 0.0090	< 0.018	
BH-04-10'	SZ	< 1.0	2.4	< 0.99	5.1	< 0.0052	< 0.0052	< 0.0052	< 0.0104	< 0.021	
BH-05-7'	UZ	44	68	28	420	< 0.025	< 0.025	0.063	< 0.050	< 0.100	
BH-05-12'	CF	86	51	42	110	< 0.025	< 0.025	1,200	1,580	< 0.100	
BH-05-13'	SZ	1.7	2.5	1.1	< 5.0	< 0.0053	< 0.0053	< 0.0053	< 0.0106	< 0.021	
BH-05-15'	Aquitard	< 1.0	2.7	< 1.0	5.3	< 0.0051	< 0.0051	< 0.0051	< 0.0102	< 0.020	
BH-06-7.5'	CF	< 1.1	13	1.4	50	< 0.0054	< 0.0054	< 0.0054	< 0.0108	< 0.022	
BH-07-7.5'	CF	< 0.91	2.5	< 1.0	< 5.0	< 0.0045	< 0.0045	< 0.0045	< 0.0090	< 0.018	
ESLs (a)		100	100	100	500	0.044	2.9	3.3	1.5	0.023	

TVHg = total volatile hydrocarbons as gasoline CF = capillary fringe (just above first occurrence of groundwater)

TEHd = total extractable hydrocarbons as diesel SZ = saturated zone
TEHk = total extractable hydrocarbons as kerosene
UZ = unsaturated zone
TEHmo = total extractable hydrocarbons as motor oil

MTBE = methyl *tertiary*-butyl ether All concentrations are in mg/kg.

<sup>(</sup>a) ESLs = Water Board Environmental Screening Levels for commercial/industrial sites where groundwater is a potential drinking water resource.

Table 2
August 16 and October 18, 2005 Groundwater Analytical Results – Petroleum and Aromatic Hydrocarbons 1001 77<sup>th</sup> Avenue, Oakland, California

Sample ID	TVHg	TEHd	TEHk	ТЕНто	Benzene	Toluene	Ethyl- Benzene	Total Xylenes	МТВЕ
BH-01-GW	280	160	92	< 300	< 0.5	< 0.5	< 0.5	< 0.5	5.7
BH-02-GW	4,200	1,800	1,900	480	< 0.5	< 0.5	< 0.5	< 0.5	< 2.0
BH-03-GW	1,900	530	570	< 300	< 0.5	< 0.5	4.7	3.0	< 2.0
BH-04-GW	330	120	< 50	< 300	< 0.5	< 0.5	< 0.5	< 0.5	< 2.0
BH-05-GW	1,200	870	760	820	< 0.5	< 0.5	< 0.5	23.1	< 2.0
BH-06-GW	150	430	< 50	1,400	< 0.5	< 0.5	< 0.5	< 0.5	< 2.0
BH-07-GW	510	280	< 50	840	< 0.5	< 0.5	< 0.5	< 0.5	3.3
ESLs (a)	100	100	100	100	1.0	40	30	13	5.0

 $TVHg = total\ volatile\ hydrocarbons\ as\ gasoline$   $TEHd = total\ extractable\ hydrocarbons\ as\ diesel$   $TEHk = total\ extractable\ hydrocarbons\ as\ kerosene$ 

TEHmo = total extractable hydrocarbons as motor oil

MTBE = methyl *tertiary*-butyl ether

All concentrations are in  $\mu g/L$ .

<sup>(</sup>a) ESLs = Water Board Environmental Screening Levels for commercial/industrial sites where groundwater is a potential drinking water resource.

Table 3
August 16, 2005 Soil Analytical Results – Metals
1001 77<sup>th</sup> Avenue, Oakland, California

Metal	BH-01-8'	BH-01-10'	BH-02-8'	BH-02-13'	ESLs (a)	Hazardous Waste Criteria (TTLC)	Hazardous Waste Criteria (STLC)	Potentially Hazardous Waste Criteria (10 x STLC)
Cadmium	0.75	0.99	0.78	0.81	1.7	500	1.0	10
Chromium (total)	50	46	47	45	58	2,500	5.0	50
Lead (total)	5.7	6.1	5.2	5.3	200	1,000	5.0	50
Nickel	36	43	39	41	150	2,000	20	200
Zinc	45	62	48	45	600	5,000	250	2,500

TTLC = Total Threshold Limit Concentration

STLC = Soluble Threshold Limit Concentration

All concentrations are in mg/kg.

<sup>(</sup>a) ESLs = Water Board Environmental Screening Levels for commercial/industrial sites where groundwater is a potential drinking water resource.

Table 4
August 16, 2005 Groundwater Analytical Results – Metals
1001 77<sup>th</sup> Avenue, Oakland, California

Metal	BH-01-GW	BH-02-GW	ESLs (a)	Drinking Water Standards
Cadmium	< 5.0	< 5.0	2.2	5.0
Chromium (total)	40	< 10	50	50
Lead (total)	5.2	< 3.0	2.5	15 <sup>(b)</sup>
Nickel	70	< 20	8.2	NLP
Zinc	110	< 20	81	5,000 <sup>(c)</sup>

NLP = no level published

All concentrations are in µg/L.

Elevated levels (above ELSs) of volatile- and extractable-range hydrocarbons were detected in the majority of groundwater samples. Figures 3 through 5 show gasoline, diesel, and motor oil isoconcentration contours, respectively. The three petroleum contaminants show similar groundwater plumes that appear to originate in the southeastern corner of the site, with their long axes oriented to the west, following inferred local groundwater flow direction. Petroleum contaminant concentrations above ESL criteria extend offsite to the west, under Spencer Street. Based on the source area concentrations, it is likely that the petroleum contamination above ESL criteria attenuates within 50 to 100 feet of the subject property boundary.

A subsequent subsection discusses the site conceptual model.

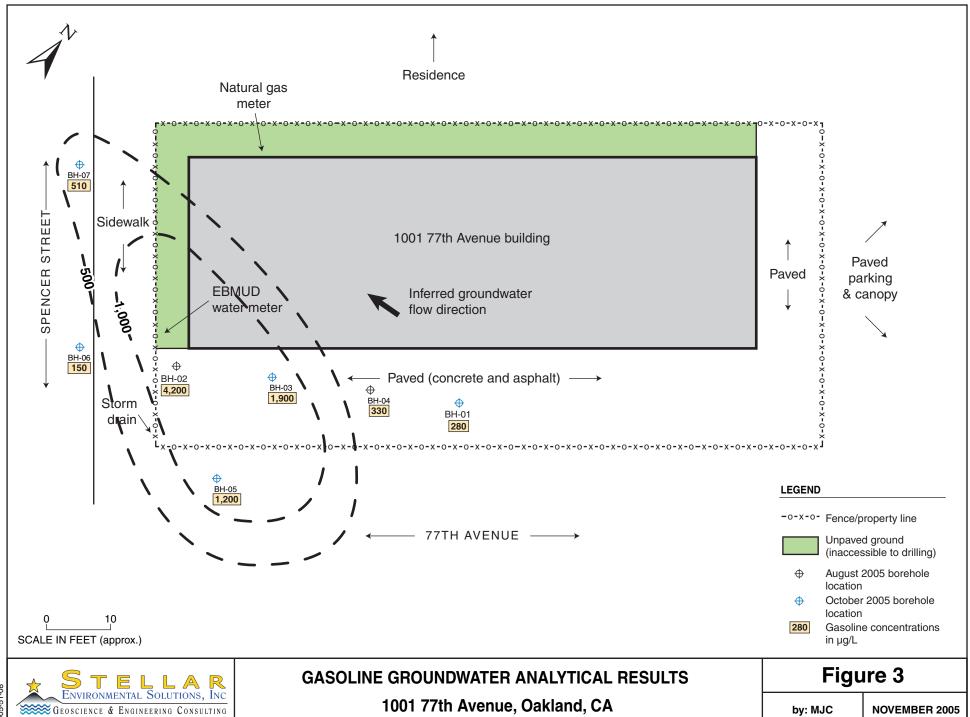
#### **Aromatic Hydrocarbons and MTBE**

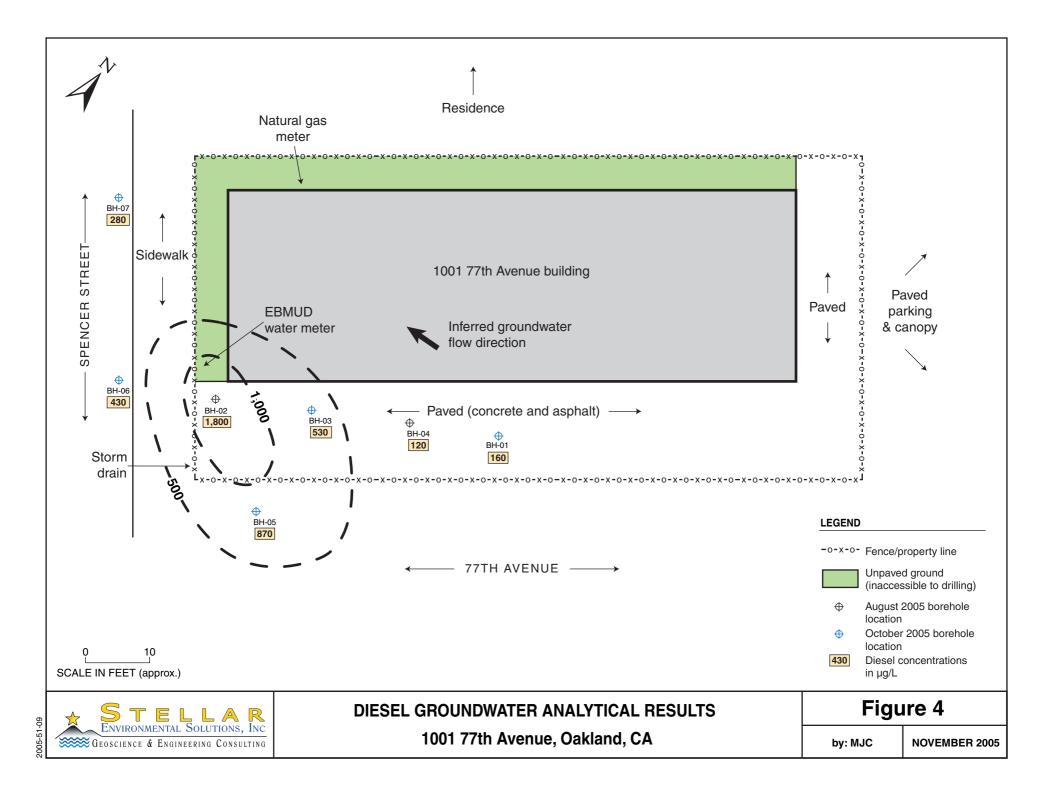
The only aromatic hydrocarbons detected in soil were ethylbenzene and xylenes, both detected at elevated concentrations in BH-5-12'. No other samples had these compounds above the ESL criteria. Neither MTBE, benzene, nor toluene were detected in any of the soil samples.

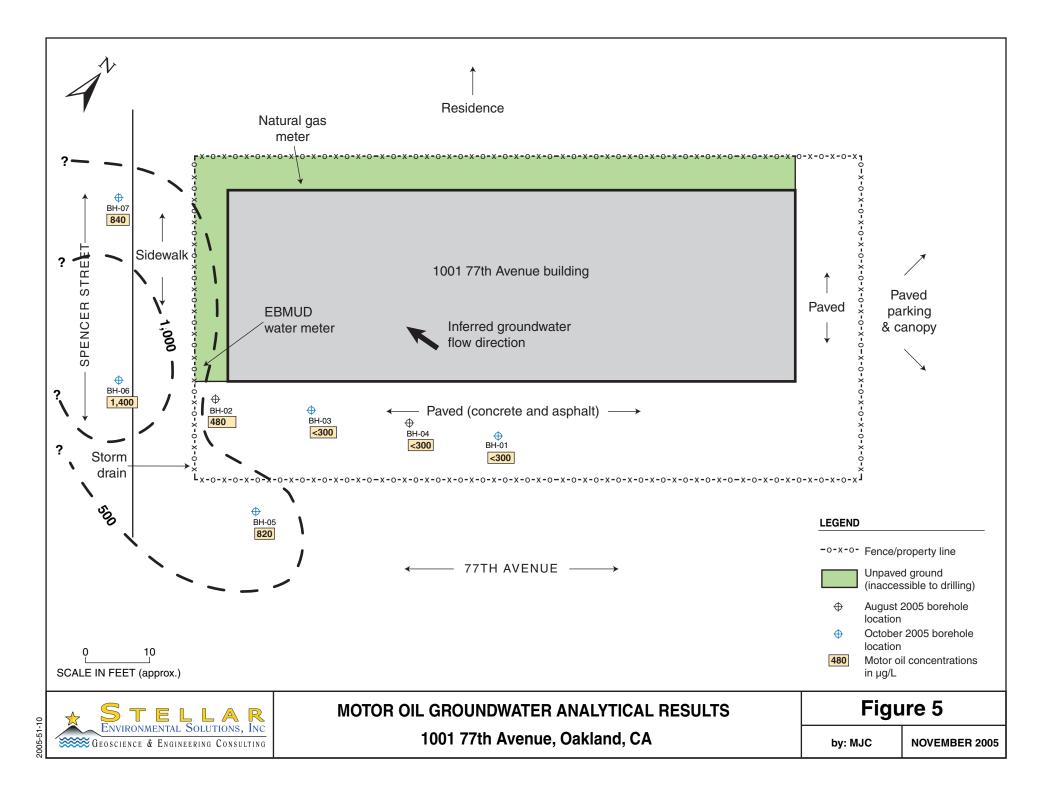
<sup>(</sup>a) ESLs = Water Board Environmental Screening Levels for commercial/industrial sites where groundwater is a potential drinking water resource.

<sup>(</sup>b) California Action Level

<sup>(</sup>c) Secondary drinking water standard







The only contaminants detected in groundwater above ESL criteria were xylenes and MTBE. Neither benzene nor toluene were detected, and ethylbenzene was detected only in one sample at a low concentrations.

#### Metals

Metals concentrations in soil in the two August 2005 boreholes (BH-01 and BH-02) were all below their respective hazardous criteria and ESLs. Chromium was the only metal detected at the potentially hazardous criterion (50 mg/kg), and this standard would apply only if soils were being considered for excavation and disposal. The detected concentrations appear to be representative of background conditions.

Metals concentrations in groundwater in the two August 2005 boreholes (BH-01 and BH-02) were all below their respective drinking water standards. However, three metals concentrations—lead (5.2  $\mu g/L$ ); nickel (70  $\mu g/L$ ); and zinc (110  $\mu g/L$ )—in the grabgroundwater sample from BH-01 exceeded ESL criteria. None of the metals concentrations from BH-02 exceeded ESLs. Although the BH-01 concentrations are higher than the respective ESLs, this does not necessarily indicate risk to human health and/or the environment (as stated above, ESLs are not specifically cleanup goals).

#### SITE CONCEPTUAL MODEL

The soil and groundwater chemical data suggest that a source of soil and groundwater petroleum contamination exists somewhere in the southeast corner of the property. The source could be an existing UFST with residual product, and/or residual soil contamination associated with a former UFST. The low to trace concentrations of soil contamination by hydrocarbons does not correlate with the relatively high concentrations of the dissolved fraction of hydrocarbons present in groundwater, but does suggest an onsite (rather than offsite) source for the contamination. It is likely that a zone of higher contaminant concentrations exists in the area bounded by existing boreholes, an approximately 50-foot-long by 20-foot-wide area.

The borehole with maximum soil contamination is BH-05 at the southeast corner of the property. Volatile-range hydrocarbons, extractable-range hydrocarbons, ethylbenzene, and xylenes were detected in this borehole. The hydrocarbon concentrations are below ESL criteria, while the ethylbenzene and xylenes exceed the criteria. Detected contamination in that borehole began at 7 feet bgs (unsaturated zone), was present at similar concentrations at 12 feet bgs (capillary fringe), and were barely above the detection limits at 13 feet bgs (saturated zone) and 15 feet bgs (underlying clay aquitard). While the maximum soil contaminant concentrations detected would not warrant corrective action, it is possible that higher concentrations (and greater contaminant mass) exist in the inferred source area.

The principal contaminants in groundwater are gasoline-, diesel-, and motor oil-range petroleum hydrocarbons. The distribution of these compounds in groundwater suggests that the source area (residual contaminated soil) is likely in the extreme southeast portion of the property, and is contributing to shallow groundwater contamination by desorption during high water periods and westerly (downgradient) migration. Depending on the age and quantity of the release, the contaminant plume in groundwater could have already stabilized (for an older release) or could continue to increase in extent and magnitude. The concentrations present in groundwater suggest that concentrations likely will not decrease by natural attenuation, and will require the implementation of corrective action (i.e., removal of the source area).

#### 5.0 CONCLUSIONS AND RECOMMENDATIONS

#### **CONCLUSIONS**

- Seven boreholes were drilled and sampled in two mobilizations, focusing on the downgradient portion of the site. Fifteen soil samples were collected from depths starting at 7 feet bgs (within the unsaturated zone, corresponding to typical UFST base depth) and continuing through the capillary fringe and saturated zone, and into the underlying clay aquitard.
- Shallow soils encountered are typical alluvial deposits. A surficial clay layer is underlain by a more permeable, water-bearing sand and gravel unit, which is underlain by at least 3 feet of non-water-bearing clay. The boreholes did not encounter non-native (backfill) material indicative of a UFST excavation.
- Groundwater appears to occur at depths of approximately 10 and 13 feet bgs, under confining or semi-confining conditions. All boreholes were underlain by a low permeability, non-water-bearing clay aquitard.
- Trace to low concentrations of petroleum hydrocarbons (gasoline, diesel, and motor oil) were detected in multiple borehole soil samples, with the highest concentrations in the borehole located at the southeast corner of the property. The presence of hydrocarbon contamination in unsaturated zone soil samples suggests an onsite release (rather than migration onto the site from an upgradient source). The relatively low soil contaminant concentrations do not correlate with the elevated dissolved contaminant concentrations, suggesting that existing site boreholes have not intercepted the inferred zone of higher soil contamination (former UFST excavation).
- The primary contaminants detected in site groundwater are also gasoline, diesel, and motor oil, which all exceed their Water Board ESL criteria. Contaminant distribution in groundwater suggests a contaminant source area in the southeastern portion of the property, with contamination extending to the west, following the inferred local groundwater flow direction. Groundwater contamination extends offsite to the west an unknown distance, although likely less than 100 feet. Neither aromatic hydrocarbons, methyl tertiary-butyl ether, nor metals appear to be present in soil or groundwater at concentrations of concern.

■ Contamination detected in soil and groundwater samples are indicative of a UFST release of both volatile-range and extractable-range petroleum hydrocarbons. Continued groundwater degradation will occur unless the source area (contaminated soil and/or UFST) is removed. Removing the contaminant source will decrease the time required to achieve regulatory site closure.

#### OPINION AND RECOMMENDATIONS

- Recommended regulatory action to achieve site closure (or a no-further-action finding) at a UFST leakage site with enough residual contamination to cause dissolved petroleum in groundwater above the regulatory ESLs involves removal of the contamination source area. In this case, the required action would be removal of the UFST(s) or the remaining contaminated backfill in the former UFST area.
- SES recommends a magnetometer survey to confirm whether there is in fact an existing UFST. If a UFST is found, it should be removed and soils corrective action (excavation and disposal) should be conducted to the extent practical. If a UFST is not found, Acts Community Development should consider whether additional investigation and/or corrective action should be conducted to minimize environmental liability, in conjunction with addressing Alameda County Environmental Health Department (Alameda County Health) requirements.
- Because the groundwater concentrations constitute a contaminant release, this report should be submitted to Alameda County Health. Based on the data, it is likely that Alameda County Health will determine that the site meets the criteria for formal listing as a UFST release. It is also likely that Alameda County Health will require additional site characterization (either additional borehole sampling and/or groundwater monitoring well installation and periodic monitoring). Site listing by Alameda County Health will also trigger the requirement to upload electronic data from the previous and future investigations to the State Water Resources Control Board "Geotracker" database and Alameda County Health's Electronic Report Upload "ftp" system.
- As a cost-savings measure, we recommend that the non-hazardous waste soil (drill cuttings) be held onsite until it is determined that no additional drilling will be conducted.

#### 6.0 LIMITATIONS

This report has been prepared for the exclusive use of Acts Community Development, Acts Full Gospel Church, Global Real Estate, the regulators, and their authorized representatives and/or assigns. 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 August and October 2005 drilling investigations conducted by SES, and our review of previous site assessment reports. This report provides neither a certification nor guarantee that the property is free of hazardous substance contamination. This report has been prepared in accordance with generally accepted methodologies and standards of practice. The SES personnel who performed this 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 present. 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 investigation and remediation completed.

#### 7.0 REFERENCES

Basics Environmental, 2005a. Environmental Transaction Screen – 1001 77<sup>th</sup> Avenue, Oakland, California. June 30.

Basics Environmental, 2005b. Local Regulatory Agency File Review (letter report) – 1001 77<sup>th</sup> Avenue, Oakland, California. July 8.

## **APPENDIX A**

Sanborn Fire Insurance Maps and City of Oakland Fire Department Records



"Linking Technology with Tradition"®

## Sanborn® Map Transmittal

Ship To: Bruce Rucker Order Date: 8/3/2005 Completion Date: 8/3/2005

Stellar Enviro Solutions Inquiry #: 1479859.1S

2198 6th Street **P.O. #**: 2005-51

Berkeley, CA 94710 Site Name: Former Collins & Collins Auto

**Address:** 1077 77th Avenue

Customer Project: 2005-51 City/State: Oakland, CA 94621

1014106VLA 510-644-3123 **Cross Streets:** 

Based on client-supplied information, fire insurance maps for the following years were identified

1925 - 2 Maps

1950 - 2 Maps

1952 - 2 Maps

1960 - 2 Maps

1965 - 2 Maps

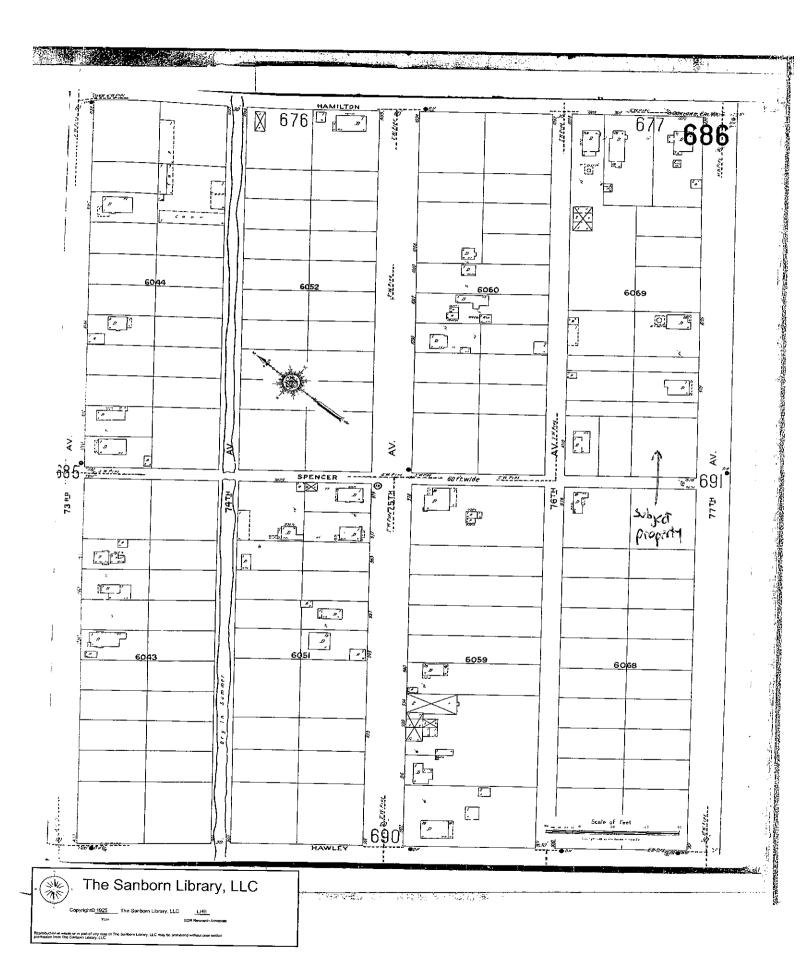
1968 - 2 Maps

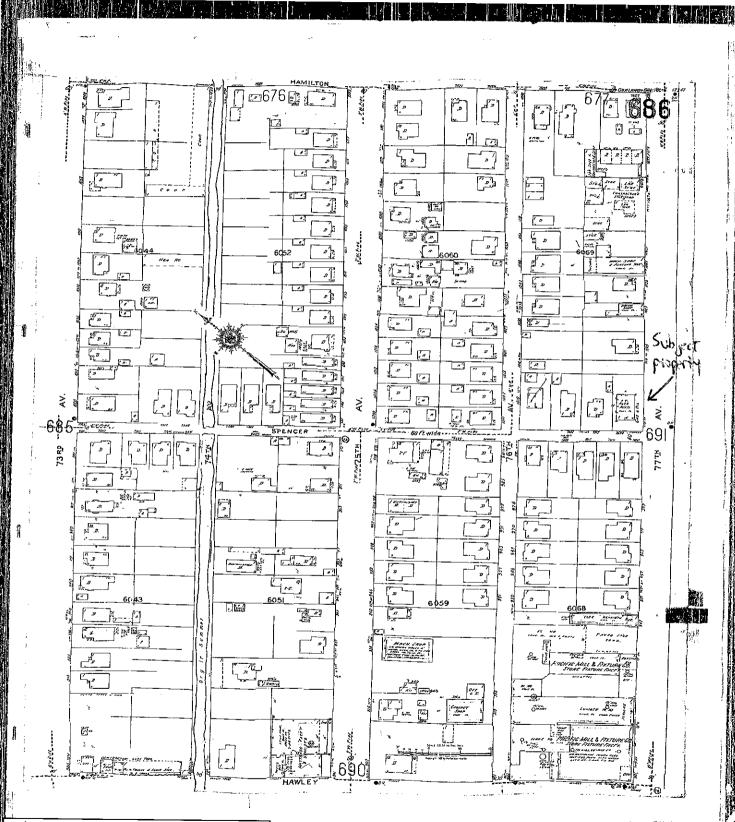
1969 - 2 Maps

Limited Permission to Photocopy Total Maps: 14

Stellar Enviro Solutions (the client) is permitted to make up to THREE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

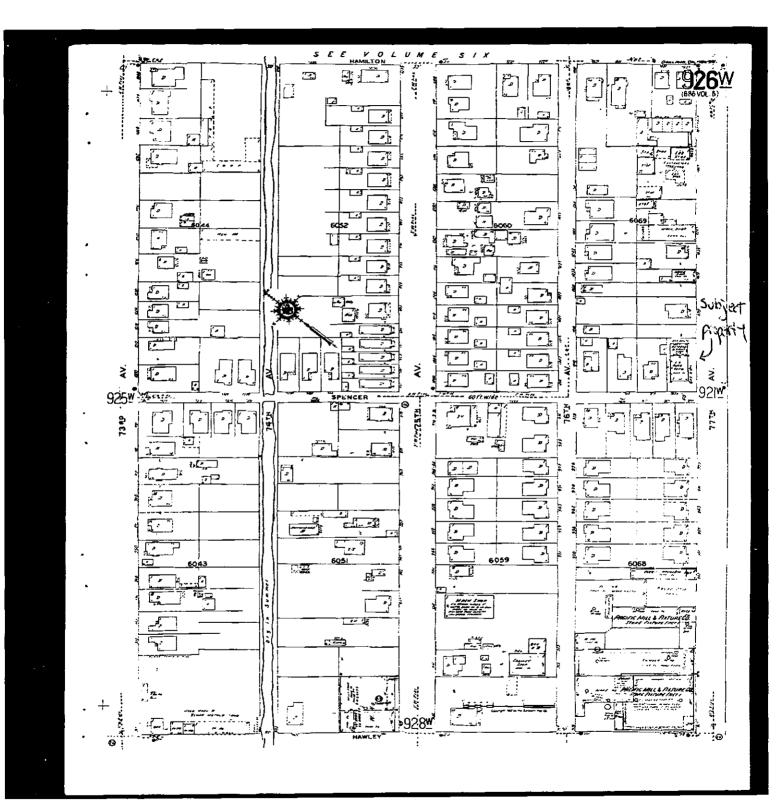
This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report As Is. Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

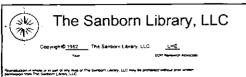


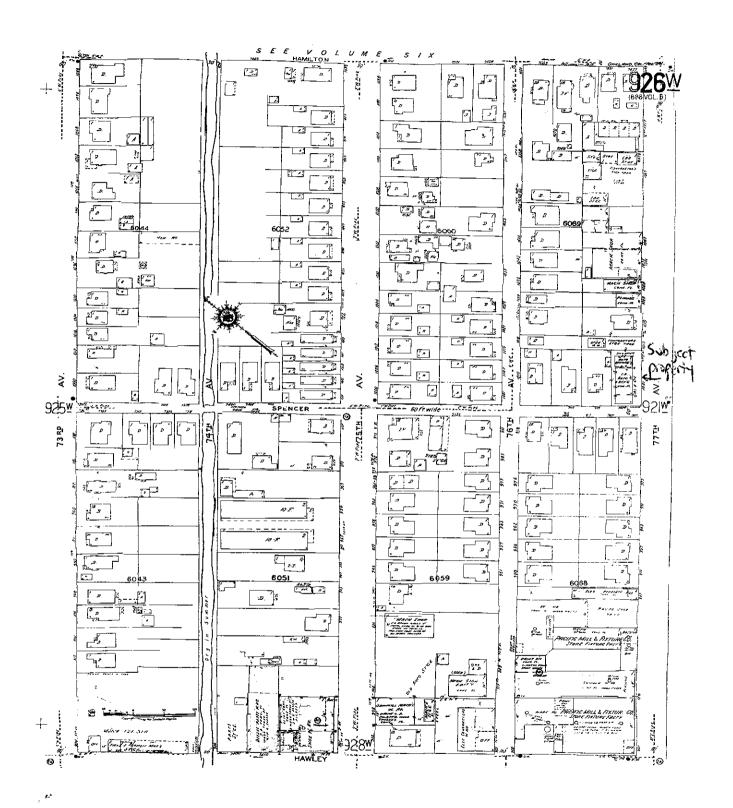


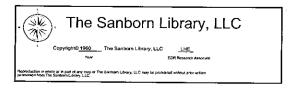
The Sanborn Library, LLC

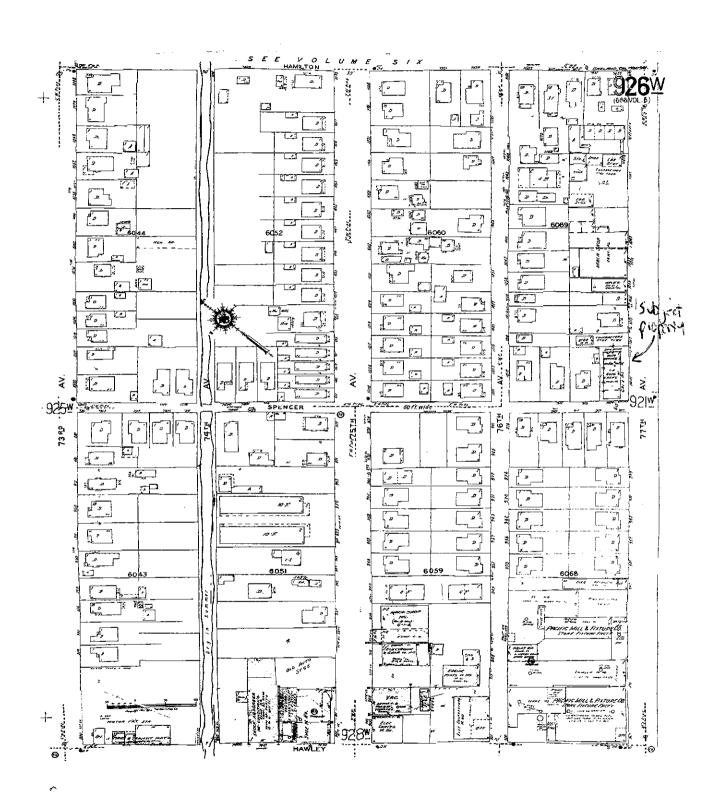
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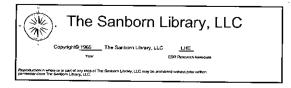


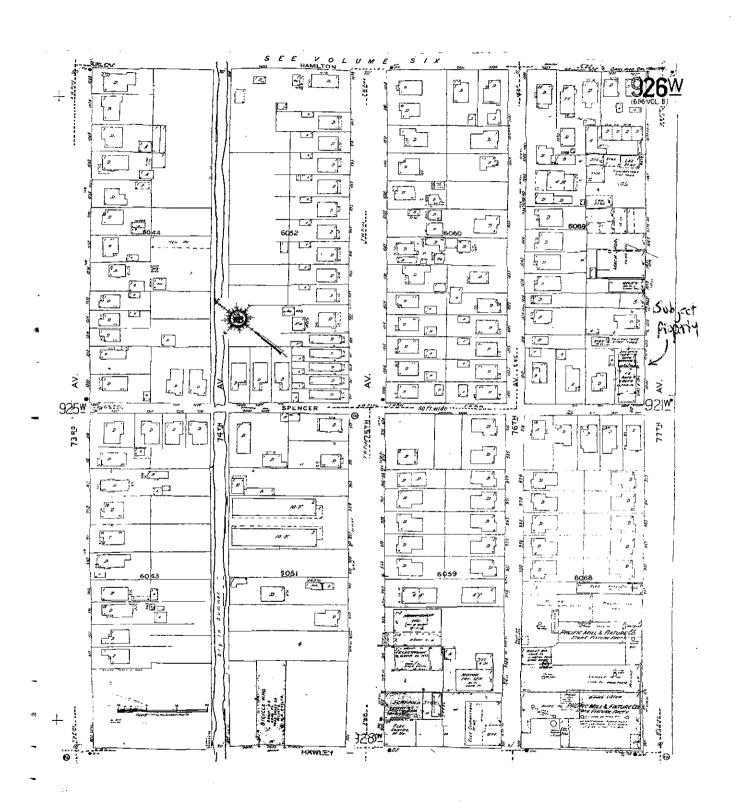


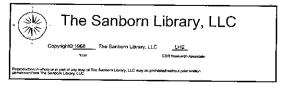


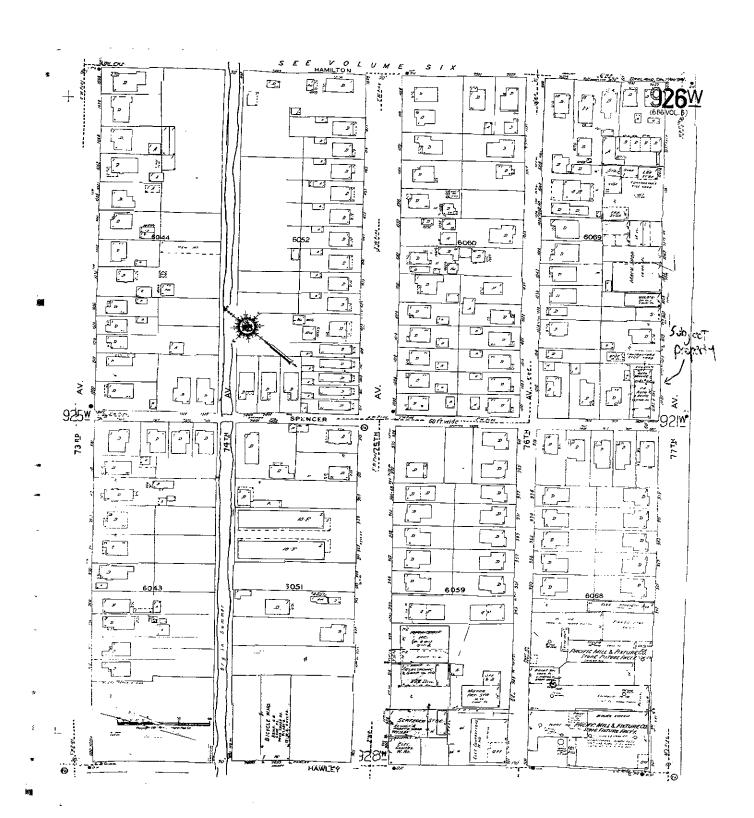














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### ALAMEDA COUNTY/ENVIRONMENTAL HEALTH SERVICES BILLING INQUIRY FORM

DATE: 4.27.97		PACKET#	TN970423
TO: DON HWang	• .		
FROM: BILLING UNIT - CANDYCE KELLY •	VATEY S TRISHA	seng e' dotson 70 <b>(</b>	20
Please be advised that the Billing Unit has re	ceived an inquiry o	n the account indicat	ted below.
SITE/BUSINESS NAME: <u>Collins/Co</u>	1/1/15 4-410	REPAIR	<i>f</i> ) <i>11 1</i>
SITE/BUSINESS ADDRESS: 100 1			
BILLING ACCOUNT # #31227	MFR #	ZIP CODE:	94621
PROBLEM;			
Mail returned	- forwards	ng order ex	piréd
Please indicate the appropriate action to be to substantiate or reflect the above problem. In client in a timely manner, it is necessary to remaining Unit within ten (10) working days.  Has business closed permanently? *  Is there a new owner? *  When did this o	order to complete equest that <i>this con</i> If yes, when	e our billing procedument be nplete document be  ? \S\D\C_\C_\C_\C_\C_\C_\C_\C_\C_\C_\C_\C_\C_\	re and to assist the returned to the
Is there a new or updated mailing address?	Mhat is iτ?		
Has business moved? When?	What is the	e new location (if in Ala	meda County )?
Is there a change in the E.U. # (status) or the c	harge code?*	If yes, please in	ndicate below:
# of employees from: # of tanks from: E.U. # from: E.U. # from: HMBP volume from: Med. Waste type from:	to:to:to:to:to:to:to:to:		- - - - - - - - - - - - - - - - - - -
Thank you for your prompt attention to th	is matter.	4	130/97
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INSPECTOR SIGNATURE	JW WY	DATE:—(/	3,0,0
* Permit application/service form or billing adjustment f VSUNQ FORM.DOC (12/96)	orm is needed 🗸	fut 5	1,3/97

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# ALAMEDA COUNTY, DEPARTMENT OF ENVIRONMENTAL HEALTH

80 Swan Way, #200 Oakland, CA 94621 (415) 271-4320

### Hazardous Materials Division Inspection Form

	Site ID# <u>525</u> 7 s	e Name Calles + Calles Due_ Today's Date 1,8,9	1
	Site Address	1001-77th Ave EPA ID#	
	City	Oat zip 94621 Phone 568-4055	-
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•	Contact: Title: Signature: <	Percy Collins  Inspector: B. Chan  Signature:	

### ALAMEDA COUNTY HEALTH CARE SERVLES AGENCY DEPARTMENT OF ENVIRONMENTAL HEALTH HAZARDOUS MATERIALS DIVISION

80 SWAN WAY, ROOM 200 OAKLAND, CA 94621 #415/271-4320

### FACILITY QUESTIONNAIRE

GENERAL INFORMATION  1. Establishment Name:
3. Mailing Address (if different):  City  4. Contact Person: We Placy When Phone: 568- 4015  5. Owner Name: Dan US+ing Owner Phone:
6. Name of Previous Comer.  7. Date you assumed business:  8. Std. Industrial Classification  (SIC) 7536  10. Number of Employees: 4  11. EPA ID #:
PERMITS Check if you have permits from any of the following:
Local Agencies  12. [] Local Sewer District (industrial waste discharges)  13. [] City or Local Fire Dept. (Underground tanks, storage)  13. [] City or Local Fire Dept. (Underground tanks, storage)  14. [] Name of City or Dept.  Type of Permit  14. [] Alameda County Dept. of Health (Underground tanks)  15. [] S.F. Regional Water Quality Management District
15. [] S.F. Regional Water Quality Management District 16. [] Bay Area Air Quality Management District  CALIFORNIA Department of Health Services:  CALIFORNIA Department of Health Services:  COUNTY Use Only  18. [] Hazardous Waste Hauler  #3267 Site ID  []1 Entry []2

Alameda County, HazMat Generator Questionna	aire Site ID No:
OTHER	our facility:
Please check if the following applies at you	
19. [] Acutely hazardous materials are had 20. [] More than 500 lbs, 55 gal. or 200 materials are handled (per year?) 21. [] Hazardous materials are contained	ノクっち っちせつぐりかたりし そし
sumbs	La tha Niamedà County
sumps.  22. [] You have submitted a business pla Division of Hazardous Materials u Safety Code, Chapter 6.95.	
23. Which of the following categories of handled at your facility:  [ ] Toxic [ ] Corrosive [ ] F	nazardous materials are
24. LIST OF CHEMICALS HANDLED	
please list the County Inventory Numbers Service (CAS) numbers of any of the hazard handle. CIN numbers have been assigned to hazardous chemicals. If CAS numbers are number with an asterisk (*).	LES MARA COMMODIV USES
claiming Solvert (823)  transportant (1022)	
transmission-thud (1022)	
CERTIFICATION	this form is, to the best of
I hereby certify that the information on my knowledge, true and complete.	Percy Collins
Signature (%)	Typed of Printed Name
Title	Date
	tment of Environmental Health dous Materials Division
Please return completed form to: Hazar	· <del>···</del>

3/88 mam From-FIRE PREVENTION

### ALAMEDA COUNTY, DEPARTMENT OF ENVIRONMENTAL HEALTH

80 Swan Way, #200 Oakland, CA 94621 (415) 271-4320

P.06/06 F-859

T-509

### Hazardous Materials Division Inspection Form

site ID#257 s	ite Name Collin	st Collins	Today's Date $1/5/1$
	901772 A	VE	EPA ID#
MAKK		Zip 94621	Phone
MAX Amt. Stored > 5001bs/ Hazardous Waste generated	/55g/200cf? Y N d per month?	Inspection Categories: I. Haz. Mat/Waste GENERII. Business Plans, Acute HaIII. Underground Tanks	ATOR/TRANSPORTER
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# APPENDIX B Drilling-Related Permits

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



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

Application Approved on: 10/07/2005 By suel

Permits Issued: W2005-0987

**Application Id:** 1128722516076

Site Location: 1001 77th St, Oakland 94621

Project Start Date: 10/19/2005

**Applicant:** Stellar Environmental Solutions Inc - Bruce

Rucker

2198 6th Sr #201, Berkeley, CA 94710

Property Owner: Acts Community Development

1034 66th Ave, Oakland, CA 94621

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

Contact: Joseph Dinan

Cell: --

Receipt Number: WR2005-2140

City of Project Site: Oakland

Completion Date: 10/19/2005

Permits Valid from 10/19/2005 to 10/19/2005

Phone: 510-644-3123

Phone: 510-639-4658

Phone: 510-644-3123

Total Due: Total Amount Paid:

\$200.00 \$200.00

Paid By: CHECK

PAID IN FULL

### **Works Requesting Permits:**

Borehole(s) for Investigation-Contamination Study - 5 Boreholes

Driller: EnProb Environmental Probing - Lic #: 777007 - Method: DP Work Total: \$200.00

### **Specifications**

Permit	Issued Dt	Expire Dt	#	Hole Diam	Max Depth
Number			Boreholes		
W2005-	10/07/2005	01/17/2006	5	2.00 in.	20.00 ft
0987					

### **Specific Work Permit Conditions**

- 1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.
- 2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.
- 3. Applicant shall contact George Bolton for a inspection time at 510-670-5594 at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
- 4. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site, shall result in a fine of \$500.00.
- 5. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.
- 6. Prior to any drilling activities into any public rights-of-way, it shall be the applicant's responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that Federal, State, County or to the City and follow all City or County Ordinances. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or

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

detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

7. Permitte, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statues regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on-or off site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

### CITY OF OAKLAND • Community and Economic Development Agency

250 Frank H. Ogawa Plaza, 2nd Floor, Oakland, CA 94612 • Phone (510) 238-3443 • FAX (510) 238-2263

Job Site 1001 77TH AV

Parcel# 041 -4142-038-00

Appl# X0501113

Descr soil boring on 77th Av

Permit Issued 10/07/05

Work Type EXCAVATION-PRIVATE P

USA #

Util Co. Job #

Util Fund #:

Applent

Phone#

Lic# --License Classes--

Owner ACTS FULL GOSPEL CHURCH

Contractor ENPROB ENVIRONMENTAL PROBING X (530) 589-2019 777007 C57

Arch/Engr

n/Engr Agent STELLAR ENVIRO/JOE DINAN

(510)644-3123

Applic Addr P O BOX 6093, OROVILLE, CA, 95966

\$411.96 TOTAL FEES PAID AT ISSUANCE

\$59.00 Applic \$300.00 Permit \$34.11 Rec Mgmt

9.00 Applic \$.00 Process

\$.00 Gen Plan

\$.00 Invstg

\$.00 Other

\$18.85 Tech Enh

JOB SITE

\$18. B \$18.23 Phone: (518)238-3587 FAX: (518)238-2263 Paymenth; 993 Community & Economic Development Agency 0 8 8 7 3 9 0 Payor: STELLAR BHUIRDM. #4969 PAYMENT RECEIPT Sales laxa SKKKKK TOTAL PAID: ECHNOLOGY ENHANCEMENT PE Subsetall ECHNOLOGY ENGANCIASKY FE RECURNS HAMBERENT FEE Applications MSSLIA RECORDS HANGERERT FEE Deans PI, Applicational X250113 EXCENATION PERMIT EXCAMATION PERNIT 1 258 Frank H.



## **EXCAVATION PERMIT**

CIVIL **ENGINEERING** 

### TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

PAGE 2 of 2

		Permit valid for s	90 days from date of issuance.								
PERMIT NUMBER	- 01112	SITE ADDRESS/LOCATION									
$\mathbf{X}$	5 01113	1001 77th Arenve									
APPROX. START DATE	APPROX. END DATE	24-HOUR EMERGENCY PHONE NUMBER									
(It 19 2005	act 19 2005	(Permit not valid without 24-Hour number)	(510) 644-3123								
CONTRACTOR'S LICENSE # AND	CLASS	CITY BUSINESS TAX #	*								
C-57 777007 3272462											
ATTENTION:											
1- State law requires th	at the contractor/owner call Underground Stentification number issued by USA. The L	Service Alert (USA) two working days before excavat ISA telephone number is 1-800-642-3444. Undergrout	ing. This permit is not valid unless applicant has and Service Alen (USA) # 25 Ce 7.5 7								
secured an inquiry identification number issued by USA. The USA telephone number is 1-800-642-2444. Underground Service Alen (USA) # 256 75.7  2- 48 hours prior to starting work, you MUST CALL (510) 238-3651 to schedule an inspection.											
3- 48 hours prior to re-paving, a compaction certificate is required (waived for approved slurry backfill).											
3 10 Hours prio	, to 10 prB;										
OWNER/BUILDER											
I hereby affirm that I am exempt from	the Contractor's License Law for the for	Howing reason (Sec. 7031.5 Business and Professions, also requires the applicant for such permit to file	ons Code: Any city or county which requires a permit to a signed statement that he is licensed pursuant to the								
provisions of the Contractor's License	law Chapter 9 (commencing with Sec. 7	(000) of Division 3 of the Business and Professions	Code, or that he is exempt therefrom and the basis for the								
The se an owner of the property or a	my employees with wages as their sole c	mit subjects the applicant to a civil penalty of not m compensation, will do the work, and the structure is	not intended or offered for sale (Sec. 7044, Business								
Professions Code: The Contractor's I	License Law does not apply to an owner not intended or offered for sale. If howe	of property who builds or improves thereon, and w ver, the building or improvement is sold within one	ho does such work himself or through his own employees, year of completion, the owner-builder will have the								
burden of proving that he did not build	for improve for the purpose of sale).		of residence or appurtenances thereto, (2) the work will								
be performed prior to sale, (3) I have	resided in the residence for the 12 month	s prior to completion of the work, and (4) I have no	ot claimed exemption on this subdivision on more than two								
D I as owner of the property am ex-	three-year period. (Sec. 7044 Business and clusively contracting with licensed contra	ctors to construct the project, (Sec. 7044, Business	and Professions Code: The Contractor's License Law								
does not apply to an owner of property	y who builds or improves thereon, and w , B&PC for this reason	ho contracts for such projects with a contractor(s) 1	icensed pursuant to the Contractor's License law).								
D I am exempt under Sec.	, blef o for all s reason	No. of Assets and Assets									
WORKER'S COMPENSATION											
☐ I hereby affirm that I have a certifi	icate of consent to self-insure, or a certificate	cate of Worker's Compensation Insurance, or a cer	tified copy thereof (Sec. 3700, Labor Code).								
Policy #	Company Name										
☐ I certify that in the performance of	the work for which this permit is issued	, I shall not employ any person in any manner so as	s to become subject to the Worker's Compensation Laws								
of California (not required for work va	alued at one hundred dollars (\$100) or lea	35).									
NOTICE TO APPLICANT: If, after the province of this per	making this Certificate of Exemption, you	should become subject to the Worker's Compensa but is issued pursuant to all provisions of Title 12 C	tion provisions of the Labor Code, you must forthwith Chapter 12.12 of the Oakland Municipal Code. It is								
prented upon the express condition the	t the permittee shall be responsible for all	I claims and liabilities arising out of work performe	d under the permit or arising out of permittee's failure to								
and employees from and against any	and all suits claims, or actions brought b	y any person for or on account of any bodily injurie	indemnify, save and hold harmless the City, its officers es, disease or illness or damage to persons and/or property								
sustained or arising in the construction of the work performed under the permit or in consequence of permittee's failure to perform the obligations with respect to street maintenance. This permit is void 90 days from the date of issuance unless an extension is granted by the Director of the Office of Planning and Building.											
permit is void 90 days from the date of	I Issuance unioss air extension is grantee	o, ale block. C. ale omining									
Thomas of Government	re provisions of Chapter C of Division 2	of the Business and Professions Code and my licens	e is in full force and effect (if contractor), that I have read								
this permit and agree to its requiremen	ts, and that the above information is true	and correct under penalty of law.	o la la la jojec alla circa (il contractor), dan 1 il la circa								
O $I$ $A$ $=$											
Joseph	7 - C - E C		d + ,2005								
Signature of Permittee A DATE STREET LAST	Agent for ☐ Contractor ☐ Owner  SPECIAL PAVING DETAIL	HOLIDAY RESTRICTION?	LIMITED OPERATION AREA?								
RESURFACED	REQUIRED? TYES TO NO	(NOV 1-JAN 1) DYES PONO	(7AM-9AM & 4PM-6PM) □ YES <del>  100</del>								
ISSUED BY	0	DATE ISSUED	Goge y <sup>2</sup> ≈								
	9	7	4								
		- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	A. Comment								

# **APPENDIX C Photodocumentation**



Subject: View west, across 77<sup>th</sup> Avenue, of drill rig set up at drilling location BH-04.

Site: 1001 77th Avenue, Oakland, CA

Date Taken: October 19, 2005 Project No.: SES 2005-51

Photographer: Joe Dinan Photo No.: 01



Subject: View south, across Spencer Street, of drill rig set up at drilling location BH-07.

Site: 1001 77th Avenue, Oakland, CA

Date Taken: October 19, 2005 Project No.: SES 2005-51

Photographer: Joe Dinan Photo No.: 02



Subject: View south, across Spencer Street, showing borehole locations BH-07 (at left) and BH-06 (at right).

Site: 1001 77th Avenue, Oakland, CA

Date Taken: October 19, 2005 Project No.: SES 2005-51

Photographer: Joe Dinan Photo No.: 03



Subject: Grouting borehole BH-06 in Spencer Street.

Site: 1001 77th Avenue, Oakland, CA

Date Taken: October 19, 2005 Project No.: SES 2005-51

Photographer: Joe Dinan Photo No.: 04

### **APPENDIX D**

**Borehole Geologic Logs** 

### **Soil Boring Log**



BORING NUMBER BH-03 Page 1 of 1 PROJECT Acts Church Phase III OWNER Acts Community Development LOCATION 1001 77th Ave., Oakland, CA PROJECT NUMBER 2005-51 TOTAL DEPTH 20 feet BOREHOLE DIA. 2 inch SURFACE ELEV. <u>Unknown</u> \_\_\_\_\_ WATER FIRST ENCOUNTERED 12 feet bgs DRILLING COMPANY \_\_\_\_ EnProb DRILLING METHOD GeoProbe Direct Push DRILLER \_ Jeff Edwards \_\_\_\_\_ GEOLOGIST J. Dinan DATE DRILLED 10/19/2005

DEPTH (feet) GRAPHIC LOG BEH-QS-  - 0
Concrete Black clay (CL), med. stiff, med. cohesive, sl. moist  5" Becomes stiff with minor gravels 6' Color change to brown with green mottling 6.5' Brown sandy clay (CL), cohesive, moist  7' Bluegray clayey sand (SC), friable, moist  7' Bluegray sandy clay (CL), minor subangular gravels, sl. moist, cohesive  11' bgs - odor absent
9' Clayey gravel (GC), poorly sorted, sub-rounded, very stiff  9.5 Green silty clay (CL), stiff, sl. moist, cohesive  11' Clayey gravel (GC), poorly sorted, moist, sl. cohesive, friable, sub-rounded gravels  12' Saturated color change to orange  12.5' Brown silty clay (CL), stiff, saturated, minor gravels  20' Bottom of borehole

### **Soil Boring Log**



PROJECT Acts Church Phase III

LOCATION 1001 77th Ave., Oakland, CA

TOTAL DEPTH 20 feet

SURFACE ELEV. Unknown

DRILLING COMPANY EnProb

DRILLER Jeff Edwards

BORING NUMBER BH-04

Page 1 of 1

OWNER Acts Community Development

PROJECT NUMBER 2005-51

BOREHOLE DIA. 2 inch

WATER FIRST ENCOUNTERED 9.5 feet bgs

DRILLING METHOD GeoProbe Direct Push

DATE DRILLED 10/19/2005

DEPTH (feet)	GRAPHIC LOG	SAMPLE INTERVAL/ RECOVERY BLOW COUNTS	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
- 0 -  - 2 - 		- 4		Concrete Black clay(CL), med. stiff, mod. cohesive, sl. moist	
- 4 - - 4 - 6 - 6 -				4' Color change to brown with green mottling, minor small gravels, stiff, sl. cohesive 5' Gravel absent	<b>▼</b> 6.8' bgs
- 8 - - 8 -  - 10 -	<u> </u>	BH-04- 8.5'		8.5' Gravelly clay, gravels are small and subrounded ~30-40%, sl. moist  9.5' Brown clayey sand (SC), poorly sorted, occ. small gravel, sl. cohesive, wet	<u></u> 9.5' bgs
 -12- 		10'		10.5' Brown sandy clay (CL), occ. small gravel, sl. moist, sl. cohesive, stiff	
14				11.5 Grades to clayey gravel (GC), poorly sorted, small gravel, stiff, sl. friable, sl. moist	
 - 16-				12' Brown silty clay(CL), med. soft, cohesive, moist 15' Becomes stiff	
  -18- 				16.5' Becomes dark brown in color 17' Dark brown sandy clay (CL), stiff, cohesive, sl. moist	
-20-				20' Bottom of borehole	





BORING NUMBER BH-06 Page 1 of 1 PROJECT Acts Church Phase III OWNER Acts Community Development LOCATION 1001 77th Ave., Oakland, CA PROJECT NUMBER 2005-51 TOTAL DEPTH \_\_\_\_15 feet BOREHOLE DIA. 2 inch SURFACE ELEV. <u>Unknown</u> \_\_\_\_\_ WATER FIRST ENCOUNTERED 8 feet bgs DRILLING COMPANY \_\_\_\_EnProb DRILLING METHOD GeoProbe Direct Push DRILLER \_ Jeff Edwards \_\_\_\_\_ GEOLOGIST J. Dinan DATE DRILLED 10/19/2005

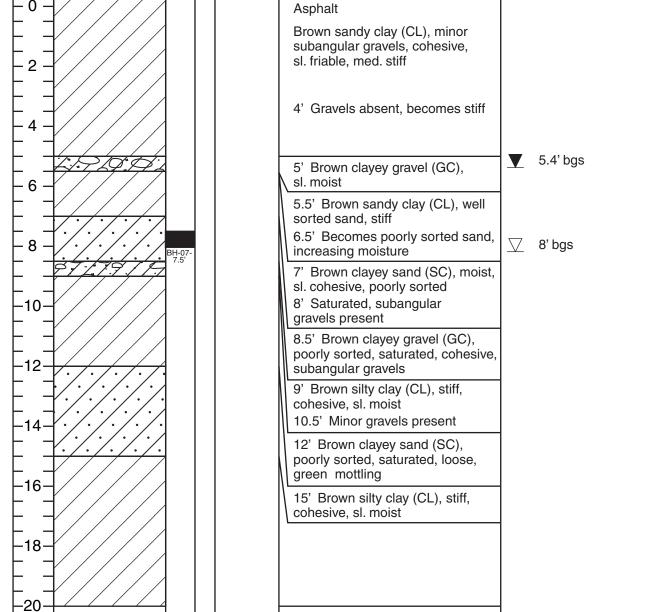
Concrete  Gray gravelly clay (CL), angular gravels, soft, cohesive, sl. moist  4'-6' No recovery  6' Gray gravelly clay (CL), angular gravels, soft, cohesive, sl. moist  ▼ 5.3' bgs  7' Gray clayey gravel (GC), poorly sorted, sl. cohesive, moist  8' Color change to brown, saturated  8.5' Brown sandy clay (CL), stiff, cohesive, moist, minor subangular gravels  10' Brown clayey gravel (GC), wet, subrounded  10.5' Brown sandy clay (CL), minor gravels, subangular, cohesive, moist  11' Gravels absent  15' Bottom of borehole			≾⊂	1	Г	
Concrete  Gray gravelly clay (CL), angular gravels, soft, cohesive, sl. moist  4'-6' No recovery  6' Gray gravelly clay (CL), angular gravels, soft, cohesive, sl. moist  7' Gray clayey gravel (GC), poorly sorted, sl. cohesive, moist  8' Color change to brown, saturated  8.5' Brown sandy clay (CL), stiff, cohesive, moist, minor subangular gravels  10' Brown clayey gravel (GC), Wet, subrounded  10.5' Brown sandy clay (CL), minor gravels, subangular, cohesive, moist  11' Gravels absent  15' Bottom of borehole	DEPTH (feet)	GRAPHIC LOG	SAMPLE INTERVAL RECOVEF BLOW	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
	- 0			§ READING	Concrete  Gray gravelly clay (CL), angular gravels, soft, cohesive, sl. moist  4'-6' No recovery  6' Gray gravelly clay (CL), angular gravels, soft, cohesive, sl. moist  7' Gray clayey gravel (GC), poorly sorted, sl. cohesive, moist  8' Color change to brown, saturated  8.5' Brown sandy clay (CL), stiff, cohesive, moist, minor subangular gravels  10' Brown clayey gravel (GC), Wet, subrounded  10.5' Brown sandy clay (CL), minor gravels, subangular, cohesive, moist  11' Gravels absent	▼ 5.3' bgs

### **Soil Boring Log**



BORING NUMBER BH-07 Page 1 of 1 PROJECT Acts Church Phase III OWNER Acts Community Development LOCATION 1001 77th Ave., Oakland, CA PROJECT NUMBER 2005-51 TOTAL DEPTH 20 feet BOREHOLE DIA. 2 inch SURFACE ELEV. \_\_Unknown \_\_\_\_\_ WATER FIRST ENCOUNTERED 8 feet bgs DRILLING COMPANY \_\_\_\_ EnProb \_\_\_\_\_ DRILLING METHOD GeoProbe Direct Push

DRILLER <u>Jeff Edwards</u> GEOLOGIST J. Dinan DATE DRILLED 10/19/2005 DEPTH GRAPHIC INSTRUMENT DESCRIPTION/SOIL CLASSIFICATION **REMARKS** LÖĞ READING (feet) Asphalt Brown sandy clay (CL), minor subangular gravels, cohesive,



20' Bottom of borehole

### **Soil Boring Log**

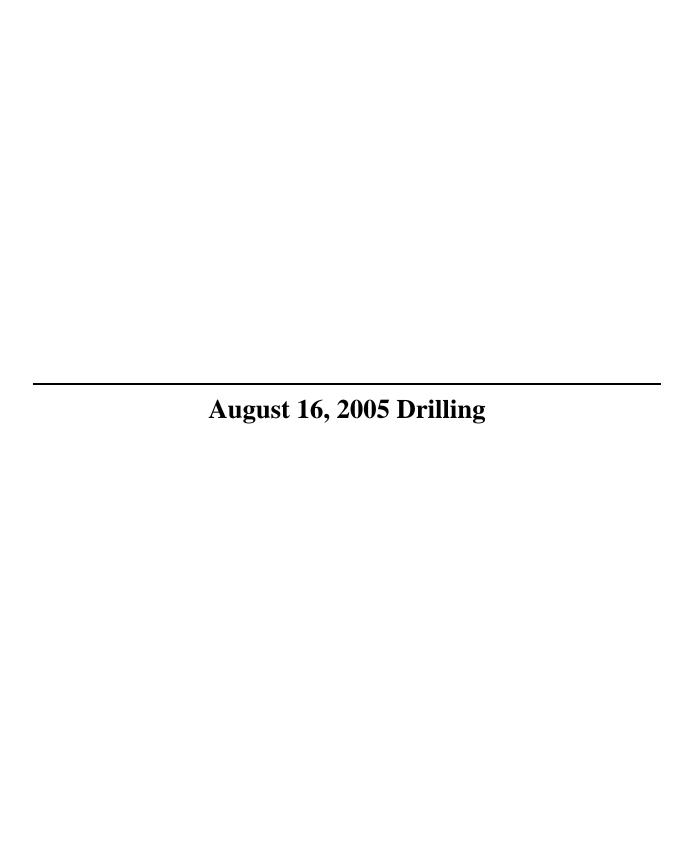


BORING NUMBER BH-05 Page 1 of 1 PROJECT Acts Church Phase III OWNER Acts Community Development LOCATION 1001 77th Ave., Oakland, CA PROJECT NUMBER 2005-51 TOTAL DEPTH 20 feet \_\_\_\_\_ BOREHOLE DIA. 2 inch SURFACE ELEV. <u>Unknown</u> \_\_\_\_\_ WATER FIRST ENCOUNTERED 13 feet bgs DRILLING COMPANY \_\_\_\_ EnProb DRILLING METHOD GeoProbe Direct Push DRILLER \_ Jeff Edwards \_\_\_\_\_ GEOLOGIST J. Dinan DATE DRILLED 10/19/2005

			T		<u> </u>
DEPTH (feet)	GRAPHIC LOG	SAMPLE INTERVAL RECOVERN BLOW	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
- 0 -	/////			Asphalt	
- 2 -				Black clay (CL), med. stiff, med. cohesive, sl. moist	
- 4 - - 4 - 6 -				5.5' Blue gray gravelly clay (CL), poorly sorted angular gravels, friable, sl. cohesive	<b>▼</b> 6.45' bgs
L =				7' Blue gray sandy clay (CL), moist, cohesive, med. stiff	
<b>-</b> 8 −		BH-05- 7'		7.5' Gravel present, subangular	7" Strong petroleum odor
				8' Blue gray silty clay (CL), med. stiff, cohesive, moist	
-10- 				10' Blue gray sandy clay (CL), med. stiff, cohesive, moist	
		BH-05-		11' Minor gravels present	
-12- 		12'		12' Blue gray silty clay (CL), soft, moist, very cohesive	
  -14-		BH-05- 13'		13' Blue gray clayey gravel (GC), saturated, loose, sl. cohesive	13.75' Odor absent
  		BH-05- 15'		14' Brown silty clay (CL), stiff, sl. moist, cohesive	
				20' Bottom of borehole	

### **APPENDIX E**

Certified Analytical Laboratory Reports and Chain-of-Custody Records





### Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

### ANALYTICAL REPORT

Prepared for:

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

Date: 22-AUG-05 Lab Job Number: 181268 Project ID: STANDARD

Location: 1001 77th Ave. Oakland

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

This package may be reproduced only in its entirety.

NELAP # 01107CA

Page 1 of



### CASE NARRATIVE

Laboratory number:

181268

Client:

Stellar Environmental Solutions

Location:

1001 77th Ave. Oakland

Request Date:

08/16/05

Samples Received:

08/16/05

This hardcopy data package contains sample and QC results for four soil samples and two water samples, requested for the above referenced project on 08/16/05. The samples were received cold and intact.

### TPH-Purgeables and/or BTXE by GC (EPA 8015B and EPA 8021B) Water:

High surrogate recoveries were observed for bromofluorobenzene (FID) and trifluorotoluene (FID) in BH-02-GW (lab # 181268-006), due to interference from coeluting hydrocarbon peaks. No other analytical problems were encountered.

### TPH-Purgeables and/or BTXE by GC (EPA 8015B and EPA 8021B) Soil:

No analytical problems were encountered.

### TPH-Extractables by GC (EPA 8015B) Water:

No analytical problems were encountered.

### TPH-Extractables by GC (EPA 8015B) Soil:

No analytical problems were encountered.

### Metals (EPA 6010B) Water:

No analytical problems were encountered.

### Metals (EPA 6010B) Soil:

No analytical problems were encountered.

181268

### **Chain of Custody Record**

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	ject Number <u>2005-51</u>	l			Sa	amplers: (Signature)	eft O		- /			2/2	d'c	neda/ mobile	/ ,	/ /	/ /	/ /					
	Field Sample Number	Location/ Depth	Date	Time	Sample Type	Type/Size of Container	Cooler	eservation Chemical	1/		/3	27,2		/ /									
	BH-01-8'	8'	08/16	845	soil	6" acetate sleeve	yes	none		1	X	χ	γ										_
\ <del> </del>	BH-01-10'	10'	08/16	\$50	soil	6" acetate sleeve	yes	none		1	X	χ	X										
3	BH-01-GW	~11'	08/16	840	H20	(a)	yes	(b)		4	X	X	X										
-	BH-02-8'	8'	08/16	920	soil	6" acetate sleeve	yes	none		ı	X	X	χ										
-	BH-02-13'	13'	p8/16	950	soil	6" acetate sleeve	yes	none		1	X	X	Χ										
,	3H-02-GW	~14'	08/16	950	H20	(a)	yes	(b)		Ч	χ	X	χ										
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0-00-01	(b) VOAs are prese	rved with h	HCI. Am	nbers a	re unp	reserved	3-16-29																
8 -							_	Company						— I	- 1	Co	mpany					— I	

★ Stellar Environmental Solutions

Received Could Intact

2198 Sixth Street #201, Berkeley, CA 94710



Curtis & Tompkins Laboratories Analytical Report							
Lab #: Client: Project#:	181268 Stellar Environmental Solutions STANDARD	Location: Prep:	1001 77th Ave. Oakland EPA 5030B				
Matrix: Units:	Water ug/L	Sampled: Received:	08/16/05 08/16/05				
Diln Fac: Batch#:	1.000 104853	Analyzed:	08/16/05				

Field ID: BH-01-GW Lab ID: 181268-003

Type: SAMPLE

Analyte	Result	RL	Analysis
Gasoline C7-C12	280 Y Z	50	EPA 8015B
MTBE	5.7	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)	100	63-141	EPA 8015B	
Bromofluorobenzene (FID)	120	79-139	EPA 8015B	
Trifluorotoluene (PID)	85	63-133	EPA 8021B	
Bromofluorobenzene (PID)	108	79-128	EPA 8021B	

Field ID: BH-02-GW Lab ID: 181268-006

SAMPLE Type:

Analyte	Result	RL	Analysis
Gasoline C7-C12	4,200 Y	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)	146 *	63-141	EPA 8015B
Bromofluorobenzene (FID)	154 *	79-139	EPA 8015B
Trifluorotoluene (PID)	101	63-133	EPA 8021B
Bromofluorobenzene (PID)	113	79-128	EPA 8021B

<sup>\*=</sup> Value outside of QC limits; see narrative Y= Sample exhibits chromatographic pattern which does not resemble standard Z= Sample exhibits unknown single peak or peaks ND= Not Detected

RL= Reporting Limit Page 1 of 2



Curtis & Tompkins Laboratories Analytical Report							
Lab #: Client:	181268 Stellar Environmental Solutions	Location: Prep:	1001 77th Ave. Oakland EPA 5030B				
Project#:		-					
Matrix:	Water	Sampled:	08/16/05				
Units:	ug/L	Received:	08/16/05				
Diln Fac:	1.000	Analyzed:	08/16/05				
Batch#:	104853	-					

Lab ID: QC305128 Type: BLANK

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)	98	63-141	EPA 8015B	
Bromofluorobenzene (FID)	114	79-139	EPA 8015B	
Trifluorotoluene (PID)	84	63-133	EPA 8021B	
Bromofluorobenzene (PID)	103	79-128	EPA 8021B	

<sup>\*=</sup> Value outside of QC limits; see narrative
Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
ND= Not Detected



### Batch QC Report

Curtis & Tompkins Laboratories Analytical Report						
Lab #:	181268	Location:	1001 77th Ave. Oakland			
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B			
Project#:	STANDARD	Analysis:	EPA 8021B			
Type:	LCS	Diln Fac:	1.000			
Lab ID:	QC305129	Batch#:	104853			
Matrix:	Water	Analyzed:	08/16/05			
Units:	ug/L					

Analyte	Spiked	Result	%REC	Limits
MTBE	20.00	20.85	104	67-125
Benzene	20.00	19.25	96	80-120
Toluene	20.00	20.73	104	80-120
Ethylbenzene	20.00	20.69	103	80-120
m,p-Xylenes	20.00	19.36	97	80-120
o-Xylene	20.00	20.78	104	80-120

Surrogate	%REC	Limits
Trifluorotoluene (PID)	91	63-133
Bromofluorobenzene (PID)	111	79-128

Page 1 of 1 7.0



### Batch QC Report

Curtis & Tompkins Laboratories Analytical Report						
Lab #:	181268	Location:	1001 77th Ave. Oakland			
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B			
Project#:	STANDARD	Analysis:	EPA 8015B			
Type:	LCS	Diln Fac:	1.000			
Lab ID:	QC305130	Batch#:	104853			
Matrix:	Water	Analyzed:	08/16/05			
Units:	ug/L					

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	2,079	104	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	107	63-141
Bromofluorobenzene (FID)	128	79-139

Page 1 of 1 8.0



Batch QC Report

Curtis & Tompkins Laboratories Analytical Report							
Lab #: 181268	3	Location:	1001 77th Ave. Oakland				
Client: Stella	ar Environmental Solutions	Prep:	EPA 5030B				
Project#: STANDA	ARD	Analysis:	EPA 8015B				
Field ID:	ZZZZZZZZZZ	Batch#:	104853				
MSS Lab ID:	181259-019	Sampled:	08/12/05				
Matrix:	Water	Received:	08/15/05				
Units:	ug/L	Analyzed:	08/16/05				
Diln Fac:	1.000						

Type: MS

Gasoline C7-C12

Analyte

MSS Result	Spiked	Result	%REC	Limits
14.50	2,000	1,991	99	80-120

QC305160

Lab ID:

Type: MSD Lab ID: QC305161

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,034	101	80-120		20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	117	63-141
Bromofluorobenzene (FID)	130	79–139



Curtis & Tompkins Laboratories Analytical Report							
Lab #:	181268	Location:	1001 77th Ave. Oakland				
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B				
Project#:	STANDARD						
Matrix:	Soil	Sampled:	08/16/05				
Basis:	as received	Received:	08/16/05				
Diln Fac:	1.000	Analyzed:	08/16/05				
Batch#:	104851						

Field ID: BH-01-8' Lab ID: 181268-001

Type: SAMPLE

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	1.1	mg/Kg EPA	A 8015B
MTBE	ND	21	ug/Kg EPA	A 8021B
Benzene	ND	5.3	ug/Kg EPA	A 8021B
Toluene	ND	5.3	ug/Kg EPA	A 8021B
Ethylbenzene	ND	5.3	ug/Kg EPA	A 8021B
m,p-Xylenes	ND	5.3	ug/Kg EPA	A 8021B
o-Xylene	ND	5.3	ug/Kg EPA	A 8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	98	60-138	EPA 8015B	
Bromofluorobenzene (FID)	114	66-148	EPA 8015B	
Trifluorotoluene (PID)	100	62-126	EPA 8021B	
Bromofluorobenzene (PID)	114	72-133	EPA 8021B	

Field ID: BH-01-10' Lab ID: 181268-002

Type: SAMPLE

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	1.1	mg/Kg EPA	A 8015B
MTBE	ND	22	ug/Kg EPA	A 8021B
Benzene	ND	5.4	ug/Kg EPA	A 8021B
Toluene	ND	5.4	ug/Kg EPA	A 8021B
Ethylbenzene	ND	5.4	ug/Kg EPA	A 8021B
m,p-Xylenes	ND	5.4	ug/Kg EPA	A 8021B
o-Xylene	ND	5.4	ug/Kg EPA	A 8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	91	60-138	EPA 8015B	
Bromofluorobenzene (FID)	102	66-148	EPA 8015B	
Trifluorotoluene (PID)	89	62-126	EPA 8021B	
Bromofluorobenzene (PID)	100	72-133	EPA 8021B	

ND= Not Detected RL= Reporting Limit Page 1 of 3



Curtis & Tompkins Laboratories Analytical Report						
Lab #:	181268	Location:	1001 77th Ave. Oakland			
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B			
Project#:	Project#: STANDARD					
Matrix:	Soil	Sampled:	08/16/05			
Basis:	as received	Received:	08/16/05			
Diln Fac:	1.000	Analyzed:	08/16/05			
Batch#:	104851					

Field ID: BH-02-8' Lab ID: 181268-004

Type: SAMPLE

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	1.0	mg/Kg EP	A 8015B
MTBE	ND	20	ug/Kg EP	A 8021B
Benzene	ND	5.1	ug/Kg EP	A 8021B
Toluene	ND	5.1	ug/Kg EP	A 8021B
Ethylbenzene	ND	5.1	ug/Kg EP	A 8021B
m,p-Xylenes	ND	5.1	ug/Kg EP	A 8021B
o-Xylene	ND	5.1	ug/Kg EP	A 8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	97	60-138	EPA 8015B	
Bromofluorobenzene (FID)	115	66-148	EPA 8015B	
Trifluorotoluene (PID)	96	62-126	EPA 8021B	
Bromofluorobenzene (PID)	110	72-133	EPA 8021B	

Field ID: BH-02-13' Lab ID: 181268-005

Type: SAMPLE

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	1.0	mg/Kg EPA	A 8015B
MTBE	ND	20	ug/Kg EPA	A 8021B
Benzene	ND	5.0	ug/Kg EPA	A 8021B
Toluene	ND	5.0	ug/Kg EPA	A 8021B
Ethylbenzene	ND	5.0	ug/Kg EPA	A 8021B
m,p-Xylenes	ND	5.0	ug/Kg EPA	A 8021B
o-Xylene	ND	5.0	ug/Kg EPA	A 8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	91	60-138	EPA 8015B	
Bromofluorobenzene (FID)	104	66-148	EPA 8015B	
Trifluorotoluene (PID)	90	62-126	EPA 8021B	
Bromofluorobenzene (PID)	107	72-133	EPA 8021B	

ND= Not Detected RL= Reporting Limit Page 2 of 3



	Curt	is & Tompkins La	aboratories An	alytical Report
Lab #:	181268		Location:	1001 77th Ave. Oakland
Client:	Stellar Envir	onmental Solutions	Prep:	EPA 5030B
Project#:	STANDARD			
Matrix:	Soil		Sampled:	08/16/05
Basis:	as rec	eived	Received:	08/16/05
Diln Fac:	1.000		Analyzed:	08/16/05
Batch#:	104851			

Type: BLANK Lab ID: QC305123

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	1.0	mg/Kg EPA	8015B
MTBE	ND	20	ug/Kg EPA	8021B
Benzene	ND	5.0	ug/Kg EPA	8021B
Toluene	ND	5.0	ug/Kg EPA	8021B
Ethylbenzene	ND	5.0	ug/Kg EPA	8021B
m,p-Xylenes	ND	5.0	ug/Kg EPA	8021B
o-Xylene	ND	5.0	ug/Kg EPA	8021B

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	95	60-138	EPA 8015B	
Bromofluorobenzene (FID)	111	66-148	EPA 8015B	
Trifluorotoluene (PID)	94	62-126	EPA 8021B	
Bromofluorobenzene (PID)	111	72-133	EPA 8021B	



	Curtis & Tompkins Labo	oratories Anal	ytical Report
Lab #:	181268	Location:	1001 77th Ave. Oakland
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8021B
Type:	LCS	Basis:	as received
Lab ID:	QC305124	Diln Fac:	1.000
Matrix:	Soil	Batch#:	104851
Units:	ug/Kg	Analyzed:	08/16/05

Analyte	Spiked	Result	%REC	Limits
MTBE	100.0	105.6	106	70-137
Benzene	100.0	96.02	96	80-120
Toluene	100.0	94.84	95	80-120
Ethylbenzene	100.0	95.91	96	80-120
m,p-Xylenes	100.0	93.55	94	80-120
o-Xylene	100.0	95.13	95	80-120

Surrogate	%REC	Limits	
Trifluorotoluene (PID)	91	62-126	
Bromofluorobenzene (PID)	105	72-133	

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	Curtis & Tompkins Lab	oratories Anal	Lytical Report
Lab #:	181268	Location:	1001 77th Ave. Oakland
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8015B
Type:	LCS	Basis:	as received
Lab ID:	QC305125	Diln Fac:	1.000
Matrix:	Soil	Batch#:	104851
Units:	mg/Kg	Analyzed:	08/16/05

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	10.00	10.34	103	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	112	60-138
Bromofluorobenzene (FID)	115	66-148

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Curtis & Tompkins Labo	oratories Anal	ytical Report
Lab #: 181268	Location:	1001 77th Ave. Oakland
Client: Stellar Environmental Solutions	Prep:	EPA 5030B
Project#: STANDARD	Analysis:	EPA 8015B
Field ID: BH-01-8'	Diln Fac:	1.000
MSS Lab ID: 181268-001	Batch#:	104851
Matrix: Soil	Sampled:	08/16/05
Units: mg/Kg	Received:	08/16/05
Basis: as received	Analyzed:	08/16/05

Type: MS Lab ID: QC305231

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	<0.1172	10.99	9.207	84	43-120

Surrogate	%REC	Limits	
Trifluorotoluene (FID)	102	60-138	
Bromofluorobenzene (FID)	105	66-148	

Type: MSD Lab ID: QC305232

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.87	9.287	85	43-120	2	27

Surrogate	%REC	Limits
Trifluorotoluene (FID)	112	60-138
Bromofluorobenzene (FID)	116	66-148



Total Extractable Hydrocarbons				
Lab #: Client:	181268 Stellar Environmental Solutions	Location:	1001 77th Ave. Oakland EPA 3520C	
Project#:		Prep: Analysis:	EPA 8015B	
Matrix:	Water	Sampled:	08/16/05	
Units:	ug/L	Received:	08/16/05	
Diln Fac:		Prepared:	08/18/05	
Batch#:	104959	Analyzed:	08/21/05	

Field ID: BH-01-GW Lab ID: 181268-003

Type: SAMPLE

Analyte	Result	RL	
Kerosene C10-C16	92 H Y	50	
Diesel C10-C24	160 н ү	50	
Motor Oil C24-C36	ND	300	

Surrogate	%REC	Limits	
Hexacosane	104	55-143	

Field ID: BH-02-GW Lab ID: 181268-006

Type: SAMPLE

Analyte	Result	RL	
Kerosene C10-C16	1,900 н	50	
Diesel C10-C24	1,800 H L	50	
Motor Oil C24-C36	480	300	

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

QC305569

Analyte	Result	RL
Kerosene C10-C16	ND	50
Diesel C10-C24	ND	50
Motor Oil C24-C36	ND	300

Surrogate	%REC	Limits	
Hexacosane	107	55-143	

H= Heavier hydrocarbons contributed to the quantitation L= Lighter hydrocarbons contributed to the quantitation

Y= Sample exhibits chromatographic pattern which does not resemble standard ND= Not Detected

RL= Reporting Limit Page 1 of 1



	Total Extractable Hydrocarbons				
Lab #:	181268	Location:	1001 77th Ave. Oakland		
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C		
Project#:	STANDARD	Analysis:	EPA 8015B		
Type:	LCS	Diln Fac:	1.000		
Lab ID:	QC305570	Batch#:	104959		
Matrix:	Water	Prepared:	08/18/05		
Units:	ug/L	Analyzed:	08/21/05		

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,324	93	50-133

Surrogate	%REC	Limits
Hexacosane	83	55-143

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Total Extractable Hydrocarbons					
Lab #: 181268	3	Location:	1001 77th Ave. Oakland		
Client: Stella	r Environmental Solutions	Prep:	EPA 3520C		
Project#: STANDA	ARD	Analysis:	EPA 8015B		
Field ID:	ZZZZZZZZZZ	Batch#:	104959		
MSS Lab ID:	181301-002	Sampled:	08/15/05		
Matrix:	Water	Received:	08/17/05		
Units:	ug/L	Prepared:	08/18/05		
Diln Fac:	1.000	Analyzed:	08/21/05		

Type: MS Cleanup Method: EPA 3630C

Lab ID: QC305571

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	<12.82	2,500	1,999	80	42-127

Surrogate	%REC	Limits
Hexacosane	69	55-143

Type: MSD Cleanup Method: EPA 3630C

Lab ID: QC305572

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	1,688	68	42-127	17	45

Surrogate	%REC	Limits
Hexacosane	72	55-143



Total Extractable Hydrocarbons 181268 Location: 1001 77th Ave. Oakland Lab #: Stellar Environmental Solutions Prep: SHAKER TABLE EPA 8015B Client: Project#: STANDARD Analysis: 08/16/05 Matrix: Soil Sampled: 08/16/05 08/18/05 Units: mg/Kg Received: as received Basis: Prepared: 1.000 Diln Fac: Analyzed: 08/19/05 Batch#: 104955

Field ID: BH-01-8' Lab ID: 181268-001

SAMPLE Type:

Analyte	Result	RL	
Kerosene C10-C16	ND	1.0	
Diesel C10-C24	3.4 Y	1.0	
Motor Oil C24-C36	ND	5.0	

Field ID: BH-01-10' Lab ID: 181268-002

Type: SAMPLE

Analyte	Result	RL	
Kerosene C10-C16	ND	1.0	
Diesel C10-C24	ND	1.0	
Motor Oil C24-C36	ND	5.0	

Surrogate	%REC	Limits
Hexacosane	85	51-136

Field ID: BH-02-8' Lab ID: 181268-004

SAMPLE Type:

Analyte	Result	RL	
Kerosene C10-C16	1.2 Y	0.99	
Diesel C10-C24	4.5 H Y	0.99	
Motor Oil C24-C36	15	5.0	

Surrogate	%REC	Limits
Hexacosane	91	51-136

Field ID: BH-02-13' Lab ID: 181268-005

Type: SAMPLE

Analyte	Result	RL	
Kerosene C10-C16	1.7 Y	0.99	
Diesel C10-C24	5.4 H Y	0.99	
Motor Oil C24-C36	16	5.0	

Surrogate	%REC	Limits
Hexacosane	87	51-136

H= Heavier hydrocarbons contributed to the quantitation

Y= Sample exhibits chromatographic pattern which does not resemble standard

ND= Not Detected

RL= Reporting Limit Page 1 of 2



	Total Extract	able Hydrocar	bons
Lab #:	181268	Location:	1001 77th Ave. Oakland
Client:	Stellar Environmental Solutions	Prep:	SHAKER TABLE
Project#:	STANDARD	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	08/16/05
Units:	mg/Kg	Received:	08/16/05
Basis:	as received	Prepared:	08/18/05
Diln Fac:	1.000	Analyzed:	08/19/05
Batch#:	104955	_	

BLANK QC305546 Type: Lab ID: Cleanup Method: EPA 3630C

Analyte	Result	RL	
Kerosene C10-C16	ND	1.0	
Diesel C10-C24	ND	1.0	
Motor Oil C24-C36	ND	5.0	

Surrogate	%REC	Limits
Hexacosane	94	51-136



	Total Extractable Hydrocarbons						
Lab #:	181268	Location:	1001 77th Ave. Oakland				
Client:	Stellar Environmental Solutions	Prep:	SHAKER TABLE				
Project#:	STANDARD	Analysis:	EPA 8015B				
Type:	LCS	Diln Fac:	1.000				
Lab ID:	QC305547	Batch#:	104955				
Matrix:	Soil	Prepared:	08/18/05				
Units:	mg/Kg	Analyzed:	08/19/05				
Basis:	as received						

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.41	49.03	97	52-137

Surrogate	%REC	Limits
Hexacosane	109	51-136

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	Total Extract	able Hydrocarb	oons
Lab #: 181268	3	Location:	1001 77th Ave. Oakland
Client: Stella	ar Environmental Solutions	Prep:	SHAKER TABLE
Project#: STANDA	ARD	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZ	Batch#:	104955
MSS Lab ID:	181216-002	Sampled:	08/11/05
Matrix:	Soil	Received:	08/12/05
Units:	mg/Kg	Prepared:	08/18/05
Basis:	as received	Analyzed:	08/22/05
Diln Fac:	2.000		

Type: MS Cleanup Method: EPA 3630C

Lab ID: QC305548

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	29.31	50.44	85.37	111	11-169

Surrogate	%REC	Limits
Hexacosane	105	51-136

Type: MSD Cleanup Method: EPA 3630C

Lab ID: QC305549

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	50.07	78.81	99	11-169	8	49

Surrogate	%REC	Limits
Hexacosane	101	51-136



Total Extractable Hydrocarbons					
Lab #: 181268		Location:	1001 77th Ave. Oakland		
Client: Stellar Environm	mental Solutions	Prep:	SHAKER TABLE		
Project#: STANDARD		Analysis:	EPA 8015B		
Field ID: ZZZZZZZZZ	ZZ	Batch#:	104955		
MSS Lab ID: 181292-00	)1	Sampled:	08/16/05		
Matrix: Soil		Received:	08/16/05		
Units: mg/Kg		Prepared:	08/18/05		
Basis: as receiv	<i>r</i> ed	Analyzed:	08/20/05		
Diln Fac: 1.000					

Type: MS Cleanup Method: EPA 3630C

Lab ID: QC305550

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	2.053	50.17	45.56	87	11-169

Surrogate	%REC	Limits
Hexacosane	95	51-136

Type: MSD Cleanup Method: EPA 3630C

Lab ID: QC305551

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.86	41.41	79	11-169	9	49

Surrogate	%REC	Limits
Hexacosane	89	51-136



181268-003

California LUFT Metals 1001 77th Ave. Oakland Lab #: 181268 Location: Client: Stellar Environmental Solutions Prep: EPA 3010A Project#: STANDARD EPA 6010B Analysis: Matrix: Water Sampled: 08/16/05 Units: ug/L Received: 08/16/05 Diln Fac: 1.000 Prepared: 08/18/05 Batch#: 104958 Analyzed: 08/18/05

Field ID: BH-01-GW Lab ID:

Type: SAMPLE

Analyte	Result	RL	
Cadmium	ND	5.0	
Chromium	40	10	
Lead Nickel	5.2	3.0	
Nickel	70	20	
Zinc	110	20	

Field ID: BH-02-GW Lab ID: 181268-006

Type: SAMPLE

Analyte	Result	RL	
Cadmium	ND	5.0	
Chromium	ND	10	
Lead Nickel	ND	3.0	
	ND	20	
Zinc	ND	20	

Type: BLANK Lab ID: QC305562

Analyte	Result	RL	
Cadmium	ND	5.0	
Chromium	ND	10	
Lead Nickel	ND	3.0	
Nickel	ND	20	
Zinc	ND	20	

ND= Not Detected RL= Reporting Limit Page 1 of 1



	California	LUFT Metals	
Lab #:	181268	Location:	1001 77th Ave. Oakland
Client:	Stellar Environmental Solutions	Prep:	EPA 3010A
Project#:	STANDARD	Analysis:	EPA 6010B
Matrix:	Water	Batch#:	104958
Units:	ug/L	Prepared:	08/18/05
Diln Fac:	1.000	Analyzed:	08/18/05

Type: BS Lab ID: QC305563

Analyte	Spiked	Result	%REC	Limits
Cadmium	50.00	45.48	91	80-120
Chromium	200.0	174.9	87	80-120
Lead	100.0	82.04	82	66-138
Nickel	500.0	425.7	85	80-120
Zinc	500.0	453.2	91	80-120

Type: BSD Lab ID: QC305564

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Cadmium	50.00	51.85	104	80-120	13	20
Chromium	200.0	198.3	99	80-120	13	20
Lead	100.0	95.25	95	66-138	15	25
Nickel	500.0	482.1	96	80-120	12	20
Zinc	500.0	511.4	102	80-120	12	20



California LUFT Metals					
Lab #: 181268		Location:	1001 77th Ave. Oakland		
Client: Stella	r Environmental Solutions	Prep:	EPA 3010A		
Project#: STANDA	ARD	Analysis:	EPA 6010B		
Field ID:	ZZZZZZZZZZ	Batch#:	104958		
MSS Lab ID:	181199-004	Sampled:	08/11/05		
Matrix:	Water	Received:	08/11/05		
Units:	ug/L	Prepared:	08/18/05		
Diln Fac:	1.000	Analyzed:	08/18/05		

Type: MS Lab ID: QC305565

Analyte	MSS Result	Spiked	Result	%REC	Limits
Cadmium	<0.5500	50.00	48.10	96	76-123
Chromium	6.508	200.0	190.5	92	79-120
Lead	<0.5698	100.0	81.13	81	49-155
Nickel	6.533	500.0	439.9	87	74-120
Zinc	12.38	500.0	487.2	95	79-123

Type: MSD Lab ID: QC305566

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Cadmium	50.00	48.13	96	76-123	0	20
Chromium	200.0	191.3	92	79-120	0	20
Lead	100.0	82.98	83	49-155	2	34
Nickel	500.0	439.1	87	74-120	0	20
Zinc	500.0	499.3	97	79-123	2	20



	California LUFT Metals				
Lab #:	181268	Location:	1001 77th Ave. Oakland		
Client:	Stellar Environmental Solutions	Prep:	EPA 3050B		
Project#:	STANDARD	Analysis:	EPA 6010B		
Matrix:	Soil	Sampled:	08/16/05		
Units:	mg/Kg	Received:	08/16/05		
Basis:	as received	Prepared:	08/18/05		
Diln Fac:	1.000	Analyzed:	08/18/05		
Batch#:	104933				

Field ID: BH-01-8' Lab ID: 181268-001

Type: SAMPLE

Analyte	Result	RL	
Cadmium	0.75	0.27	
Chromium	50	0.54	
Lead Nickel	5.7	0.16	
Nickel	36	1.1	
Zinc	45	1.1	

Field ID: BH-01-10' Lab ID: 181268-002

Type: SAMPLE

Analyte	Result	RL	
Cadmium	0.99	0.26	
Chromium	46	0.53	
Lead Nickel	6.1	0.16	
Nickel	43	1.1	
Zinc	62	1.1	

Field ID: BH-02-8' Lab ID: 181268-004

Type: SAMPLE

Analyte	Result	RL	
Cadmium	0.78	0.20	
Chromium	47	0.41	
Lead	5.2	0.12	
Nickel	39	0.82	
Zinc	48	0.82	

ND= Not Detected RL= Reporting Limit Page 1 of 2



	Califo	ornia LUFT Metals	
Lab #:	181268	Location:	1001 77th Ave. Oakland
Client:	Stellar Environmental Solutions	s Prep:	EPA 3050B
Project#:	STANDARD	Analysis:	EPA 6010B
Matrix:	Soil	Sampled:	08/16/05
Units:	mg/Kg	Received:	08/16/05
Basis:	as received	Prepared:	08/18/05
Diln Fac:	1.000	Analyzed:	08/18/05
Batch#:	104933		

Field ID: BH-02-13' Lab ID: 181268-005

Type: SAMPLE

Analyte	Result	RL	
Cadmium	0.81	0.21	
Chromium	45	0.42	
Lead	5.3	0.13	
Nickel	41	0.83	
Zinc	45	0.83	

Type: BLANK Lab ID: QC305443

Analyte	Result	RL	
Cadmium	ND	0.25	
Chromium	ND	0.50	
Lead Nickel	ND	0.15	
Nickel	ND	1.0	
Zinc	ND	1.0	



		California	LUFT Metals	
Lab #:	181268		Location:	1001 77th Ave. Oakland
Client:	Stellar Environmental	Solutions	Prep:	EPA 3050B
Project#:	STANDARD		Analysis:	EPA 6010B
Matrix:	Soil		Batch#:	104933
Units:	mg/Kg		Prepared:	08/18/05
Basis:	as received		Analyzed:	08/18/05
Diln Fac:	1.000			

Type: BS Lab ID: QC305444

Analyte	Spiked	Result	%REC	Limits
Cadmium	10.00	9.650	97	80-120
Chromium	100.0	97.00	97	80-120
Lead	100.0	96.50	97	80-120
Nickel	25.00	24.20	97	80-120
Zinc	25.00	23.30	93	80-120

Type: BSD Lab ID: QC305445

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Cadmium	10.00	9.350	94	80-120	3	20
Chromium	100.0	95.00	95	80-120	2	20
Lead	100.0	95.00	95	80-120	2	20
Nickel	25.00	23.65	95	80-120	2	20
Zinc	25.00	22.80	91	80-120	2	20



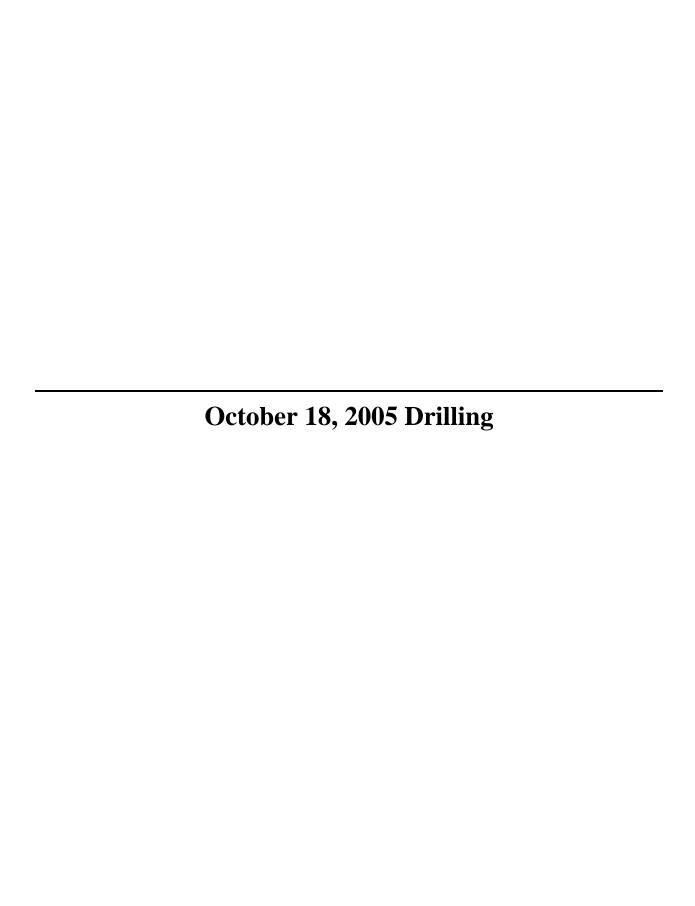
	California	LUFT Metals	
Lab #: 181268		Location:	1001 77th Ave. Oakland
Client: Stella	r Environmental Solutions	Prep:	EPA 3050B
Project#: STANDA	RD	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZ	Batch#:	104933
MSS Lab ID:	181292-001	Sampled:	08/16/05
Matrix:	Soil	Received:	08/16/05
Units:	mg/Kg	Prepared:	08/18/05
Basis:	as received	Analyzed:	08/18/05
Diln Fac:	1.000		

Type: MS Lab ID: QC305446

Analyte	MSS Result	Spiked	Result	%REC	Limits
Cadmium	0.4161	10.87	10.27	91	68-120
Chromium	41.61	108.7	146.2	96	61-120
Lead	11.79	108.7	110.3	91	55-128
Nickel	40.15	27.17	66.30	96	43-139
Zinc	22.85	27.17	49.73	99	41-146

Type: MSD Lab ID: QC305447

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Cadmium	9.009	8.333	88	68-120	3	20
Chromium	90.09	123.4	91	61-120	4	20
Lead	90.09	88.29	85	55-128	6	24
Nickel	22.52	61.26	94	43-139	1	20
Zinc	22.52	42.88	89	41-146	5	20





## Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

#### ANALYTICAL REPORT

Prepared for:

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

Date: 27-OCT-05
Lab Job Number: 182598
Project ID: STANDARD

Location: Acts Church-Phase I&II

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:

cations Manager

This package may be reproduced only in its entirety.

NELAP # 01107CA

Page 1 of



#### CASE NARRATIVE

Laboratory number:

182598

Client:

Stellar Environmental Solutions

Location:

Acts Church-Phase I&II

Request Date:

10/19/05

Samples Received:

10/19/05

This hardcopy data package contains sample and QC results for eleven soil samples and five water samples, requested for the above referenced project on 10/19/05. The samples were received cold and intact.

#### TPH-Purgeables and/or BTXE by GC (EPA 8015B and EPA 8021B) Water:

High surrogate recovery was observed for trifluorotoluene (PID) in BH-05-GW (lab # 182598-003), due to interference from coeluting hydrocarbon peaks; the corresponding bromofluorobenzene (PID) surrogate recovery was within limits. High surrogate recoveries were observed for trifluorotoluene (FID) in BH-05-GW (lab # 182598-003) and BH-05-12' (lab # 182598-014), due to interference from coeluting hydrocarbon peaks; the corresponding bromofluorobenzene (FID) surrogate recoveries were within limits. No other analytical problems were encountered.

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

### TPH-Extractables by GC (EPA 8015B) Water:

No analytical problems were encountered.

#### TPH-Extractables by GC (EPA 8015B) Soil:

No analytical problems were encountered.

## **Chain of Custody Record**

Lab job no	人人	<u>5</u> 18

Laboratory <u>Curtis and Ton</u>					thod of Shipment <u>Ha</u>	very												Date Page	1	2	
Address		)		Shi	ipment No					,	, <del>,</del>										,
510-486-0900				Air	bill No			_							An	alysis F	Required	1			/
1001 77th	wner Acts Community Development Cooler No						er	_			\\ s_{\text{\signification}} \]	18/	/ /						/ /		
Site Address Oakland, C					ephone No. (510) 644-				/	J. J	ontail	3				/ /	/ /	' /			
		اا ۱ گ ا			x No(510) 644-			_			K. Containers	3/ 3	7 /	, /	/ /				//	/ Re	emarks
Project Name Acts Churc Project Number 2005-51					mplers: (Signature)			 - /	/ /	/ /		CHOINTE THE				/ /	/ /	/ /	/ /		
Field Sample Number	Location/ Depth	Date	Time	Sample Type	Type/Size of Container		eservation Chemical			/=	* / · · · · · · · · · · · · · · · · · ·	57 /	/ /	/	/ /						
BH-03-GW	N/A	10/19	1025	water	(a)	yes	(a)	no	4	X	X										
2 BH-04-GW	N/A	10/19	900	water	(a)	yes	(a)	no	4	X	Χ										
3 BH-05-GW	N/A	10/19	1400	water	(a)	yes	(a)	no	4	X	X										
-4 BH-06-GW	N/A	10/19	1310	water	(a)	yes	(a)	no	4	X	X										
BH-07-GW	N/A	10/19	1200	water	(a)	yes	(a)	no	4	X	X										
-U BH-06-75'	7.5'	10/19	1300	soil	acetate sleeve	yes	none	no	1	X	+										
-7 BH-07-75'	7.51	10/19	至	soil	acetate sleeve	yes	none	no	1	+	*										
-8 BH-03-95'	9.51	10/19	WZ5	soil	acetate sleeve	yes	none	no	1	+	4										
-9 BH-03-11.5'	11.5	10/19	<b>640</b>	soil	acetate sleeve	yes	none	no	1	×	4										
1) BH-03-12'	15,	10/19	1050	soil	acetate sleeve	yes	none	no	1	X	X										
11 BH-04-85'	8-51	10/19	905	soil	acetate sleeve	yes	none	no	1	X	×										
13 BHO4-10'	101	10/19	910	soil	acetate sleeve	yes	none	no	1	X	×										
Relinquished by: Signature		Date	Receive	вы	margants	Date	Relinquished	by:					Da	ate	Receiv	•	•				Date
		10/19				)olkili	Signature						-		Sign	ature					-
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Company Stellar Environn	Company						Company Company										_				
Turnaround Time: 5 Day TAT	urnaround Time: 5 Day TAT						Relinquished by: Date Received by:										Date				
	(a) (1) 1 liter amber uppresented (2) 40 ml VOAs with LICE							Signature Signature									-				
0-01							Printed Time Printed										— Time				
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# **Chain of Custody Record**

Lab job no
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Berkeley, Calif		)								/	,	<del>/ /</del>									
510-486-0900				Air	bill No			<i>i i i i</i>						Analysis Required							
Project Owner Acts Communication Site Address Oakland, C	Avenue	lopmen	t	— Pro	oler No oject ManagerBruc lephone No(510) 644-	e Ruck 3123	er	_	/	"Mereo	S. Containers	LEHO THEX TIMES	/	/	//	/	/	//	//		
		اا & اا			x No(510) 644-	3859					/ /		γ,	/	/ ,					/ Remar	rks
Project Name Acts Churc Project Number 2005-51					mplers: (Signature)	\$0	2 `	- - /	/ /	/	7.7. 1.7.	16Hd + 16K + 12						$^{\prime}$ $/$	$^{\prime}$ $/$	′ /	
Field Sample Number	Location/ Depth	Date	Time	Sample Type	Type/Size of Container	Pre Cooler	eservation Chemical	$\angle$	$\angle$	/ F	₹ 	<i>y</i> /	/_/	/ <del>-                                    </del>	/	<u>/</u>	_	_	_		
BH-05-7'	7'	10/19	1410	soil	acetate sleeve	yes	none	no	1	7	+										
BH-05-12'	121	10/19	1425	soil	acetate sleeve	yes	none	no	1	7	+										
BH-05-13	13 <sup>i</sup>	10/19	1430	soil	acetate sleeve	yes	none	no	1	X	×										
BH-05-15'	15'	10/19	1435	soil	acetate sleeve	yes	none	no	1	X	×	1								- La	
BH-03-151	15'	10/19	1100	soil	acetate sleeve	yes	none	no	1	ļ			_							THOUDY	·
BH-04-155'	15.51	10/14	9.5	50.1	acctate sleeve	Yes	none	no	l											KHOUD*	
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Relinquished by Signature	•	Date 10/19	Receive Signa	iture	mintaget	Date	Relinquished Signature	•					-	Date	1	ceived Signat	•	<b>!</b>			Date
Printed Joe Dinan	monto!	Time	l	_	na Palarillo	Time			_				-	Time		Printed	d				Time
Company Stellar Environr		,,	Comp	oany <u>U</u>	irtis Tumpkins	- 1170							_		+-	Comp					
Turnaround Time: 5 Day TAT  Comments: (a) (1) 1-liter amber unpreserved; (3) 40-ml VOAs with HCl						**	Relinquished Signature	•					_	Date	Received by: Signature					Date	
	r amber un	preserv	ea; (3)	40-ml	VOAS WITH HUI	<del></del>	Printed _						_  -	Time	_	Printe	d				Time
							Company						_			Comp	any _				
5.1							1 ' '								- 1						



	Curtis & Tompkins La	aboratories Anal	Lytical Report
Lab #: Client: Project#:	182598 Stellar Environmental Solutions STANDARD	Location: Prep:	Acts Church-Phase I&II EPA 5030B
Matrix:	Water	Sampled:	10/19/05
Units:	ug/L	Received:	10/19/05
Diln Fac:	1.000	Analyzed:	10/23/05
Batch#:	107016	_	

Field ID: BH-03-GW Lab ID: 182598-001

Type: SAMPLE

Analyte	Result	RL	Analysis	
Gasoline C7-C12	1,900	50	EPA 8015B	
MTBE	ND	2.0	EPA 8021B	
Benzene	ND	0.50	EPA 8021B	
Toluene	ND	0.50	EPA 8021B	
Ethylbenzene	4.7	0.50	EPA 8021B	
m,p-Xylenes	3.0	0.50	EPA 8021B	
o-Xylene	ND	0.50	EPA 8021B	

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	119	62-141	EPA 8015B	
Bromofluorobenzene (FID)	120	78-134	EPA 8015B	
Trifluorotoluene (PID)	102	67-127	EPA 8021B	
Bromofluorobenzene (PID)	109	80-122	EPA 8021B	

Field ID: BH-04-GW Lab ID: 182598-002

SAMPLE Type:

Analyte	Result	RL	Analysis
Gasoline C7-C12	330 Y Z	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)	116	62-141	EPA 8015B
Bromofluorobenzene (FID)	119	78-134	EPA 8015B
Trifluorotoluene (PID)	106	67-127	EPA 8021B
Bromofluorobenzene (PID)	106	80-122	EPA 8021B

<sup>\*=</sup> Value outside of QC limits; see narrative Y= Sample exhibits chromatographic pattern which does not resemble standard Z= Sample exhibits unknown single peak or peaks ND= Not Detected

RL= Reporting Limit Page 1 of 3



Curtis & Tompkins Laboratories Analytical Report							
Lab #: Client:	182598 Stellar Environmental Solutions	Location: Prep:	Acts Church-Phase I&II EPA 5030B				
Project#: Matrix:	Water	Sampled:	10/19/05				
Units: Diln Fac: Batch#:	ug/L 1.000 107016	Received: Analyzed:	10/19/05 10/23/05				

BH-05-GW Lab ID: Field ID: 182598-003

Type: SAMPLE

Analyte	Result	RL	Analysis	
Gasoline C7-C12	1,200	50	EPA 8015B	
MTBE	ND	2.0	EPA 8021B	
Benzene	ND	0.50	EPA 8021B	
Toluene	ND	0.50	EPA 8021B	
Ethylbenzene	34	0.50	EPA 8021B	
m,p-Xylenes	21	0.50	EPA 8021B	
o-Xylene	2.1	0.50	EPA 8021B	

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	155 *	62-141	EPA 8015B	
Bromofluorobenzene (FID)	119	78-134	EPA 8015B	
Trifluorotoluene (PID)	136 *	67-127	EPA 8021B	
Bromofluorobenzene (PID)	107	80-122	EPA 8021B	

Field ID: BH-06-GW Lab ID: 182598-004

SAMPLE Type:

Analyte	Result	RL	Analysis
Gasoline C7-C12	150 Y Z	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)	113	62-141	EPA 8015B	
Bromofluorobenzene (FID)	122	78-134	EPA 8015B	
Trifluorotoluene (PID)	101	67-127	EPA 8021B	
Bromofluorobenzene (PID)	110	80-122	EPA 8021B	

<sup>\*=</sup> Value outside of QC limits; see narrative Y= Sample exhibits chromatographic pattern which does not resemble standard Z= Sample exhibits unknown single peak or peaks

ND= Not Detected

RL= Reporting Limit Page 2 of 3



Curtis & Tompkins Laboratories Analytical Report							
Lab #: Client:	182598 Stellar Environmental Solutions	Location: Prep:	Acts Church-Phase I&II EPA 5030B				
Project#:		P					
Matrix:	Water	Sampled:	10/19/05				
Units:	ug/L	Received:	10/19/05				
Diln Fac:	1.000	Analyzed:	10/23/05				
Batch#:	107016	_					

Lab ID: Field ID: BH-07-GW 182598-005

Type: SAMPLE

Analyte	Result	RL	Analysis	
Gasoline C7-C12	510 Y Z	50	EPA 8015B	
MTBE	3.3	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)	96	62-141	EPA 8015B	
Bromofluorobenzene (FID)	115	78-134	EPA 8015B	
Trifluorotoluene (PID)	113	67-127	EPA 8021B	
Bromofluorobenzene (PID)	107	80-122	EPA 8021B	

BLANK Lab ID: QC314097 Type:

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)	107	62-141	EPA 8015B	
Bromofluorobenzene (FID)	108	78-134	EPA 8015B	
Trifluorotoluene (PID)	101	67-127	EPA 8021B	
Bromofluorobenzene (PID)	103	80-122	EPA 8021B	

<sup>\*=</sup> Value outside of QC limits; see narrative Y= Sample exhibits chromatographic pattern which does not resemble standard Z= Sample exhibits unknown single peak or peaks

ND= Not Detected

RL= Reporting Limit Page 3 of 3



Curtis & Tompkins Laboratories Analytical Report					
Lab #:	182598	Location:	Acts Church-Phase I&II		
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B		
Project#:	STANDARD	Analysis:	EPA 8021B		
Type:	LCS	Diln Fac:	1.000		
Lab ID:	QC314098	Batch#:	107016		
Matrix:	Water	Analyzed:	10/23/05		
Units:	ug/L				

Analyte	Spiked	Result	%REC	Limits
MTBE	20.00	17.09	85	72-124
Benzene	20.00	18.89	94	80-120
Toluene	20.00	19.05	95	80-120
Ethylbenzene	20.00	19.20	96	80-120
m,p-Xylenes	20.00	19.69	98	80-120
o-Xylene	20.00	19.74	99	80-120

Surrogate	%REC	Limits	
Trifluorotoluene (PID)	105	67-127	
Bromofluorobenzene (PID)	104	80-122	

Page 1 of 1



Curtis & Tompkins Laboratories Analytical Report					
Lab #:	182598	Location:	Acts Church-Phase I&II		
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B		
Project#:	STANDARD	Analysis:	EPA 8015B		
Type:	LCS	Diln Fac:	1.000		
Lab ID:	QC314099	Batch#:	107016		
Matrix:	Water	Analyzed:	10/23/05		
Units:	ug/L				

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	1,898	95	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	119	62-141
Bromofluorobenzene (FID)	107	78-134

Page 1 of 1 4.0



Curtis & Tompkins Laboratories Analytical Report						
Lab #: 182598		Location:	Acts Church-Phase I&II			
Client: Stella:	r Environmental Solutions	Prep:	EPA 5030B			
Project#: STANDA	RD	Analysis:	EPA 8015B			
Field ID:	ZZZZZZZZZZ	Batch#:	107016			
MSS Lab ID:	182652-001	Sampled:	10/20/05			
Matrix:	Water	Received:	10/21/05			
Units:	ug/L	Analyzed:	10/23/05			
Diln Fac:	1.000					

Type: MS Lab ID: QC314105

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	17.67	2,000	1,918	95	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	125	62-141
Bromofluorobenzene (FID)	126	78-134

Type: MSD Lab ID: QC314106

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,870	93	80-120	3	20



	Curtis & Tompkins Laboratories Analytical Report					
Lab #: Client: Project#:	182598 Stellar Environmental Solutions STANDARD	Location: Prep:	Acts Church-Phase I&II EPA 5030B			
Matrix: Basis:	Soil as received	Sampled: Received:	10/19/05 10/19/05			

Field ID: BH-06-7.5' Diln Fac: 1.000 Type: Lab ID: 106923 10/20/05 SAMPLE Batch#: 182598-006 Analyzed:

Analyte	Result	RL	Units Analysis	
Gasoline C7-C12	ND	1.1	mg/Kg EPA 8015B	
MTBE	ND	22	ug/Kg EPA 8021B	
Benzene	ND	5.4	ug/Kg EPA 8021B	
Toluene	ND	5.4	ug/Kg EPA 8021B	
Ethylbenzene	ND	5.4	ug/Kg EPA 8021B	
m,p-Xylenes	ND	5.4	ug/Kg EPA 8021B	
o-Xylene	ND	5.4	ug/Kg EPA 8021B	

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	91	59-140	EPA 8015B	
Bromofluorobenzene (FID)	103	62-149	EPA 8015B	
Trifluorotoluene (PID)	95	63-125	EPA 8021B	
Bromofluorobenzene (PID)	106	71-129	EPA 8021B	

BH-07-7.5' Field ID: Diln Fac: 1.000 Type: Lab ID: SAMPLE Batch#: 106923 182598-007 Analyzed: 10/20/05

Analyte	Result	RL	Units Analysis	
Gasoline C7-C12	ND	0.91	mg/Kg EPA 8015B	
MTBE	ND	18	ug/Kg EPA 8021B	
Benzene	ND	4.5	ug/Kg EPA 8021B	
Toluene	ND	4.5	ug/Kg EPA 8021B	
Ethylbenzene	ND	4.5	ug/Kg EPA 8021B	
m,p-Xylenes	ND	4.5	ug/Kg EPA 8021B	
o-Xylene	ND	4.5	ug/Kg EPA 8021B	

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	93	59-140	EPA 8015B
Bromofluorobenzene (FID)	106	62-149	EPA 8015B
Trifluorotoluene (PID)	98	63-125	EPA 8021B
Bromofluorobenzene (PID)	106	71-129	EPA 8021B

ND= Not Detected

RL= Reporting Limit Page 1 of 7

<sup>\*=</sup> Value outside of QC limits; see narrative C= Presence confirmed, but RPD between columns exceeds 40%



Curtis & Tompkins Laboratories Analytical Report					
Lab #: Client: Project#:	182598 Stellar Environmental Solutions STANDARD	Location: Prep:	Acts Church-Phase I&II EPA 5030B		
Matrix: Basis:	Soil as received	Sampled: Received:	10/19/05 10/19/05		

Diln Fac: BH-03-9.5' 1.000 Field ID: 106923 10/20/05 Type: Lab ID: Batch#: SAMPLE 182598-008 Analyzed:

Analyte	Result	RL	Units Analysis	
Gasoline C7-C12	19	1.1	mg/Kg EPA 8015B	
MTBE	ND	22	ug/Kg EPA 8021B	
Benzene	ND	5.6	ug/Kg EPA 8021B	
Toluene	ND	5.6	ug/Kg EPA 8021B	
Ethylbenzene	120	5.6	ug/Kg EPA 8021B	
m,p-Xylenes	88	5.6	ug/Kg EPA 8021B	
o-Xylene	7.6 C	5.6	ug/Kg EPA 8021B	

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	73	59-140	EPA 8015B	
Bromofluorobenzene (FID)	107	62-149	EPA 8015B	
Trifluorotoluene (PID)	102	63-125	EPA 8021B	
Bromofluorobenzene (PID)	105	71-129	EPA 8021B	

BH-03-11.5' Field ID: Diln Fac: 1.000 Type: Lab ID: Batch#: 106923 10/20/05 SAMPLE 182598-009 Analyzed:

Analyte	Result	RL	Units Anal	ysis
Gasoline C7-C12	ND	0.92	mg/Kg EPA 8015B	
MTBE	ND	18	ug/Kg EPA 8021B	
Benzene	ND	4.6	ug/Kg EPA 8021B	
Toluene	ND	4.6	ug/Kg EPA 8021B	
Ethylbenzene	ND	4.6	ug/Kg EPA 8021B	
m,p-Xylenes	ND	4.6	ug/Kg EPA 8021B	
o-Xylene	ND	4.6	ug/Kg EPA 8021B	ı

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	85	59-140	EPA 8015B	
Bromofluorobenzene (FID)	97	62-149	EPA 8015B	
Trifluorotoluene (PID)	92	63-125	EPA 8021B	
Bromofluorobenzene (PID)	98	71-129	EPA 8021B	

<sup>\*=</sup> Value outside of QC limits; see narrative C= Presence confirmed, but RPD between columns exceeds 40%



Curtis & Tompkins Laboratories Analytical Report					
Project#:	182598 Stellar Environmental Solutions STANDARD	Location: Prep:	Acts Church-Phase I&II EPA 5030B		
Matrix: Basis:	Soil as received	Sampled: Received:	10/19/05 10/19/05		

Diln Fac: 1.000 Field ID: BH-03-12' 106923 10/20/05 Batch#: Type: SAMPLE Lab ID: 182598-010 Analyzed:

Analyte	Result	RL	Units Analysis	
Gasoline C7-C12	ND	1.0	mg/Kg EPA 8015B	
MTBE	ND	21	ug/Kg EPA 8021B	
Benzene	ND	5.2	ug/Kg EPA 8021B	
Toluene	ND	5.2	ug/Kg EPA 8021B	
Ethylbenzene	ND	5.2	ug/Kg EPA 8021B	
m,p-Xylenes	ND	5.2	ug/Kg EPA 8021B	
o-Xylene	ND	5.2	ug/Kg EPA 8021B	

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	92	59-140	EPA 8015B	
Bromofluorobenzene (FID)	104	62-149	EPA 8015B	
Trifluorotoluene (PID)	97	63-125	EPA 8021B	
Bromofluorobenzene (PID)	106	71-129	EPA 8021B	

Field ID: BH-04-8.5' 1.000 Diln Fac: Type: Lab ID: 106923 10/20/05 SAMPLE Batch#: 182598-011 Analyzed:

Analyte	Result	RL	Units Analysis	
Gasoline C7-C12	ND	0.91	mg/Kg EPA 8015B	
MTBE	ND	18	ug/Kg EPA 8021B	
Benzene	ND	4.5	ug/Kg EPA 8021B	
Toluene	ND	4.5	ug/Kg EPA 8021B	
Ethylbenzene	ND	4.5	ug/Kg EPA 8021B	
m,p-Xylenes	ND	4.5	ug/Kg EPA 8021B	
o-Xylene	ND	4.5	ug/Kg EPA 8021B	

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	89	59-140	EPA 8015B	
Bromofluorobenzene (FID)	102	62-149	EPA 8015B	
Trifluorotoluene (PID)	94	63-125	EPA 8021B	
Bromofluorobenzene (PID)	103	71-129	EPA 8021B	

<sup>\*=</sup> Value outside of QC limits; see narrative C= Presence confirmed, but RPD between columns exceeds 40%



Curtis & Tompkins Laboratories Analytical Report					
Project#:	182598 Stellar Environmental Solutions STANDARD	Location: Prep:	Acts Church-Phase I&II EPA 5030B		
Matrix: Basis:	Soil as received	Sampled: Received:	10/19/05 10/19/05		

Diln Fac: 1.000 Field ID: BH-04-10' 106923 10/20/05 Type: Lab ID: Batch#: SAMPLE 182598-012 Analyzed:

Analyte	Result	RL	Units Analysis	
Gasoline C7-C12	ND	1.0	mg/Kg EPA 8015B	
MTBE	ND	21	ug/Kg EPA 8021B	
Benzene	ND	5.2	ug/Kg EPA 8021B	
Toluene	ND	5.2	ug/Kg EPA 8021B	
Ethylbenzene	ND	5.2	ug/Kg EPA 8021B	
m,p-Xylenes	ND	5.2	ug/Kg EPA 8021B	
o-Xylene	ND	5.2	ug/Kg EPA 8021B	

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	90	59-140	EPA 8015B	
Bromofluorobenzene (FID)	103	62-149	EPA 8015B	
Trifluorotoluene (PID)	94	63-125	EPA 8021B	
Bromofluorobenzene (PID)	103	71-129	EPA 8021B	

Field ID: BH-05-7' Diln Fac: 5.000 107017 10/23/05 Type: Lab ID: SAMPLE Batch#: 182598-013 Analyzed:

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	44	5.0	mg/Kg EPA	8015B
MTBE	ND	100	ug/Kg EPA	8021B
Benzene	ND	25	ug/Kg EPA	8021B
Toluene	ND	25	ug/Kg EPA	
Ethylbenzene	63 C	25	ug/Kg EPA	
m,p-Xylenes	ND	25	ug/Kg EPA	8021B
o-Xylene	ND	25	ug/Kg EPA	

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	120	59-140	EPA 8015B	
Bromofluorobenzene (FID)	123	62-149	EPA 8015B	
Trifluorotoluene (PID)	104	63-125	EPA 8021B	
Bromofluorobenzene (PID)	99	71-129	EPA 8021B	

ND= Not Detected

RL= Reporting Limit Page 4 of 7

<sup>\*=</sup> Value outside of QC limits; see narrative C= Presence confirmed, but RPD between columns exceeds 40%



Curtis & Tompkins Laboratories Analytical Report 182598 Acts Church-Phase I&II EPA 5030B Lab #: Location: Client: Stellar Environmental Solutions Prep: Project#: STANDARD 10/19/05 10/19/05 Matrix: Soil Sampled: Basis: Received: as received

BH-05-12' Field ID: Diln Fac: 5.000 Batch#: Type: SAMPLE 107017 Lab ID: 182598-014 10/23/05 Analyzed:

Analyte	Result	RL		nalysis
Gasoline C7-C12	86	5.0	mg/Kg EPA 80	15B
MTBE	ND	100	ug/Kg EPA 80	21B
Benzene	ND	25	ug/Kg EPA 80	21B
Toluene	ND	25	ug/Kg EPA 80	
Ethylbenzene	1,200	25	ug/Kg EPA 80	21B
m,p-Xylenes	1,400	25	ug/Kg EPA 80	21B
o-Xylene	180 C	25	ug/Kg EPA 80	

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	152 *	59-140	EPA 8015B	
Bromofluorobenzene (FID)	112	62-149	EPA 8015B	
Trifluorotoluene (PID)	108	63-125	EPA 8021B	
Bromofluorobenzene (PID)	101	71-129	EPA 8021B	

1.000 Field ID: BH-05-13' Diln Fac: Type: SAMPLE Batch#: 107017 Lab ID: 10/23/05 182598-015 Analyzed:

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	1.7	1.1	mg/Kg EPA	8015B
MTBE	ND	21	ug/Kg EPA	8021B
Benzene	ND	5.3	ug/Kg EPA	
Toluene	ND	5.3	ug/Kg EPA	
Ethylbenzene	ND	5.3	ug/Kg EPA	
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)	107	59-140	EPA 8015B	
Bromofluorobenzene (FID)	116	62-149	EPA 8015B	
Trifluorotoluene (PID)	92	63-125	EPA 8021B	
Bromofluorobenzene (PID)	105	71-129	EPA 8021B	

<sup>\*=</sup> Value outside of QC limits; see narrative C= Presence confirmed, but RPD between columns exceeds 40%



Curtis & Tompkins Laboratories Analytical Report					
Project#:	182598 Stellar Environmental Solutions STANDARD	Location: Prep:	Acts Church-Phase I&II EPA 5030B		
Matrix: Basis:	Soil as received	Sampled: Received:	10/19/05 10/19/05		

Diln Fac: 1.000 Field ID: BH-05-15' 106923 10/20/05 Type: Lab ID: Batch#: SAMPLE 182598-016 Analyzed:

Analyte	Result	RL	Units Analysis	3
Gasoline C7-C12	ND	1.0	mg/Kg EPA 8015B	
MTBE	ND	20	ug/Kg EPA 8021B	
Benzene	ND	5.1	ug/Kg EPA 8021B	
Toluene	ND	5.1	ug/Kg EPA 8021B	
Ethylbenzene	ND	5.1	ug/Kg EPA 8021B	
m,p-Xylenes	ND	5.1	ug/Kg EPA 8021B	
o-Xylene	ND	5.1	ug/Kg EPA 8021B	

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	91	59-140	EPA 8015B	
Bromofluorobenzene (FID)	105	62-149	EPA 8015B	
Trifluorotoluene (PID)	99	63-125	EPA 8021B	
Bromofluorobenzene (PID)	105	71-129	EPA 8021B	

106923 Type: BLANK Batch#: Lab ID: Diln Fac: Analyzed: QC313723 1.000 10/20/05

Analyte	Result	RL	Units Analysis	
Gasoline C7-C12	ND	1.0	mg/Kg EPA 8015B	
MTBE	ND	20	ug/Kg EPA 8021B	
Benzene	ND	5.0	ug/Kg EPA 8021B	
Toluene	ND	5.0	ug/Kg EPA 8021B	
Ethylbenzene	ND	5.0	ug/Kg EPA 8021B	
m,p-Xylenes	ND	5.0	ug/Kg EPA 8021B	
o-Xylene	ND	5.0	ug/Kg EPA 8021B	

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	89	59-140	EPA 8015B	
Bromofluorobenzene (FID)	95	62-149	EPA 8015B	
Trifluorotoluene (PID)	90	63-125	EPA 8021B	
Bromofluorobenzene (PID)	98	71-129	EPA 8021B	

ND= Not Detected

RL= Reporting Limit Page 6 of 7

<sup>\*=</sup> Value outside of QC limits; see narrative C= Presence confirmed, but RPD between columns exceeds 40%



	Curtis & Tompkins Laboratories Analytical Report						
Project#:	182598 Stellar Environmental Solutions STANDARD	Location: Prep:	Acts Church-Phase I&II EPA 5030B				
Matrix: Basis:	Soil as received	Sampled: Received:	10/19/05 10/19/05				

Type: Lab ID: 107017 10/23/05 BLANK Batch#: Balcn#: Analyzed: QC314100 1.000 Diln Fac:

Analyte	Result	RL	Units Analysis	
Gasoline C7-C12	ND	1.0	mg/Kg EPA 8015B	
MTBE	ND	20	ug/Kg EPA 8021B	
Benzene	ND	5.0	ug/Kg EPA 8021B	
Toluene	ND	5.0	ug/Kg EPA 8021B	
Ethylbenzene	ND	5.0	ug/Kg EPA 8021B	
m,p-Xylenes	ND	5.0	ug/Kg EPA 8021B	
o-Xylene	ND	5.0	ug/Kg EPA 8021B	

Surrogate	%REC	Limits	Analysis	
Trifluorotoluene (FID)	91	59-140	EPA 8015B	
Bromofluorobenzene (FID)	102	62-149	EPA 8015B	
Trifluorotoluene (PID)	88	63-125	EPA 8021B	
Bromofluorobenzene (PID)	100	71-129	EPA 8021B	

<sup>\*=</sup> Value outside of QC limits; see narrative C= Presence confirmed, but RPD between columns exceeds 40%



	Curtis & Tompkins Labo	oratories Anal	ytical Report
Lab #:	182598	Location:	Acts Church-Phase I&II
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8021B
Type:	LCS	Basis:	as received
Lab ID:	QC313724	Diln Fac:	1.000
Matrix:	Soil	Batch#:	106923
Units:	ug/Kg	Analyzed:	10/20/05

Analyte	Spiked	Result	%REC	Limits
MTBE	100.0	102.1	102	71-130
Benzene	100.0	97.84	98	80-120
Toluene	100.0	101.3	101	80-120
Ethylbenzene	100.0	97.62	98	80-120
m,p-Xylenes	100.0	96.46	96	80-120
o-Xylene	100.0	103.1	103	80-120

Surrogate	%REC	Limits
Trifluorotoluene (PID)	93	63-125
Bromofluorobenzene (PID)	103	71-129

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	Curtis & Tompkins Labo	oratories Anal	ytical Report
Lab #:	182598	Location:	Acts Church-Phase I&II
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8015B
Type:	LCS	Basis:	as received
Lab ID:	QC313725	Diln Fac:	1.000
Matrix:	Soil	Batch#:	106923
Units:	mg/Kg	Analyzed:	10/20/05

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	10.00	9.743	97	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	116	59-140
Bromofluorobenzene (FID)	115	62-149

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	Curtis & Tompkins Labo	ratories Analyt	cical Report
Lab #: 182598	3	Location:	Acts Church-Phase I&II
Client: Stella	r Environmental Solutions	Prep:	EPA 5030B
Project#: STANDA	ARD	Analysis:	EPA 8015B
Field ID:	BH-06-7.5'	Diln Fac:	1.000
MSS Lab ID:	182598-006	Batch#:	106923
Matrix:	Soil	Sampled:	10/19/05
Units:	mg/Kg	Received:	10/19/05
Basis:	as received	Analyzed:	10/20/05

Type: MS Lab ID: QC313744

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.1332	9.346	6.365	67	44-120

Surrogate	%REC	Limits	
Trifluorotoluene (FID)	107	59-140	
Bromofluorobenzene (FID)	106	62-149	

Type: MSD Lab ID: QC313745

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	9.091	6.465	70	44-120	4	23

Surrogate	%REC	Limits
Trifluorotoluene (FID)	105	59-140
Bromofluorobenzene (FID)	105	62-149



	Curtis & Tompkins Labo	oratories Anal	ytical Report
Lab #:	182598	Location:	Acts Church-Phase I&II
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8021B
Type:	LCS	Basis:	as received
Lab ID:	QC314101	Diln Fac:	1.000
Matrix:	Soil	Batch#:	107017
Units:	ug/Kg	Analyzed:	10/23/05

Analyte	Spiked	Result	%REC	Limits
MTBE	100.0	96.86	97	71-130
Benzene	100.0	93.84	94	80-120
Toluene	100.0	92.98	93	80-120
Ethylbenzene	100.0	97.73	98	80-120
m,p-Xylenes	100.0	92.01	92	80-120
o-Xylene	100.0	101.3	101	80-120

Surrogate	%REC	Limits
Trifluorotoluene (PID)	103	63-125
Bromofluorobenzene (PID)	115	71–129

Page 1 of 1



	Curtis & Tompkins Labo	ratories Anal	ytical Report
Lab #:	182598	Location:	Acts Church-Phase I&II
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	STANDARD	Analysis:	EPA 8015B
Type:	LCS	Basis:	as received
Lab ID:	QC314102	Diln Fac:	1.000
Matrix:	Soil	Batch#:	107017
Units:	mg/Kg	Analyzed:	10/23/05

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	10.00	9.827	98	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	123	59-140
Bromofluorobenzene (FID)	121	62-149

Page 1 of 1 11.0



Curtis & Tompkins Laboratories Analytical Report						
Lab #: 182598	Location:	Acts Church-Phase I&II				
Client: Stellar Environmental Solutions	Prep:	EPA 5030B				
Project#: STANDARD	Analysis:	EPA 8015B				
Field ID: ZZZZZZZZZZ	Diln Fac:	1.000				
MSS Lab ID: 182620-003	Batch#:	107017				
Matrix: Soil	Sampled:	10/18/05				
Units: mg/Kg	Received:	10/20/05				
Basis: as received	Analyzed:	10/23/05				

Type: MS Lab ID: QC314113

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	<0.1049	10.75	8.687	81	44-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	116	59-140
Bromofluorobenzene (FID)	116	62-149

Type: MSD Lab ID: QC314114

Analyte	Spiked	Result	%REC	Limits	RPD I	Lim
Gasoline C7-C12	9.615	7.751	81	44-120	0 :	23

Surrogate	%REC	Limits
Trifluorotoluene (FID)	118	59-140
Bromofluorobenzene (FID)	121	62-149



	Total Extract	able Hydrocar	rbons
Project#:	182598 Stellar Environmental Solutions STANDARD	Location: Prep: Analysis:	Acts Church-Phase I&II EPA 3520C EPA 8015B
Matrix:	Water	Sampled:	10/19/05
Units:	ug/L	Received:	10/19/05
Diln Fac:	1.000	Prepared:	10/24/05
Batch#:	107055	Analyzed:	10/27/05

Field ID: BH-03-GW Lab ID: 182598-001

Type: SAMPLE

Analyte	Result	RL
Kerosene C10-C16	570 Y	50
Diesel C10-C24	530 L Y	50
Motor Oil C24-C36	ND	300

Surrogate %REC Li	%RI	EC	Limits
			60-13

Field ID: BH-04-GW Lab ID: 182598-002

SAMPLE Type:

Analyte	Result	RL	
Kerosene C10-C16	ND	50	
Diesel C10-C24	120 Y	50	
Motor Oil C24-C36	ND	300	

Field ID: BH-05-GW Lab ID: 182598-003

SAMPLE Type:

Analyte	Result	RL
Kerosene C10-C16	760 Н Ү	50
Diesel C10-C24	870 H L Y	50
Motor Oil C24-C36	820	300

Sur	ogate %REC	Limits
Hexacosane	80	60-135

Lab ID: 182598-004 Field ID: BH-06-GW

Type: SAMPLE

Analyte	Result	RL	
Kerosene C10-C16	ND	50	
Diesel C10-C24	430 H Y	50	
Motor Oil C24-C36	1,400	300	

Surr
Hexacosane

H= Heavier hydrocarbons contributed to the quantitation L= Lighter hydrocarbons contributed to the quantitation

Y= Sample exhibits chromatographic pattern which does not resemble standard

ND= Not Detected

RL= Reporting Limit Page 1 of 2



	Total Extrac	table Hydrocar	rbons
Lab #: Client:	182598 Stellar Environmental Solutions	Location: Prep:	Acts Church-Phase I&II EPA 3520C
Project#:		Analysis:	EPA 8015B
Matrix:	Water	Sampled:	10/19/05
Units:	ug/L	Received:	10/19/05
Diln Fac:	1.000	Prepared:	10/24/05
Batch#:	107055	Analyzed:	10/27/05

BH-07-GW Lab ID: 182598-005 Field ID:

Type: SAMPLE

Analyte	Result	RL
Kerosene C10-C16	ND	50
Diesel C10-C24	280 Н Ү	50
Motor Oil C24-C36	840	300

Surrogate	%REC	Limits	
Hexacosane	93	60-135	

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

QC314275

Analyte	Result	RL	
Kerosene C10-C16	ND	50	
Diesel C10-C24	ND	50	
Motor Oil C24-C36	ND	300	

Surrogate %REC Limit
ne 93 60-1

H= Heavier hydrocarbons contributed to the quantitation
L= Lighter hydrocarbons contributed to the quantitation
Y= Sample exhibits chromatographic pattern which does not resemble standard



	Total Extract	able Hydroca:	rbons
Lab #:	182598	Location:	Acts Church-Phase I&II
Client:	Stellar Environmental Solutions	Prep:	EPA 3520C
Project#:	STANDARD	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	107055
Units:	ug/L	Prepared:	10/24/05
Diln Fac:	1.000	Analyzed:	10/27/05

Type: BS Cleanup Method: EPA 3630C

Lab ID: QC314276

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	2,265	91	53-138

Surr
xacosane

Type: BSD Cleanup Method: EPA 3630C

Lab ID: QC314277

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	2,088	84	53-138	8	36

Surrogate	%REC	Limits	
Hexacosane	105	60-135	



Total Extractable Hydrocarbons 182598 Acts Church-Phase I&II Lab #: Location: Prep: Client: Stellar Environmental Solutions SHAKER TABLE Project#: STANDARD EPA 8015B Analysis: 10/19/05 Matrix: Soil Sampled: 10/19/05 10/25/05 Units: mg/Kg Received: Basis: as received Prepared: 107073 Batch#:

Field ID: BH-06-7.5' Diln Fac: 1.000 Type: SAMPLE Analyzed: 10/27/05

Lab ID: 182598-006

Analyte	Result	RL	
Kerosene C10-C16	1.4 Y	1.0	
Diesel C10-C24	13 H Y	1.0	
Motor Oil C24-C36	50	5.0	

Surrogate	%REC	Limits
20220300		
Hevacogane	66	48_132
Hexacosane	66	TO TOZ

Field ID: BH-07-7.5' Diln Fac: 1.000 Type: SAMPLE Analyzed: 10/26/05

Lab ID: 182598-007

Analyte	Result	RL	
Kerosene C10-C16	ND	1.0	
Diesel C10-C24	2.5 H Y	1.0	
Motor Oil C24-C36	ND	5.0	

Surrogate	%REC	Limits
Hexacosane	70	48-132

Field ID: BH-03-9.5' Diln Fac: 1.000 Type: SAMPLE Analyzed: 10/26/05

Lab ID: 182598-008

Analyte	Result	RL	
Kerosene C10-C16	11 Y	1.0	
Diesel C10-C24	9.0 L Y	1.0	
Motor Oil C24-C36	ND	5.0	

Surrogate	%REC	Limits
Hexacosane	66	48-132

H= Heavier hydrocarbons contributed to the quantitation

L= Lighter hydrocarbons contributed to the quantitation

Y= Sample exhibits chromatographic pattern which does not resemble standard

ND= Not Detected

RL= Reporting Limit Page 1 of 4



Total Extractable Hydrocarbons Lab #: 182598 Acts Church-Phase I&II Location: Client: Stellar Environmental Solutions SHAKER TABLE Prep: EPA 8015B Project#: STANDARD <u> Analysis:</u> Matrix: Soil Sampled: 10/19/05 10/19/05 Units: mg/Kg Received: 10/25/05 Basis: as received Prepared: Batch#: 107073

BH-03-11.5' Field ID: Diln Fac: 1.000 SAMPLE Analyzed: 10/26/05 Type:

Lab ID: 182598-009

Analyte	Result	RL	
Kerosene C10-C16	1.1 Y	1.0	
Diesel C10-C24	2.2 Y	1.0	
Motor Oil C24-C36	ND	5.0	

Surrogate	%REC	Limits
Hexacosane	77	48-132

Field ID: BH-03-12' Diln Fac: 1.000 Type: SAMPLE Analyzed: 10/26/05

Lab ID: 182598-010

Analyte	Result	RL	
Kerosene C10-C16	ND	1.0	
Diesel C10-C24	ND	1.0	
Motor Oil C24-C36	ND	5.0	

Surroga
Hexacosane

Field ID: BH-04-8.5' Diln Fac: 1.000 Type: SAMPLE Analyzed: 10/26/05

Lab ID: 182598-011

Analyte	Result	RL
Kerosene C10-C16	ND	1.0
Diesel C10-C24	2.9 н Ү	1.0
Motor Oil C24-C36	5.3	5.0

Surrogate	%REC	Limits
Hexacosane	48	48-132

ND= Not Detected

RL= Reporting Limit Page 2 of 4

 $<sup>\</sup>mbox{\sc H=}$  Heavier hydrocarbons contributed to the quantitation  $\mbox{\sc L=}$  Lighter hydrocarbons contributed to the quantitation

Y= Sample exhibits chromatographic pattern which does not resemble standard



1.000

10/26/05

Total Extractable Hydrocarbons Lab #: 182598 Acts Church-Phase I&II Location: Client: Stellar Environmental Solutions SHAKER TABLE Prep: EPA 8015B Project#: STANDARD <u> Analysis:</u> Matrix: Soil Sampled: 10/19/05 10/19/05 Units: mg/Kg Received: 10/25/05 Basis: as received Prepared: Batch#: 107073

BH-04-10' Field ID: Diln Fac: SAMPLE Analyzed: Type: Lab ID: 182598-012

Analyte	Result	RL	
Kerosene C10-C16	ND	0.99	
Diesel C10-C24	2.4 H Y	0.99	
Motor Oil C24-C36	5.1	5.0	

Surrogate	%REC	Limits
Hexacosane	54	48-132

Field ID: BH-05-7' Diln Fac: 3.000 10/26/05 Type: SAMPLE Analyzed:

Lab ID: 182598-013

Analyte	Result	RL	
Kerosene C10-C16	28 Н Ү	3.0	
Diesel C10-C24	68 H Y	3.0	
Motor Oil C24-C36	420	15	

	Surrogate	%REC	Limits
Hexac	cosane	48	48-132

Field ID: BH-05-12' Diln Fac: 1.000 Type: SAMPLE Analyzed: 10/26/05

Lab ID: 182598-014

Analyte	Result	RL
Kerosene C10-C16	42 H	1.0
Diesel C10-C24	51 H L Y	1.0
Motor Oil C24-C36	110	5.0

Surrogate	%REC	Limits
Hexacosane	70	48-132

 $\mbox{\sc H=}$  Heavier hydrocarbons contributed to the quantitation  $\mbox{\sc L=}$  Lighter hydrocarbons contributed to the quantitation

Y= Sample exhibits chromatographic pattern which does not resemble standard

ND= Not Detected

RL= Reporting Limit Page 3 of 4



Total Extractable Hydrocarbons 182598 Acts Church-Phase I&II Lab #: Location: Prep: Client: Stellar Environmental Solutions SHAKER TABLE EPA 8015B Project#: STANDARD <u> Analysis:</u> Matrix: Soil Sampled: 10/19/05 10/19/05 Units: mg/Kg Received: 10/25/05 Basis: as received Prepared: Batch#: 107073

BH-05-13' Field ID: SAMPLE Type: 182598-015 Lab ID:

Diln Fac: 1.000 Analyzed: 10/26/05

Analyte	Result	RL	
Kerosene C10-C16	1.1 Y	1.0	
Diesel C10-C24	2.5 Y	1.0	
Motor Oil C24-C36	ND	5.0	

%REC Limits Surrogate 48-132 Hexacosane

Field ID: BH-05-15' Type: SAMPLE

Diln Fac: 1.000 Analyzed: 10/26/05

Lab ID: 182598-016

Analyte	Result	RL
Kerosene C10-C16	ND	1.0
Diesel C10-C24	2.7 H Y	1.0
Motor Oil C24-C36	5.3	5.0

Surrogate	%REC	Limits
Hexacosane	67	48-132

BLANK Type: Lab ID: QC314345 Diln Fac:  $\tilde{1}.000$ 

Analyzed: 10/26/05 Cleanup Method: EPA 3630C

Analyte	Result	RL	
Kerosene C10-C16	ND	1.0	
Diesel C10-C24	ND	1.0	
Motor Oil C24-C36	ND	5.0	

Surrogate %REC Limits 90 48-132 Hexacosane

H= Heavier hydrocarbons contributed to the quantitation L= Lighter hydrocarbons contributed to the quantitation

Y= Sample exhibits chromatographic pattern which does not resemble standard



	Total Extract	able Hydrocar	rbons
Lab #:	182598	Location:	Acts Church-Phase I&II
Client:	Stellar Environmental Solutions	Prep:	SHAKER TABLE
Project#:	STANDARD	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC314346	Batch#:	107073
Matrix:	Soil	Prepared:	10/25/05
Units:	mg/Kg	Analyzed:	10/26/05
Basis:	as received		

Cleanup Method: EPA 3630C

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.37	34.82	69	54-137

Surrogate	%REC	Limits
Hexacosane	78	48-132

Page 1 of 1



	Total Extracta	able Hydrocarbo	ns
Lab #: 182598		Location:	Acts Church-Phase I&II
Client: Stellar	Environmental Solutions	Prep:	SHAKER TABLE
Project#: STANDAR	.D	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZ	Batch#:	107073
MSS Lab ID:	182633-001	Sampled:	10/20/05
Matrix:	Soil	Received:	10/20/05
Units:	mg/Kg	Prepared:	10/25/05
Basis:	as received	Analyzed:	10/27/05
Diln Fac:	1.000		

Type: MS Lab ID: QC314347

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	3.883	50.48	29.94	52	28-163

Surrogate	%REC	Limits
Hexacosane	75	48-132

Type: MSD Lab ID: QC314348

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	50.42	26.80	45	28-163	11	46

Surrogate	%REC	Limits
Hexacosane	65	48-132