# 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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GEOSCIENCE & ENGINEERING CONSULTING

**RECEIVED** 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

Brune M. Mulh/.

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

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

Prepared for:

ACTS COMMUNITY DEVELOPMENT 1034 66<sup>th</sup> Avenue Oakland, CA 94621

Prepared by:

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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 nonwater-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 <u>is</u> 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	TEHmo	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 Sampl	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

Notes:

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

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

CF = capillary fringe (just above first occurrence of groundwater)

SZ = saturated zone

UZ = unsaturated zone

All concentrations are in mg/kg.

 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	TEHmo	Benzene	Toluene	Ethyl- Benzene	Total Xylenes	MTBE
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

Notes:

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

TVHg = total volatile hydrocarbons as gasoline TEHd = total extractable hydrocarbons as diesel

TEHL total extractable hydrocarbons as diesel

TEHk = total extractable hydrocarbons as kerosene TEHmo = total extractable hydrocarbons as motor oil

TEHmo = total extractable hydrocarbons as motMTBE = methyl*tertiary*-butyl ether

All concentrations are in µg/L.

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'	ВН-02-13'	ESLs <sup>(a)</sup>	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

Notes:

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

TTLC = Total Threshold Limit Concentration STLC = Soluble Threshold Limit Concentration

All concentrations are in mg/kg.

Metal	BH-01-GW	BH-02-GW	ESLs <sup>(a)</sup>	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>

 Table 4

 August 16, 2005 Groundwater Analytical Results – Metals

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

Notes:

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

(b) California Action Level

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

NLP = no level published

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

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.







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 grab-groundwater 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 Ruck	er	Order Date:	8/3/200	5 <b>Completion Date:</b>	8/3/2005
	Stellar Enviro Solutions		Inquiry #:	147985	9.1S	
	2198 6th Str	reet	P.O. #:	2005-51	l	
	Berkeley, C	A 94710	Site Name:	Former	Collins & Collins Auto	
			Addı	ress:	1077 77th Avenue	
Customer	Project:	2005-51	City/	State:	Oakland, CA 94621	
1014106VI	LA	510-644-3123	Cros	s Stree	ts:	

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.

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Please be advised that the Billing Unit has receive $\int A_{1} dt' dt'$	d an inquiry on the	account indicate	ed below.
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BILLING ACCOUNT # <u>H31227</u> MI	-R#	ZIP CODE:	94621
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Billing Unit within ten (10) working days.	If yes, when?	<u>/5/94</u> Vho is it?	noportion
Is there a new or updated mailing address?	What is it?		
Has business moved? When?	What is the new l	ocation (if in Alar	neda County )?
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ALAMEDA COUNTY HEALTH CARE SERVILES AGENCY DEPARTMENT OF ENVIRONMENTAL HEALTH HAZARDOUS MATERIALS DIVISION

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

- ·
FACILITY QUESTIONNAIRE
1. Establishment Name: Collers + Collers Are
city Oak zip 94621
3. Mailing Address (if different):
city zip Zip SG8-Yots
4. Contact Person: Mr (locy Cholles Phone:
5. Owner Name:
6. Name of Previous Owner: (984
7. Date you assumed business. 9. Type of Business:
8. Std. Industrial Classification
10. Number of Employees: 11. EPA 1D *
<u>PERMITS</u> Check if you have permits from any of the following:
Local Agencies_
Name of District
13. [] Name of City or Dept.
Type of Permit
[] Treatment, Storage, Disposal FacilityCounty Use Only17.[] Hazardous Waste Hauler#3257 site ID18.[] Hazardous Waste Hauler#3257 site ID[]1Entry []2

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Alameda County, HazMat Generator Questionnaire

Site ID No: \_\_\_\_

OTHER

Please check if the following applies at your facility:

[ ] Acutely hazardous materials are handled (Attachment 1) 19.

- [] More than 500 lbs, 55 gal. or 200 cu. ft. of hazardous 20.
- materials are handled (per year?) (See attachment 2) [ ] Hazardous materials are contained in underground tanks or 21.
- [ ] You have submitted a business plan to the Alameda County Division of Hazardous Materials under California Health & 22.
  - Safety Code, Chapter 6.95.
- 23. Which of the following categories of hazardous materials are handled at your facility: [ ] Reactive r / Flammable [/] Toxic [] Corrosive

## 24. LIST OF CHEMICALS HANDLED

Please list the County Inventory Numbers (CIN) or Chemical Abstract Service (CAS) numbers of any of the hazardous chemicals that you handle. CIN numbers have been assigned to the more commonly used hazardous chemicals. If CAS numbers are used, please precede each ber with an asterisk (\*).

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#### CERTIFICATION

I hereby certify that the information on this form is, to the best of my knowledge, true and complete.

26. Title

Please return completed form to:

Printed Name

Date

Department of Environmental Health Hazardous Materials Division

3/88 mam

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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 Receipt Number: WR2005-2140 Permits Issued: W2005-0987 Permits Valid from 10/19/2005 to 10/19/2005 1128722516076 City of Project Site:Oakland Application Id: 1001 77th St, Oakland 94621 Site Location: **Project Start Date:** 10/19/2005 Completion Date:10/19/2005 Applicant: Stellar Environmental Solutions Inc - Bruce Phone: 510-644-3123 Rucker 2198 6th Sr #201, Berkeley, CA 94710 **Property Owner:** Acts Community Development Phone: 510-639-4658 1034 66th Ave, Oakland, CA 94621 \*\* same as Property Owner \* Client: Phone: 510-644-3123 Contact: Joseph Dinan Cell: --Total Due: \$200.00 **Total Amount Paid:** <u>\$200.00</u>

Paid By: CHECK

PAID IN FULL

Work Total: \$200.00

#### **Works Requesting Permits:**

Borehole(s) for Investigation-Contamination Study - 5 Boreholes Driller: EnProb Environmental Probing - Lic #: 777007 - Method: DP

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

App1# X0501113 Parcel# 041 -4142-038-00 Job Site 1001 77TH AV Permit Issued 10/07/05 Descr soil boring on 77th Av Work Type EXCAVATION-PRIVATE P Acctg#: Util Co. Job # USA # Util Fund #: Lic# --License Classes--Phone# Applent ter S Owner ACTS FULL GOSPEL CHURCH Contractor ENPROB ENVIRONMENTAL PROBING X (530) 589-2019 777007 C57 e <sup>21</sup> - 2 <sup>2</sup> n/Engr Agent STELLAR ENVIRO/JOE DINAN Arch/Engr (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 9.00 Applic \$.00 Process 📜 - \$34.11 Rec Mgmt  $g \approx^{21}$ \$.00 Invstg \$.00 Gen Plan \$18.85 Tech Enh \$.00 Other JOB SITE ADDRESS: DIST: 턭칥꾠냋둗춡갶왐챴첧웈콵츐쿺뀱윩춼졎꽎쭕쑵챧츐쉲뜡챵쭃묭붊쒆쿻쓕튭섉쿦컙웧쓓뛉듺 쭕퍞쵾뮾퇐똜긓닅똜냃짅뮾졝뭁쵅뮾셝븊큲놂렮셒뎊닅훕쨡퐄줚뭆뵹쁖춓폹횱꺌뎩솶댦긘읃 \$.08 \$623,92 Renister NA3 Receipt# 099951 54612 \$15.23 00"000\$ \$309. GB 411,96 \$623.92 \$53°.09 £14,11 \$10.23 5411. 36 \$53, BE \$34,41 Phone: (516) 239-3587 FAX: (518) 238-2261 ONIGINAL RECEIPT REQUIRED FOR REFUND Paymenth: 001 Community & Economic Development Agency Paynenty: 301 Oakland CA, OAKLAND Dates 10/07/65 Time: 10:45:26 PAYOF: STELLOR ENVIRON. #4969 PRYRENT RECEIPT Check Paynents Sales Tax: SKARVA TOTAL PAID: ECHNOLOGY EWHANCENENT FE Subtotal: Subtetals ECHNOLOGY ENHANCEBENT PE RECORDS HANAGENERT FEE Application#: X050114 RECORDS MANAGEMENT FEE **U**gaus P1, Application#: X0501113 محما EXCAVATION PERMIT EXCAVATION PERMIT 17 APPLICATION FEE APPLICATION FEE W بر 1 - 1 1 - 2 250 Frank H. en la



# **EXCAVATION PERMIT**

CIVIL ENGINEERING

TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

### PAGE 2 of 2

Permit valid for 90 days from date of issuance.

	34 · · · · · · · · · · · · · · · · · · ·
PERMIT NUMBER VOE OIII3	re address/location
$\mathbf{X}\mathbf{U}\mathbf{J}\mathbf{U}\mathbf{L}\mathbf{L}\mathbf{Z}$	1001 FF'' Avenue
APPROX. START DATE APPROX. END DATE 24	HOUR EMERGENCY PHONE NUMBER
Oct 19 2005 Oct 19 2005 ("	(S10) 644-3123
CONTRACTOR'S LICENSE # AND CLASS CI	TY BUSINESS TAX #
C-57 777007	3272462
ATTENTION: 1- State law requires that the contractor/owner call Underground Servic secured an inquiry identification number issued by USA. The USA to	e Alert (USA) two working days before excavating. This permit is not valid unless applicant has Jephone number is 1-800-642-2444. Underground Service Alert (USA) #
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 ce	rtificate is required (waived for approved slurry backfill).
OWNER/BUILDER	
provisions of the Contractor's License law Chapter 9 (commencing with Sec. 7000) alleged exemption. Any violation of Section 7031.5 by any applicant for a permit st □ 1, as an owner of the property, or my employees with wages as their sole compet Professions Code: The Contractor's License Law does not apply to an owner of pro provided that such improvements are not intended or offered for sale. If however, the burden of proving that he did not build or improve for the purpose of sale). □ 1, as owner of the property, am exempt from the sale requirements of the above of be performed prior to sale, (3) I have resided in the residence for the 12 months prior structures more than once during any three-year period. (Sec. 7044 Business and Pro I, as owner of the property, am exclusively contracting with licensed contractors does not apply to an owner of property who builds or improves thereon, and who co I am exempt under Sec, B&PC for this reason	of Division 3 of the Business and Professions Code, or that he is exempt therefrom and the basis for the bijects the applicant to a civil penalty of not more than \$500): asation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business sperty who builds or improves thereon, and who does such work himself or through his own employees, he building or improvement is sold within one year of completion, the owner-builder will have the fue to: (1) I am improving my principal place of residence or appurtenances thereto, (2) the work will or to completion of the work, and (4) I have not claimed exemption on this subdivision on more than two ofessions Code). to construct the project, (Sec. 7044, Business and Professions Code: The Contractor's License Law intracts for such projects with a contractor(s) licensed pursuant to the Contractor's License law).
WORKER'S COMPENSATION	
I hereby affirm that I have a certificate of consent to self-insure, or a certificate of	of Worker's Compensation Insurance, or a certified copy thereof (Sec. 3700, Labor Code).
Policy # Company Name	
I ceitify that in the performance of the work for which this permit is issued, I she of California (not required for work valued at one hundred dollars (\$100) or less).	all not employ any person in any manner so as to become subject to the Worker's Compensation Laws
NOTICE TO APPLICANT: If, after making this Certificate of Exemption, you shot comply with such provisions or this permit shall be deemed revoked. This permit is granted upon the express condition that the permittee shall be responsible for all clair perform the obligations with respect to street maintenance. The permittee shall, and and employees, from and against any and all suits, claims, or actions brought by any sustained or arising in the construction of the work performed under the permit or in permit is void 90 days from the date of issuance unless an extension is granted by the	Ild become subject to the Worker's Compensation provisions of the Labor Code, you must forthwith issued pursuant to all provisions of Title 12 Chapter 12.12 of the Oakland Municipal Code. It is ns and liabilities arising out of work performed under the permit or arising out of permittee's failure to by acceptance of the permit agrees to defend, indemnify, save and hold harmless the City, its officers person for or on account of any bodily injuries, disease or illness or damage to persons and/or property consequence of permittee's failure to perform the obligations with respect to street maintenance. This b) Director of the Office of Planning and Building.
I hereby affirm that I am licensed under provisions of Chapter 9 of Division 3 of the this permit and agree to its requirements, and that the above information is true and c	Business and Professions Code and my license is in full force and effect (if contractor), that I have read orrect under penalty of law.
Joep / Long	007 7.205
Signature of Permittee     Agent for □ Contractor □ Owner       DATE STREET LAST     SPECIAL PAVING DETAIL       RESURFACED     RESURFACED	LIDAY RESTRICTION? LIMITED OPERATION AREA?
ISSUED BY DA'	TE ISSUED
$\Theta$	$A \supset A \downarrow \downarrow \downarrow$
	A A A

# **APPENDIX C**

# Photodocumentation

Subject: View west, across 77 <sup>th</sup> Avenue, of drill rig set up at drillin	ng 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			
Photographer: Joe Dinan Photo No.: 01				
Subject: View south, across Spencer Street, of drill rig set up at dr	illing 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 loca	ations 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**

GEOSCIENCE & ENGIN	L Solut Neering	A R IONS, INC CONSULTING		Soil Boring Log
			BORING NUMBER	Page <u>1</u> of <u>1</u>
PROJECT Acts Church	Phase II	I	OWNER Acts Community De	velopment
LOCATION 1001 77th Av	e., Oakla	and, CA	PROJECT NUMBER 2005-51	
TOTAL DEPTH20 fe	et		BOREHOLE DIA. 2 inch	
SURFACE ELEV. Unknown WATER FIRST ENCOUNTERED 12 feet bgs			D 12 feet bgs	
DRILLING COMPANY _	EnPr	ob	DRILLING METHOD GeoPro	be Direct Push
DRILLER _ Jeff Edwards		GEOL	OGIST <u>J. Dinan</u> DAT	E DRILLED <u>10/19/2005</u>
DEPTH GRAPHIC (feet) LOG	SAMPLE INTERVAL/ RECOVERY BLOW COUNTS	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION v	REMARKS
	BH-03- 9.5 BH-03- 11.5 BH-03- 12		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 8' Bluegray sandy clay (CL), minor subangular gravels, sl. moist, cohesive 8.5' Becomes stiff silty clay (CL) 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	<ul> <li>▼ 7.25' bgs</li> <li>9.5' bgs - petroleum odor</li> <li>11' bgs - odor absent</li> <li>□ 12' bgs</li> </ul>

GEOSCIENCE & ENGINEERING CONSULTING	Soil Boring Log			
BORING NUMBER	<u>BH-04</u> Page <u>1</u> of <u>1</u>			
PROJECT Acts Church Phase III OWNER Acts Cor	nmunity Development			
LOCATION 1001 77th Ave., Oakland, CA PROJECT NUMBER 2005-51				
TOTAL DEPTH 20 feet BOREHOLE DIA2 inch				
SURFACE ELEV. Unknown WATER FIRST ENCOUNTERED 9.5 feet bgs				
DRILLING COMPANY EnProb DRILLING METHO	D GeoProbe Direct Push			
DRILLER Jeff Edwards GEOLOGIST B. Rucker	DATE DRILLED			
DEPTH GRAPHIC LOG CARDING CLASSIFIC READING DESCRIPTION/SOIL CLASSIFIC	CATION REMARKS			
Concrete				
Black clay(CL), med. stift mod. cohesive, sl. moist	,			
4' Color change to brown green mottling, minor sm	n with Iall			
gravels, stiff, sl. cohesive				
5' Gravel absent	▼ 6.8' bas			
	<u> </u>			
8.5' Gravelly clay, gravel	s are			
BH-04-	30-40%,			
$-10 - \cdot $	(SC),			
BH-04- 10 <sup>-</sup> sl. cohesive, wet	gravei,			
10.5' Brown sandy clay	(CL),			
CC. small gravel, sl. mois	51,			
11.5 Grades to clayey g	ravel (GC),			
Image: black state				
12' Brown silty clay(CL),	med.			
-16-     15' Becomes stiff				
16.5' Becomes dark bro	wn in			
-18     17' Dark brown sandy cl	ay (CL),			
stiff, cohesive, sl. moist				
1   20' Bottom of borehole				

GEOSCIENCE & ENGIN	L L Solut	A R NONS, INC CONSULTING		Soil Boring Log
			BORING NUMBER <u>BH-06</u>	Page <u>1</u> of <u>1</u>
PROJECT Acts Church	Phase II	I	OWNER Acts Community De	velopment
LOCATION 1001 77th Av	e., Oakl	and, CA	PROJECT NUMBER 2005-51	
TOTAL DEPTH15 fe	et		BOREHOLE DIA2 inch	
SURFACE ELEV	iown		WATER FIRST ENCOUNTER	D 8 feet bgs
DRILLING COMPANY _	EnPr	ob	DRILLING METHOD GeoPro	be Direct Push
DRILLER		GEOL	OGIST <u>J. Dinan</u> DAT	E DRILLED <u>10/19/2005</u>
DEPTH GRAPHIC (feet) LOG	SAMPLE INTERVAL/ RECOVERY BLOW COUNTS	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
			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
	BH-06- 7.5'		<ul><li>7' Gray clayey gravel (GC), poorly sorted, sl. cohesive, moist</li><li>8' Color change to brown,</li></ul>	
			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	

Geoscience & Eng	L L L Solut	Consulting		Soil Boring Log
			BORING NUMBER	Page <u>1</u> of <u>1</u>
PROJECT Acts Church	Phase II	I	OWNER Acts Community De	velopment
LOCATION 1001 77th Av	/e., Oakl	and, CA	PROJECT NUMBER 2005-51	
TOTAL DEPTH20 fe	et		BOREHOLE DIA. 2 inch	
SURFACE ELEV	nown		WATER FIRST ENCOUNTER	D 8 feet bgs
DRILLING COMPANY _	EnPr	ob	DRILLING METHOD GeoPro	be Direct Push
DRILLER	3	GEOL	OGIST <u>J. Dinan</u> DAT	E DRILLED <u>10/19/2005</u>
DEPTH GRAPHIC (feet) LOG	SAMPLE SAMPLE INTERVAL/ RECOVERY BLOW COUNTS	INSTRUMENT READING	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
			Asphalt	
			Brown sandy clay (CL), minor subangular gravels, cohesive, sl. friable, med. stiff	
			4' Gravels absent, becomes stiff	
			5' Brown clayey gravel (GC), sl. moist	▼ 5.4' bgs
			5.5' Brown sandy clay (CL), well sorted sand, stiff	
	BH-07- 7.5'		6.5' Becomes poorly sorted sand, increasing moisture	8' bgs
			7' Brown clayey sand (SC), moist, sl. cohesive, poorly sorted 8' Saturated, subangular gravels present	
			8.5' Brown clayey gravel (GC), poorly sorted, saturated, cohesive, subangular gravels	
			9' Brown silty clay (CL), stiff, cohesive, sl. moist 10.5' Minor gravels present	
			12' Brown clayey sand (SC), poorly sorted, saturated, loose, green mottling	
			15' Brown silty clay (CL), stiff, cohesive, sl. moist	
90-15-5002			20' Bottom of borehole	

GEOSCIENCE & ENGIN	LLAR SOLUTIONS, INC		Soil Boring Log
PROJECT <u>Acts Church F</u> LOCATION <u>1001 77th Ave</u> TOTAL DEPTH <u>20 fee</u>	Phase III /e., Oakland, CA eet	BORING NUMBER <u>BH-05</u> OWNER <u>Acts Community De</u> PROJECT NUMBER <u>2005-51</u> BOREHOLE DIA. <u>2 inch</u>	Page <u>1</u> of <u>1</u> velopment
DRILLING COMPANY DRILLER	EnProb GEOL	DRILLING METHOD <u>GeoPro</u> .OGIST <u>J. Dinan</u> DAT	E DRILLED <u>10/19/2005</u>
DEPTH GRAPHIC (feet) LOG	ALANCE SUPERIOR STATUS	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
	BH-05- 12 BH-05- 13 <sup>-</sup> BH-05- 15 <sup>-</sup>	Asphalt Black clay (CL), med. stiff, med. cohesive, sl. moist 5.5' Blue gray gravelly clay (CL), poorly sorted angular gravels, friable, sl. cohesive 7' Blue gray sandy clay (CL), moist, cohesive, med. stiff 7.5' Gravel present, subangular 8' Blue gray silty clay (CL), med. stiff, cohesive, moist 10' Blue gray sandy clay (CL), med. stiff, cohesive, moist 11' Minor gravels present 12' Blue gray silty clay (CL), soft, moist, very cohesive 13' Blue gray clayey gravel (GC), saturated, loose, sl. cohesive 14' Brown silty clay (CL), stiff, sl. moist, cohesive	<ul> <li>€ 6.45' bgs</li> <li>7" Strong petroleum odor</li> <li>∑ 13' bgs</li> <li>13.75' Odor absent</li> </ul>

# **APPENDIX E**

# Certified Analytical Laboratory Reports and Chain-of-Custody Records

August 16, 2005 Drilling



### 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



#### CASE NARRATIVE

Laboratory number: Client: Location: Request Date: Samples Received: 181268 Stellar Environmental Solutions 1001 77th Ave. Oakland 08/16/05 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.

<u>TPH-Purgeables and/or BTXE by GC (EPA 8015B and EPA 8021B) Water:</u> 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.

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

<u>TPH-Extractables by GC (EPA 8015B) Water:</u> 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**

I	_aboratory <u>Curtis and Tom</u>	ipkins, Ltd.	-		Me	ethod of Shipment	and Deli	very	-											Date Page	1	0f
,	Address	ornia 94710	)		Sh	ipment No					Г			_								·
-	510-486-0900				Air	bill No			-						`	Anal	ysis Re	equired	I 		/	
-	Broiget Owner Acts Comm	unitv Deve	lopmen	t	Cc	oler No			_		/	6	14/	A.						/ /	/ /	
	Site Address 1034 66th A	Avenue			Pr	oject ManagerBruc	e Ruck	er		/	00	'tainer	$\left  \overline{z} \right $	¥			/ /	/ /	/ /	' /		
_	Oakland, C	A			Te	lephone No. <u>(510)</u> 644-	-3123			Eller /	5 / 5	<u>ج</u> / <sup>ق</sup>		<u>}</u>					/	/	/	
	Project Name1001 77th A	Ave Oaklar	nd		Fa	x No(510) 644	-3859		- ,	/ ,	/ ~	5	2	L/	/						Rer	marks
	Project Number <u>2005-51</u>				Sa	mplers: <i>(Signature)</i>	fl O		- /			2/		5/ /		' /	· /	/				
, [	Field Sample Number	Location/ Depth	Date	Time	Sample Type	Type/Size of Container	Pre Cooler	eservation Chemical	V		13	12	1/5/									
	BH-01-8'	8'	08/16	ક્રમજ	soil	6" acetate sleeve	yes	none		1	Х	Χ	χ									
2	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									
Ч	BH-02-8'	8'	08/16	920	soil	6" acetate sleeve	yes	none		1	X	X	χ									
5	BH-02-13'	13'	p8/16	950	soil	6" acetate sleeve	yes	none		1	X	X	Х									
5	BH-02-GW	~14'	08/16	950	H20	(a)	yes	(b)		Ч	X	X	Х							<u> </u>		
			ļ						ļ						-	-			<u> </u>	<u> </u>		
	· · · · · · · · · · · · · · · · · · ·															-	_					
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															-				1			
	Relinquished by: Signature from a	<del></del>	Date 8/16/0	Receive	d bý ature	E 8824	Date	Relinquished Signature	by:			-		Dat	e F	Receive Signa	ed by: ature _					Date
	Printed Joe Dinan		Time	Print	SH	Even Stanles	<b>1</b> Time	Printed							e	Printe	ed				<u></u>	— Time
	Stellar Environn	nental	1100	Com	53.54	CiT	`	Company								Com	nanv					
	5 Day TAT	······	]	Com	µany		-	Relinquished	by:				-	Dat	te F	Receive	ed by:					Date
	Turnaround Time: Split Af d	preserved	W/HJ	VAZ :	500mL	from IL amb	, ers,	Signature						-		Signi	ature _					-
10	(a) Water samples	s collected	in 40-m	I VOAs	and 1	-L amber glass	74N	Printed _						Τiπ	ne	Print	ed					— Time
1-00-00	(b) VOAs are prese	rved with H	ICI. Am	bers a	re unp	reserved Y	>-12-12	Company						_		Com	panv _					
Š	1							Company														

★ Stellar Environmental Solutions

Received Could Cold CAmbient Intact

2198 Sixth Street #201, Berkeley, CA 94710

Lab job no.

	Curtis &	Tompkins Labo	ratories Ar	nalytical	Report	
Lab #: Client:	181268 Stellar Environmer	tal Solutions	Location: Prep:	1001 FDA	77th Ave. Oaklan	d
Project#:	STANDARD		iicp.	DIA	30300	
Matrix:	Water		Sampled:	08/1	6/05	
Units:	ug/L		Received	08/1	6/05	
Diln Fac: Batch#:	104853		Analyzed:	08/1	6/05	
Datein.	101033					
Field TD.	ри_01_ <i>С</i> м		Ish ID'	1912	68-003	
Tvpe:	SAMPLE		Lab ID.	1012	08-005	
-71-0						
Cagalina	Analyte	Result	7	RL	Analysis	
MTRE		280 f 5 7	2	2.0	EPA 8021B	
Benzene		ND		0.50	EPA 8021B	
Toluene		ND		0.50	EPA 8021B	
Ethylbenz	ene	ND		0.50	EPA 8021B	
m,p-Xylene	es	ND ND		0.50	EPA 8021B FDA 8021B	
0 Nyiene		ND		0.50	BIA 0021D	
	Surrogate	%REC Limits	Analy	sis		
Trifluoro	toluene (FID)	100  63-141	EPA 8015B			
Trifluoro	toluene (PID)	85 63-133	EPA 8015B EPA 8021B			
Bromofluo	robenzene (PID)	108 79-128	EPA 8021B			
Field ID:	BH-02-GW		Lab ID:	1812	68-006	
Туре:	SAMPLE					
	Analvte	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	
m n-Xylen				0.50	EPA 00218 FDA 80218	
o-Xylene		ND		0.50	EPA 8021B	
÷			_			
Trifluere	Surrogate	%REC Limits	Analy:	SIS		
Bromofluo	robenzene (FID)	$154 \times 79 - 139$	EPA 8015B			
Trifluoro	toluene (PID)	101 63-133	EPA 8021B			
Bromofluo	robenzene (PID)	113 79-128	EPA 8021B			

\*= 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 #:	181268	Location:	1001 77th Ave. Oakland				
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B				
Project#:	STANDARD	-					
Matrix:	Water	Sampled:	08/16/05				
Units:	ug/L	Received:	08/16/05				
Diln Fac:	1.000	Analyzed:	08/16/05				
Batch#:	104853	-					

Type:	BLANK			Lab ID:	QC3(	)5128		
A	nalyte		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	l
Ethylbenzene	1	ND	r		0.50	EPA	8021B	
m,p-Xylenes		ND	r		0.50	EPA	8021B	
o-Xylene		ND			0.50	EPA	8021B	
Su	rrogate	%REC	Limits	Analy	ysis			
Trifluorotol	uene (FID)	98	63-141	EPA 8015B				
Bromofluorob	enzene (FID)	114	79-139	EPA 8015B				
Trifluorotol	uene (PID)	84	63-133	EPA 8021B				
Bromofluoroh	anzana (DTD)	103	79-128	FDA 8021B				

\*= 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 2

### 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



### 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



### 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			
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					

Туре:	MS			Lab ID:		QC305160		
	Analyte	MSS Re	esult	Spike	≥d	Result	%REC	Limits
Gasoline	C7-C12	1	4.50	2,000	)	1,991	99	80-120
	Surrogate	%REC	Limits					
Trifluoro	otoluene (FID)	107	63-141					
Bromofluc	probenzene (FID)	127	79-139					
Туре:	MSD			Lab ID:		QC305161		
	Analyte		Spiked		Result	%REC	Limits	RPD Lim
Gasoline	C7-C12		2,000		2,034	101	80-120	2 20
	Surrogate	% ዎ ፑ ሮ	T.imite					

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: Type:

BH-01-8' 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	8021B

Lab ID:

Lab ID:

181268-001

181268-002

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: Type: BH-01-10' SAMPLE

Result Analyte RL Units Analysis Gasoline C7-C12 mg/Kg EPA 8015B ND 1.1 MTBE ND 22 ug/Kg EPA 8021B Benzene ND 5.4 ug/Kg EPA 8021B Toluene ND 5.4 ug/Kg EPA 8021B Ethylbenzene 5.4 ug/Kg EPA 8021B ND 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	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#:	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: Type:

BH-02-8' SAMPLE

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	1.0	mg/Kg EPA	8015B
MTBE	ND	20	ug/Kg EPA	8021B
Benzene	ND	5.1	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

Lab ID:

181268-004

181268-005

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	

Lab ID:

Field ID: Type: BH-02-13' SAMPLE

Result Analyte RL Units Analysis Gasoline C7-C12 mg/Kg EPA 8015B ND 1.0 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 ug/Kg EPA 8021B o-Xylene ND 5.0

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
	Curtis & Tompkins Lab	oratories Anal	ytical 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		

Type:

BLANK

La

Lab ID: QC305123

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

Surrogate	% ወ ፱ ሮ	Limite	Analygig	
Burrogace	-9KEC	DIMICS	Anarysis	
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	

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

	Curtis & Tompkins Labo	ratories Analyt	ical 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



	Curtis & Tompkins Labo	ratories Analyt	cical 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



	Curtis & Tompkins Labo	ratories Analyt	ical Report
Lab #: 18	31268	Location:	1001 77th Ave. Oakland
Client: St	cellar Environmental Solutions	Prep:	EPA 5030B
Project#: SI	TANDARD	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:	QC	305231		
	Analyte	MSS Re	sult	Spike	ed	Result	%REC	Limits
Gasoline	C7-C12	<	0.1172	10.	.99	9.207	84	43-120
	Surrogate	%REC	Limits					
Trifluor	otoluene (FID)	102	60-138					
Bromoflu	orobenzene (FID)	105	66-148					
Туре:	MSD			Lab ID:	QC	305232		
	Analyte		Spiked		Result	%REC	Limits	RPD Lim
Gasoline	C7-C12		10.87		9.287	85	43-120	2 27
R								

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

	Total Extracta	ble Hydrocarbo	ns
Lab #: 181268 Client: Stellar Environment Project#: STANDARD	al Solutions	Location: Prep: Analysis:	1001 77th Ave. Oakland EPA 3520C EPA 8015B
Matrix: Water Units: ug/L Diln Fac: 1.000 Batch#: 104959		Sampled: Received: Prepared: Analyzed:	08/16/05 08/16/05 08/18/05 08/21/05
Field ID: BH-01-GW Type: SAMPLE		Lab ID:	181268-003
Analyte	Result	RL	
Kerosene C10-C16 Diesel C10-C24 Motor Oil C24-C36	92 H Y 160 H Y ND	50 50 300	
Surrogate	%PFC Limita		
Hexacosane	104 55-143		
Field ID: BH-02-GW Type: SAMPLE	Bogult	Lab ID:	181268-006
Kerosene C10-C16 Diesel C10-C24 Motor Oil C24-C36	1,900 H 1,800 H I 480	50 50 300	
Surrogate	%REC Limits		
Hexacosane	104 55-143		
Type: BLANK Lab ID: QC305569		Cleanup Method:	EPA 3630C
Analyte	Result	RL	
Kerosene CIU-CI6 Diesel C10-C24 Motor Oil C24-C36	ND ND ND	50 50 300	
Surrogate	%PFC Limita		
Hexacosane	107 55-143		

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			



		Total	Extracta	ble Hydrocarbo	ns			
Lab #: 18	31268			Location:	1001 77th Ave.	. Oaklan	d	
Client: St	ellar Environment	al Solut	tions	Prep:	EPA 3520C			
Project#: SI	TANDARD			Analysis:	EPA 8015B			
Field ID:	ZZZZZZZZZ			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: Lab ID:	MS QC305571			Cleanup Method:	EPA 3630C			
Ana	alyte	MSS Rea	sult	Spiked	Result	%REC	Limi	ts
Diamal 010 0			0 00			~ ~	40 1	27
Diesei Ciu-C	224	<12	2.82	2,500	1,999	80	42-1	21
Su	rrogate	<12 %REC	Limits	2,500	1,999	80	42-1	21
Hexacosane	irrogate	<1: %REC 69	<b>Limits</b> 55-143	2,500	1,999	80	42-1	21
Type: Lab ID:	MSD QC305572	<1: %REC 69	Limits 55-143	2,500 Cleanup Method:	1,999 EPA 3630C	80	42-1	
Type: Lab ID:	MSD QC305572	<1: %REC 69	Limits 55-143 Spiked	2,500 Cleanup Method: Result	1,999 EPA 3630C %REC	BU	42-1	Lim
Type: Lab ID: Diesel C10-C	MSD QC305572	<1: %REC 69	Limits 55-143 Spiked 2,500	2,500 Cleanup Method: Result 1,688	1,999 EPA 3630C <b>%REC</b> 68	80 Limits 42-127	42-1 <b>RPD</b> 17	<u>Lim</u> 45
Type: Lab ID: Diesel C10-C	MSD QC305572 Analyte C24	<1: %REC 69	Limits 55-143 Spiked 2,500	2,500 Cleanup Method: Result 1,688	1,999 EPA 3630C <b>%REC</b> 68	80 Limits 42-127	42-1 <b>RPD</b> 17	Lim 45
Type: Lab ID: Diesel C10-C	MSD QC305572 Analyte C24 arrogate	<1: %REC 69 %REC	Limits 55-143 Spiked 2,500 Limits	2,500 Cleanup Method: Result 1,688	1,999 EPA 3630C <b>%REC</b> 68	80 Limits 42-127	42-1 RPD 17	Lim 45

	Т	otal E	Extracta	ble Hydroc	arbons	
Lab #: Client: Project#:	181268 Stellar Environmenta STANDARD	l Solut	ions	Location: Prep: Analysis:	1001 77th Ave. SHAKER TABLE EPA 8015B	Oakland
Matrix: Units: Basis: Diln Fac: Batch#:	Soil mg/Kg as received 1.000 104955			Sampled: Received: Prepared: Analyzed:	08/16/05 08/16/05 08/18/05 08/19/05	
Field ID: Type:	BH-01-8' SAMPLE			Lab ID:	181268-001	
	Analyte		Result		RL	
Kerosene C Diesel C10 Motor Oil	10-C16 -C24 C24-C36	ND ND	3.4 Y		1.0 1.0 5.0	
	Surrogate	%REC	Limits			
Hexacosane	2	83	51-136			
Field ID: Type:	BH-01-10' SAMPLE			Lab ID:	181268-002	
Korogono (	Analyte		Result			
Diesel Cl0 Motor Oil	C24-C36	ND ND ND			1.0 5.0	
	Surrogate	%REC	Limits			
Hexacosane		85	51-136			
Field ID: Type:	BH-02-8' SAMPLE			Lab ID:	181268-004	
Korogono (	Analyte		Result	-		
Diesel C10 Motor Oil	-C24 C24-C36		4.5 H 15	Υ	0.99 5.0	
	Surrogate	%REC	Limits			
Hexacosane		91	51-136			
Field ID: Type:	BH-02-13' SAMPLE			Lab ID:	181268-005	
	Analyte		Result		RL	
kerosene C Diesel C10 Motor Oil	-C24 C24-C36		1.7 Y 5.4 H 16	Υ	0.99 0.99 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 Extracta	able Hydrocarbo	ns
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	-	

Type: Lab ID:	BLANK QC305546	C	leanup Method: EPA 3630C!	
	Analyte	Result	RL	
Kerosene Cl	L0-C16	ND	1.0	
Diesel C10-	-C24	ND	1.0	
Motor Oil C	C24-C36	ND	5.0	
5	Surrogate	%REC Limits		

51-136

94

Hexacosane

	Total Extract	able Hydrocar	bons
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

Hexacosane

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

51-136

109



	:	Cotal E	Extracta	ble Hydrocarbo	ns		
Lab #:	181268			Location:	1001 77th Ave	. Oaklan	d
Client:	Stellar Environmenta	al Solut	ions	Prep:	SHAKER TABLE		
Project#:	STANDARD			Analysis:	EPA 8015B		
Field ID:	ZZZZZZZZZ			Batch#:	104955		
MSS Lab II	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: Lab ID:	MS QC305548			Cleanup Method:	EPA 3630C		
7	\mal++	MCC Dog	••] ←	Cniked	Result	%DEC	Limite
	Maryte	Maa Kes	uit	Spiked	Repuie	3REC	DIMICS
Diesel C10	)-C24	29 NSS Res	.31	50.44	85.37	111	11-169
Diesel Cl(		29	.31	50.44	85.37	3 <b>REC</b> 111	11-169
Diesel Cl(	Surrogate	29 %REC	.31 Limits	50.44	85.37	111	11-169
Type: Lab ID:	MSD QC305549	29 %REC 105	.31 Limits 51-136	50.44 Cleanup Method:	85.37 EPA 3630C	111	11-169
Type: Lab ID:	MSD QC305549 Analyte	29 %REC 105	.31 Limits 51-136	50.44 Cleanup Method: Result	85.37 EPA 3630C %REC	Limits	RPD Lim
Type: Lab ID: Diesel C10	MSD QC305549 Analyte D-C24	29 %REC 105	.31 Limits 51-136 Spiked 50.07	50.44 Cleanup Method: Result 78.	EPA 3630C 81 99	111 Limits 11-169	<b>RPD Lim</b> 8 49
Type: Lab ID: Diesel C10	MSD QC305549 Analyte D-C24 Surrogate	8REC	.31 Limits 51-136 Spiked 50.07 Limits	50.44 Cleanup Method: Result 78.	EPA 3630C 81 99	111 Limits 11-169	<b>RPD Lim</b> 8 49



		Total 1	Extracta	ble Hydrocarbo	ns		
Lab #: 18	81268			Location:	1001 77th Ave	. Oaklan	d
Client: St	tellar Environment	al Solut	ions	Prep:	SHAKER TABLE		
Project#: ST	TANDARD			Analysis:	EPA 8015B		
Field ID:	ZZZZZZZZZZ			Batch#:	104955		
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:	08/20/05		
Diln Fac:	1.000						
Type: Lab ID:	MS QC305550			Cleanup Method:	EPA 3630C		
Ana	alyte	MSS Res	sult	Spiked	Result	%REC	Limits
Diesel C10-0	C24	2	2.053	50.17	45.56	87	11-169
St	urrogate	%REC	Limits				
Hexacosane		95	51-136				
Type: Lab ID:	MSD QC305551			Cleanup Method:	EPA 3630C		
2	Analyte		Spiked	Result	%REC	Limits	RPD Lim
Diesel C10-0	C24		49.86	41.	41 79	11-169	9 49
St	urrogate	%REC	Limits				
Hexacosane		89	51-136				



1268 ellar Environmental ANDARD	<b>California</b>	LUFT Meta	ls 1001 77th Ave. Oakland
1268 ellar Environmental ANDARD	Solutions	Location:	1001 77th Ave. Oakland
1268 ellar Environmental ANDARD	Solutions	Location:	1001 77th Ave. Oakland
ellar Environmental ANDARD	Solutions		
ANDARD	2010010110	Prep:	EPA 3010A
		Analysis:	EPA 6010B
Water		Sampled:	08/16/05
ug/L		Received:	08/16/05
1.000		Prepared:	08/18/05
104958		Analyzed:	08/18/05
BH-01-GW		Lab ID:	181268-003
SAMPLE			
nalyte	Result		RL
	ND		5.0
	40		10
	5.2		3.0
	70		20
	110		20
BH-02-GW		Lab ID:	181268-006
SAMPLE			
nalyte	Result		RL
	ND		5.0
	ND		10
	ND		3.0
	ND		20
	ND		20
	BH-01-GW SAMPLE nalyte BH-02-GW SAMPLE nalyte	BH-01-GW SAMPLE nalyte Result ND 40 5.2 70 110 BH-02-GW SAMPLE ND ND ND ND ND ND ND ND ND ND	BH-01-GW Lab ID: SAMPLE Result ND 40 5.2 70 110 BH-02-GW Lab ID: SAMPLE Lab ID: MD ND ND ND ND ND ND ND ND ND N

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

Lab ID:

QC305562

Type:

BLANK

	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:	Stellar Environmental Solutions	Prep:	EPA 3010A	
Project#:	STANDARD	Analysis:	EPA 6010B	
Field ID:	ZZZZZZZZZ	Batch#:	104958	
MSS Lab II	): 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:

Zinc

MS

IS

Lab ID:

QC305565

499.3

97

79-123

2

20

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:	QC30	5566			
An	alyte	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

500.0



	California LUFT Metals				
Lab #:	181268	Location:	1001 77th Ave. Oakland		
Client:	Stellar Environmental Solutions	Prep:	EPA 3050B		
Project#:	STANDARD	Analysis:	EPA 6010B		
Matrix:	Soil	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 I	D: 181268-001	
туре.	SAMPLE			
Ana	alyte	Result	RL	
Cadmium		0.75	0.27	
Chromium		50	0.54	
Lead		5.7	0.16	
Nickel		36	1.1	
Zinc		45	1.1	

Field ID: Type:

BH-01-10' SAMPLE

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

Lab ID: 181268-002

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



	C	alifornia L	UFT Metals	
Lab #:	181268	Lo	ocation:	1001 77th Ave. Oakland
Client:	Stellar Environmental Solu	utions Pi	rep:	EPA 3050B
Project#:	STANDARD	Ar	nalysis:	EPA 6010B
Matrix:	Soil	Sa	ampled:	08/16/05
Units:	mg/Kg	Re	eceived:	08/16/05
Basis:	as received	Pi	repared:	08/18/05
Diln Fac:	1.000	Ar	nalyzed:	08/18/05
Batch#:	104933			

Field ID: Type:	BH-02-13' SAMPLE	Lab ID	: 181268-005	
A	nalyte	Result	RL	
Cadmium		0.81	0.21	
Chromium		45	0.42	
Lead		5.3	0.13	
Nickel		41	0.83	
Zinc		45	0.83	

Туре:	BLANK		Lab ID: Q	QC305443
An	alyte	Result	RL	
Cadmium		ND	0.25	5
Chromium		ND	0.50	)
Lead		ND	0.15	5
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:

Zinc

BS

Lab ID:

QC305444

22.80

91

80-120

2

20

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

Туре:	BSD	Lab ID:	QC305	5445			
	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

25.00

			California	LUFT Metals	
Lab #:	181268			Location:	1001 77th Ave. Oakland
Client:	Stella	r Environmental	Solutions	Prep:	EPA 3050B
Project#:	STANDAR	RD		Analysis:	EPA 6010B
Field ID:		ZZZZZZZZZZ		Batch#:	104933
MSS Lab II	):	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:

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	б	24
Nickel	22.52	61.26	94	43-139	1	20
Zinc	22.52	42.88	89	41-146	5	20

October 18, 2005 Drilling



### 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:	$\mathcal{G}$
_	Opécatizons Manager

This package may be reproduced only in its entirety.

NELAP # 01107CA



#### CASE NARRATIVE

Laboratory number: Client: Location: Request Date: Samples Received: 182598 Stellar Environmental Solutions Acts Church-Phase I&II 10/19/05 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	182518
Eab job no	

	Laboratory <u>Curtis and Tom</u>	ipkins, Ltd.			Me	thod of Shipment <u>Ha</u>	ind Deli	very												Daie . Page	1	2
	Address2323 Fifth Stree	et ornia 94710	<u></u>		Shi	pment No														Tage		
	510-486-0900		,		Air	oill No			_				/			Analy	sis Re	quired			/	/
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	Oakland, C	alifornia			Tel	ephone No(510) 644-	3123		_				5/ ×1	/ /							/	
	Project Name Acts Churcl	h - Phase II	& 111		Fax	(No(510) 644-	3859	<u>```</u>			/ <del>2</del> 8'		A.			/ /	/ /	/ /	/ /	/ /	Rer	marks
	Project Number <u>2005-51</u>				Sa	mplers: <i>(Signature)</i>	po		- /	/	/:	z/										
	Field Sample Number	Location/ Depth	Date	Time	Sample Type	Type/Size of Container	Pre Cooler	servation Chemical	$\mathbb{V}$		/Ē		/ /							/		
- }	BH-03-GW	N/A	10/19	1025	water	(a)	yes	(a)	no	4	X	$\boldsymbol{X}$										
12	BH-04-GW	N/A	10/19	900	water	(a)	yes	(a)	no	4	X	X										
-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										
-5	BH-07-GW	N/A	10/19	3 <b>5</b> 5 (	water	(a)	yes	(a)	no	4	X	X										
-10	BH-06-7.5	7.5'	10/19	1300	soil	acetate sleeve	yes	none	no	1	X	イ										
-1	BH-07-75	7.5'	10/19	1145	soil	acetate sleeve	yes	none	no	1	メ	×										
-8	BH-03-9.5	9.51	10/19	625	soil	acetate sleeve	yes	none	по	1	x	$\boldsymbol{\lambda}$										
-9	BH-03-11.5'	1.5'	10/19	ю40	soil	acetate sleeve	yes	none	no	1	×	4										
-10	BH-03-12'	12'	10/19	1050	soil	acetate sleeve	yes	none	no	1	$\mathbf{x}$	$\boldsymbol{\times}$										
-11	BH-04-8.5'	8-51	10/19	905	soil	acetate sleeve	yes	none	no	1	$\left  \boldsymbol{X} \right $	×										
-17	BH04-10'	101	10/19	910	soil	acetate sleeve	yes	none	no	1	$\boldsymbol{\chi}$	×										
•	Relinquished by:	-	Date	Received	by	Ma with	Date	Relinquished	by:					Date	Red	ceived	by:					Date
	les Direr		10/19	Signa	"ert	D. D.	1110	Signature .								Signatu	ire					-
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	<sub>Company</sub> Stellar Environm	ental	2051	Comp	any <u>Cr</u>	utist Tompkins	1705	Company								Compa	ny					_
	Turnaround Time: 5 Day TAT							Relinquished	by:					Date	Ree	ceived	by:					Date
	Comments: (a) (1) 1-liter	amber unp	reserve	ed; (3)	40-ml V	OAs with HCI		Signature .								Signatu	ire				·	-
-01								Printed						Time	-  I	Printed						- Time
000-000								Company								Compa	ny					

# Chain of Custody Record

Lah job no 182598

	Laboratory <u>Curtis and Tom</u> Address 2323 Fifth Stree	<u>okins, Ltd.</u> t		**	Me	thod of Shipment <u>Ha</u>	and Deliv	very	_										Page 0	2 f
	Berkeley, Califo	rnia 94710			— 5111 — 41-1			*			[					Analysis	s Renui	red	/	
	510-486-0900				Co								$\vdash$			7	/ /	/ /	/	
	Project Owner Acts Commu	unity Devel	opmen	t	Dra	vipet Menager Bruc	e Rucke	ər				s								
	Site Address Oakland_Ca	venue			 	opect Manager	-3123		_		ered	ontair	5/2/	/ /			/	/ /		
	Acts Church	- Phase II	& III		1e	(510) 644	-3859		_	1	10 0	< (بچ					/ /	' /	Rema	ırks
	Project Name 2005-51		<u>a</u> m		Fa)	molore: (Signature)	1_ n	)	_ ,	/ /	/ <sup>-</sup> /	( <u>B</u> /.	+		' /			/		
					Sa	inpiers: (Signature)	Pro	servation	-/ 1/		1		¥ /			/ /				
	Field Sample Number	Location/ Depth	Date	Time	Sample Type	Type/Size of Container	Cooler	Chemical	1	_		17			[[	/	/_			
-13	BH-05-7'	7	10/19	1410	soil	acetate sleeve	yes	none	no	1	Y	4								
-nk	134-05-12'	(2)	10/19	1425	soil	acetate sleeve	yes	none	no	1	7	X								
-19	BH-05-13	13 <sup>i</sup>	10/19	1430	soil	acetate sleeve	yes	none	no	1	X	$\boldsymbol{\lambda}$								
110	BH-05-15'	15'	10/19	1435	soil	acetate sleeve	yes	none	no	1	X	$\boldsymbol{\lambda}$								
-17	BH-03-15'	15	10/19	1100	soil	acetate sleeve	yes	none	no	1									THOUDY	-
-10	Bit-04-15.5'	15.5'	10/14	9.5	50.1	acctate skere	Yes	nove	n	ı									*HOUD*	
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	loo Dinan		10/19	0	the	no Piller	10/02	5												
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	Company Stellar Environm	ental	1705	Comp	any <u>W</u>	rtis lumpting	_  1705	Company							0	Compan	יע		<u> </u>	
	Turnaround Time: 5 Day TAT					<b>_</b>		Relinquished	by:					Date	Red	ceived b	by:			Date
	Comments: (a) (1) 1-liter	amber unp	reserv	ed; (3)	40-ml \	/OAs with HCI		Signature					<u> </u>			Signatur	re			
5	5							Printed _						Time	-  	Printed				Time
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Cu	rtis & Tompkin	s Laborato	ories Analy	tical Repor	t
Lab #: 182598 Client: Stellar Env Project#: STANDARD	vironmental Soluti	Lo Lons Pr	cation: ep:	Acts Churc EPA 5030B	h-Phase I&II
Matrix: Wate Units: ug/I Diln Fac: 1.00 Batch#: 1070	er 0 16	Sa Re An	mpled: ceived: alyzed:	10/19/05 10/19/05 10/23/05	
Field ID: BH-03 Type: SAMPI	-GW E	La	b ID:	182598-001	
Analyte	I	Result	RL		Analysis
Gasoline C7-C12 MTBE Benzene Toluene Ethylbenzene m,p-Xylenes o-Xylene	ND ND ND ND	4.7 3.0	5	0 EPA 2.0 EPA 0.50 EPA 0.50 EPA 0.50 EPA 0.50 EPA 0.50 EPA	8015B 8021B 8021B 8021B 8021B 8021B 8021B 8021B
Surrogate	%REC	Limite	Analveie		
Trifluorotoluene (FII Bromofluorobenzene (F Trifluorotoluene (PII Bromofluorobenzene (F	119           TID)         120           D)         102           DD)         109	62-141 EPA 78-134 EPA 67-127 EPA 80-122 EPA	8015B 8015B 8021B 8021B		
Field ID: BH-04 Type: SAMPI	GW Æ	La	b ID:	182598-002	
Analyte	I	Result	RL	0	Analysis
Gasoline C7-C12 MTBE Benzene Toluene Ethylbenzene m,p-Xylenes o-Xylene	ND ND ND ND ND	330 Y Z	5	0 EPA 2.0 EPA 0.50 EPA 0.50 EPA 0.50 EPA 0.50 EPA 0.50 EPA	8015B 8021B 8021B 8021B 8021B 8021B 8021B
Surrogate	%REC	Limits	Analysis		
Trifluorotoluono (EII	110	62-141 FDA	8015B		
Bromofluorobenzene (FI Trifluorotoluene (PII Bromofluorobenzene (F	)     116       'ID)     119       >)     106       >ID)     106	78–134 EPA 67–127 EPA 80–122 EPA	8015B 8021B 8021B		

\*= 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 &	Tompkin	is Labor	ratories A	analytical i	Repor	t
Lab #: 18 Client: S <sup>.</sup> Project#: S <sup>.</sup>	82598 tellar Environmen TANDARD	tal Solut	ions	Location: Prep:	Acts EPA 5	Church 030B	-Phase I&II
Matrix: Units: Diln Fac: Batch#:	Water ug/L 1.000 107016			Sampled: Received: Analyzed:	10/19 10/19 10/23	/05 /05 /05	
Field ID: Type:	BH-05-GW SAMPLE			Lab ID:	18259	8-003	
	Analyte		Result		RL		Analysis
Gasoline C7 MTBE Benzene Toluene Ethylbenzen m,p-Xylenes o-Xylene	-C12 e	ND ND ND	1,200 34 21 2.1		50 2.0 0.50 0.50 0.50 0.50 0.50 0.50	EPA EPA EPA EPA EPA EPA EPA	8015B 8021B 8021B 8021B 8021B 8021B 8021B
a		0.5=0					
Trifluoroto Bromofluorol Trifluoroto Bromofluorol	luene (FID) benzene (FID) luene (PID) benzene (PID)	155 * 119 136 * 107	62-141 78-134 67-127 80-122	EPA 8015B EPA 8015B EPA 8021B EPA 8021B	ARTR		
Field ID: Type:	BH-06-GW SAMPLE			Lab ID:	18259	8-004	
	Analyte		Result		RL		Analysis
Gasoline C7 MTBE Benzene Toluene Ethylbenzen m,p-Xylenes o-Xylene	-C12 e	ND ND ND ND ND ND	150 Y	Z	50 2.0 0.50 0.50 0.50 0.50 0.50	EPA EPA EPA EPA EPA EPA EPA	8015B 8021B 8021B 8021B 8021B 8021B 8021B 8021B
S	urrogate	%REC	Limits	Anal	vsis		
Trifluoroto Bromofluorol Trifluoroto Bromofluorol	luene (FID) benzene (FID) luene (PID) benzene (PID)	113 122 101 110	62-141 78-134 67-127 80-122	EPA 8015B EPA 8015B EPA 8021B EPA 8021B			

\*= 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 & Tompki	ns Labora	atories Ana	alytical Rep	port
Lab #: 182598 Client: Stellar Project#: STANDAR	r Environmental Solu RD	ltions	Location: Prep:	Acts Chu EPA 5030	urch-Phase I&II )B
Matrix: Units: Diln Fac: Batch#:	Water ug/L 1.000 107016		Sampled: Received: Analyzed:	10/19/05 10/19/05 10/23/05	
Field ID: E Type: S	BH-07-GW SAMPLE		Lab ID:	182598-0	005
Analyt Gasoline C7-Cl2 MTBE Benzene Toluene Ethylbenzene m,p-Xylenes o-Xylene	2 <b>e</b>	Result           510 Y Z           3.3           ID           ID           ID           ID		RL           50         F           2.0         F           0.50         F	Analysis CPA 8015B CPA 8021B CPA 8021B CPA 8021B CPA 8021B CPA 8021B CPA 8021B CPA 8021B
Surroga	sto %PEC	' Timita	Vualua	ia	
Trifluorotoluene Bromofluorobenzer Trifluorotoluene Bromofluorobenzer	Ite         %KC           (FID)         96           ne         (FID)         115           (PID)         113           ne<(PID)	62-141 78-134 67-127 80-122	EPA 8015B EPA 8015B EPA 8021B EPA 8021B	15	
Type: E	BLANK		Lab ID:	QC314097	7
Analyt	:e	Result		<b>RL</b>	Analysis

Imai / CO	Repuze		Imal/DED	(
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		

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	

\*= 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



	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



Curtis & Tompkins Laboratories Analytical Report						
Lab #: 18259	98	Location:	Acts Church-Phase I&II			
Client: Stell	ar Environmental Solutions	Prep:	EPA 5030B			
Project#: STANI	DARD	Analysis:	EPA 8015B			
Field ID:	ZZZZZZZZZ	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 Re	sult	Spike	ed	Result	%REC	Limits
Gasoline	c7-C12	1	7.67	2,000	)	1,918	95	80-120
	Surrogate	%REC	Limits					
Trifluor	otoluene (FID)	125	62-141					
Bromoflu	orobenzene (FID)	126	78-134					
Type:	MSD			Lab ID:		QC314106		
	Analyte		Spiked		Result	%REC	Limits	RPD Lim
Gasoline	e C7-C12		2,000		1,870	93	80-120	3 20
	Surrogate	%REC	Limits					

Surrogate	%REC	Limits
Trifluorotoluene (FID)	124	62-141
Bromofluorobenzene (FID)	114	78-134

Curtis & Tompkins Laboratories Analytical Report								
Lab #: 182598 Client: Stellar Envi Project#: STANDARD	ronmental Solutions	Location: Prep:	Acts Church-Pha EPA 5030B	ase I&II				
Matrix: Soil Basis: as re	ceived	Sampled: Received:	10/19/05 10/19/05					
Field ID: BH-06- Type: SAMPLE Lab ID: 182598	7.5' -006	Diln Fac: Batch#: Analyzed:	1.000 106923 10/20/05					
Analyte	Result	: RI	L Units	Analysis				
Gasoline C7-C12 MTBE Benzene Toluene Ethylbenzene m,p-Xylenes o-Xylene	ND ND ND ND ND ND ND	22	1.1     mg/Kg EPA       2     ug/Kg EPA       5.4     ug/Kg EPA	8015B 8021B 8021B 8021B 8021B 8021B 8021B 8021B				
Trifluorotoluene (FID) Bromofluorobenzene (FI Trifluorotoluene (PID) Bromofluorobenzene (PI	91 59-1 D) 103 62-1 95 63-1 D) 106 71-1	40 EPA 8015B 49 EPA 8015B 25 EPA 8021B 29 EPA 8021B	18					
Field ID: BH-07- Type: SAMPLE Lab ID: 182598	7.5' -007	Diln Fac: Batch#: Analyzed:	1.000 106923 10/20/05					
Analyte	Result	: RI	L Units	Analysis				
Gasoline C7-C12 MTBE Benzene Toluene Ethylbenzene m,p-Xylenes o-Xylene	ND ND ND ND ND ND ND		0.91     mg/Kg EPA       8     ug/Kg EPA       4.5     ug/Kg EPA	8015B 8021B 8021B 8021B 8021B 8021B 8021B 8021B				
Surrogate	%REC Limi	ts Analysi	is					
Trifluorotoluene (FID) Bromofluorobenzene (FI Trifluorotoluene (PID) Bromofluorobenzene (PI	93 59-1 D) 106 62-1 98 63-1 D) 106 71-1	40 EPA 80158 49 EPA 80158 25 EPA 80218 29 EPA 80218						

\*= Value outside of QC limits; see narrative C= Presence confirmed, but RPD between columns exceeds 40% ND= Not Detected RL= Reporting Limit Page 1 of 7

	Curtis & T	ompkin	ns Labor	ratories A	nalyt	ical Repor	rt	
Lab #: 1 Client: S Project#: S	182598 Stellar Environmenta STANDARD	l Solut	ions	Location: Prep:		Acts Churc EPA 5030B	h-Phase I&II	
Matrix: Basis:	Soil as received			Sampled: Received:		10/19/05 10/19/05		
Field ID: Type: Lab ID:	BH-03-9.5' SAMPLE 182598-008			Diln Fac: Batch#: Analyzed:		1.000 106923 10/20/05		
	Analyte	R	esult		RL	Units	Analysis	5
Gasoline C7 MTBE Benzene Toluene Ethylbenzen m,p-Xylenes o-Xylene	7-C12 ne	ND ND ND	19 120 88 7.6 C		1.1 22 5.6 5.6 5.6 5.6 5.6 5.6	mg/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg	EPA 8015B EPA 8021B EPA 8021B EPA 8021B EPA 8021B EPA 8021B EPA 8021B EPA 8021B	
		^ <b>-</b>						
Trifluoroto	Surrogate	73	<u>Limits</u>	EPA 8015B	ysis			
Bromofluoro Trifluoroto Bromofluoro	obenzene (FID) oluene (PID) obenzene (PID)	107 102 105	62-149 63-125 71-129	EPA 8015B EPA 8021B EPA 8021B				
Field ID: Type: Lab ID:	BH-03-11.5' SAMPLE 182598-009			Diln Fac: Batch#: Analyzed:		1.000 106923 10/20/05		
	Analyte	R	esult		RL	Units	Analysis	5
Gasoline C' MTBE Benzene Toluene Ethylbenzen m,p-Xylenes o-Xylene	re S	ND ND ND ND ND ND			$ \begin{array}{c} 0.92 \\ 18 \\ 4.6 \\ 4.6 \\ 4.6 \\ 4.6 \\ 4.6 \\ 4.6 \\ 4.6 \\ 4.6 \\ 4.6 \\ \end{array} $	mg/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg	EPA 8015B EPA 8021B EPA 8021B EPA 8021B EPA 8021B EPA 8021B EPA 8021B	
S	Surrogate	%REC	Limits	Anal	ysis			
Trifluoroto Bromofluoro Trifluoroto Bromofluoro	oluene (FID) obenzene (FID) oluene (PID) obenzene (PID)	85 97 92 98	59-140 62-149 63-125 71-129	EPA 8015B EPA 8015B EPA 8021B EPA 8021B				

Curtis & Tompkins Laboratories Analytical Report								
Lab #: Client: Project#:	182598 Stellar Environmenta STANDARD	l Solut	ions	Location: Prep:		Acts Churc EPA 5030B	h-Phase I&II	
Matrix: Basis:	Soil as received			Sampled: Received:		10/19/05 10/19/05		
Field ID: Type: Lab ID:	BH-03-12' SAMPLE 182598-010			Diln Fac: Batch#: Analyzed:		1.000 106923 10/20/05		
	Analyte	R	esult		RL	Units	Analysis	
Gasoline C MTBE Benzene Toluene Ethylbenze m,p-Xylene o-Xylene	7-C12 ne s	ND ND ND ND ND ND			1.0 21 5.2 5.2 5.2 5.2 5.2 5.2	mg/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg	EPA 8015B EPA 8021B EPA 8021B EPA 8021B EPA 8021B EPA 8021B EPA 8021B EPA 8021B	
		%DEC	Timita	3me 1				
Trifluorot Bromofluor Trifluorot Bromofluor	oluene (FID) obenzene (FID) oluene (PID) obenzene (PID)	92 104 97 106	59-140 62-149 63-125 71-129	EPA 8015B EPA 8015B EPA 8021B EPA 8021B	YBIB			
Field ID: Type: Lab ID:	BH-04-8.5' SAMPLE 182598-011			Diln Fac: Batch#: Analyzed:		1.000 106923 10/20/05		
	Analyte	R	esult		RL	Units	Analysis	
Gasoline C MTBE Benzene Toluene Ethylbenze m,p-Xylene o-Xylene	7-C12 ne s	ND ND ND ND ND ND			$0.91 \\ 18 \\ 4.5 $	mg/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg ug/Kg	EPA 8015B EPA 8021B EPA 8021B EPA 8021B EPA 8021B EPA 8021B EPA 8021B	
	Surrogate	%REC	Limits	Anal	vsis			
Trifluorot Bromofluor Trifluorot Bromofluor	oluene (FID) obenzene (FID) oluene (PID) obenzene (PID)	89 102 94 103	59-140 62-149 63-125 71-129	EPA 8015B EPA 8015B EPA 8021B EPA 8021B				

\*= Value outside of QC limits; see narrative C= Presence confirmed, but RPD between columns exceeds 40% ND= Not Detected RL= Reporting Limit Page 3 of 7

Curtis & Tompkins Laboratories Analytical Report							
Lab #: 182598 Client: Stellar Environm Project#: STANDARD	ental Solutions	Location: Prep:	Acts Church-Phase I&II EPA 5030B				
Matrix: Soil Basis: as receiv	ed	Sampled: Received:	10/19/05 10/19/05				
Field ID: BH-04-10' Type: SAMPLE Lab ID: 182598-012		Diln Fac: Batch#: Analyzed:	1.000 106923 10/20/05				
Analyte	Result	RI.	Units Analysis				
Gasoline C7-C12 MTBE Benzene Toluene Ethylbenzene m,p-Xylenes o-Xylene	ND ND ND ND ND ND ND ND	1.0 21 5.2 5.2 5.2 5.2 5.2 5.2 5.2	mg/Kg EPA 8015B ug/Kg EPA 8021B ug/Kg EPA 8021B ug/Kg EPA 8021B ug/Kg EPA 8021B ug/Kg EPA 8021B ug/Kg EPA 8021B ug/Kg EPA 8021B				
Surrogate	%REC Limits	Analysis					
Trifluorotoluene (FID) Bromofluorobenzene (FID) Trifluorotoluene (PID) Bromofluorobenzene (PID)	90 59-140 103 62-149 94 63-125 103 71-129	EPA 8015B EPA 8015B EPA 8021B EPA 8021B					
Field ID: BH-05-7' Type: SAMPLE Lab ID: 182598-013		Diln Fac: Batch#: Analyzed:	5.000 107017 10/23/05				
Analyte	Result	RL	Units Analysis				
Gasoline C7-C12 MTBE Benzene Toluene Ethylbenzene m,p-Xylenes o-Xylene	44 ND ND 63 C ND ND	5.0 100 25 25 25 25 25 25 25	mg/Kg EPA 8015B ug/Kg EPA 8021B ug/Kg EPA 8021B ug/Kg EPA 8021B ug/Kg EPA 8021B ug/Kg EPA 8021B ug/Kg EPA 8021B				
Surrogate	%REC Limits	Analysis					
Trifluorotoluene (FID) Bromofluorobenzene (FID)	120 59-140 123 62-149	EPA 8015B EPA 8015B					

63-125

71-129

EPA 8021B

EPA 8021B

104

99

\*= Value outside of QC limits; see narrative C= Presence confirmed, but RPD between columns exceeds 40% ND= Not Detected RL= Reporting Limit Page 4 of 7

Trifluorotoluene (PID) Bromofluorobenzene (PID)

Curtis &	Tompkins Labo	ratories Analyt	ical Report
Lab #: 182598 Client: Stellar Environmenta Project#: STANDARD	al Solutions	Location: Prep:	Acts Church-Phase I&II EPA 5030B
Matrix: Soil Basis: as received		Sampled: Received:	10/19/05 10/19/05
Field ID: BH-05-12' Type: SAMPLE Lab ID: 182598-014		Diln Fac: Batch#: Analyzed:	5.000 107017 10/23/05
Analyte	Result	RL	Units Analysis
Gasoline C7-C12 MTBE Benzene Toluene Ethylbenzene m,p-Xylenes o-Xylene	86 ND ND 1,200 1,400 180 C	5.0 100 25 25 25 25 25 25 25	mg/Kg EPA 8015B ug/Kg EPA 8021B ug/Kg EPA 8021B ug/Kg EPA 8021B ug/Kg EPA 8021B ug/Kg EPA 8021B ug/Kg EPA 8021B ug/Kg EPA 8021B
Surrogate	%REC Limits	Analygig	
Trifluorotoluene (FID) Bromofluorobenzene (FID) Trifluorotoluene (PID) Bromofluorobenzene (PID)	152 *         59-140           112         62-149           108         63-125           101         71-129	EPA 8015B EPA 8015B EPA 8021B EPA 8021B	
Field ID: BH-05-13' Type: SAMPLE Lab ID: 182598-015		Diln Fac: Batch#: Analyzed:	1.000 107017 10/23/05
Analyte	Result	RL	Units Analysis
Gasoline C7-C12 MTBE Benzene Toluene Ethylbenzene m,p-Xylenes o-Xylene	I.7 ND ND ND ND ND ND	1.1 21 5.3 5.3 5.3 5.3 5.3 5.3	mg/Kg EPA 8015B ug/Kg EPA 8021B ug/Kg EPA 8021B ug/Kg EPA 8021B ug/Kg EPA 8021B ug/Kg EPA 8021B ug/Kg EPA 8021B
Surrogate	%REC Limits	Analysis	
Trifluorotoluene (FID) Bromofluorobenzene (FID)	$\begin{array}{rrrr} 107 & 59-140 \\ 116 & 62-149 \end{array}$	EPA 8015B EPA 8015B	

\*= Value outside of QC limits; see narrative C= Presence confirmed, but RPD between columns exceeds 40% ND= Not Detected RL= Reporting Limit Page 5 of 7

92

105

63-125

71-129

EPA 8021B

EPA 8021B

Trifluorotoluene (PID) Bromofluorobenzene (PID)

	Curtis & I	ompkir	ns Labor	ratories A	Analyt	ical Report	
Lab #: Client: Project#:	182598 Stellar Environmenta STANDARD	l Solut	ions	Location: Prep:		Acts Church-Pl EPA 5030B	nase I&II
Matrix:	Soil			Sampled:		10/19/05	
Basis:	as received			Received:		10/19/05	
Field ID:	BH-05-15'			Diln Fac:		1.000	
Type: Lab ID:	SAMPLE 182598-016			BatCn#: Analyzed:		106923	
	102370 010			Anaryzeu		10/20/05	
	Analyte	R	esult		RL	Units	Analysis
Gasoline (	C7-C12	ND			1.0	mg/Kg EPA	8015B
MIBL Benzene		ND ND			∠0 5 1	UG/KG EPA	8021B 8021B
Toluene		ND			5.1	ug/Kg EPA	8021B
Ethylbenze	ene	ND			5.1	uq/Kq EPA	8021B
m,p-Xylene	es	ND			5.1	ug/Kg EPA	8021B
o-Xylene		ND			5.1	ug/Kg EPA	8021B
	Surrogate	% <b>₽</b> ₽₽	T.imite	Anal	vaia		
Trifluorot	toluene (FID)	91	59-140	EPA 8015B	YBIB		
Bromofluon	robenzene (FID)	105	62-149	EPA 8015B			
Trifluorot	toluene (PID)	99	63-125	EPA 8021B			
Bromofluor	robenzene (PID)	105	71-129	EPA 8021B			
Type:	BLANK			Batch#:		106923	
Lab ID:	OC313723			Analyzed:		10/20/05	
Diln Fac:	ĩ.000			1		-, -,	
	Applato		~~~ <u>1</u> +		DT	IInita	Amolugia
Gasoline (	27-C12	ND	esuit		<u>RL</u> 1 0	ma/Ka 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
Ethylbenze	ene	ND			5.0	ug/Kg EPA	8021B
m,p-Xylene	es	ND			5.0	ug/Kg EPA	8021B
o-Xylene		ND			5.0	ug/Kg EPA	8021B
	Surrogate	%REC	Limits	Anal	vsis		
Trifluorot	toluene (FID)	89	59-140	EPA 8015B	1.5-6		
Bromofluor	robenzene (FID)	95	62-149	EPA 8015B			
Trifluorot	toluene (PID)	90	63-125	EPA 8021B			
Bromofluo	robenzene (PID)	98	71-129	EPA 8021B			
Curtis & Tompkins Laboratories Analytical Report							
--	--	--	---	---	---	---	--
Lab #: Client: Project#:	182598 Stellar Environment STANDARD	al Soluti	ons	Location: Prep:		Acts Church-Pl EPA 5030B	nase I&II
Matrix:	Soil			Sampled:		10/19/05	
Basis:	as received			Received:		10/19/05	
Type: Lab ID: Diln Fac:	BLANK QC314100 1.000			Batch#: Analyzed:		107017 10/23/05	
	Analyte	Re	sult		RL	Units	Analysis
Gasoline (	C7-C12	ND			1.0	mg/Kg EPA	8015B
Gasoline ( MTBE	C7-C12	ND ND			1.0 20	mg/Kg EPA ug/Kg EPA	8015B 8021B
Gasoline ( MTBE Benzene	C7-C12	ND ND ND			1.0 20 5.0	mg/Kg EPA ug/Kg EPA ug/Kg EPA	8015B 8021B 8021B
Gasoline ( MTBE Benzene Toluene	C7-C12	ND ND ND ND			1.0 20 5.0 5.0	mg/Kg EPA ug/Kg EPA ug/Kg EPA ug/Kg EPA	8015B 8021B 8021B 8021B 8021B
Gasoline ( MTBE Benzene Toluene Ethylbenze	27-C12	ND ND ND ND ND			1.0 20 5.0 5.0 5.0 5.0	mg/Kg EPA ug/Kg EPA ug/Kg EPA ug/Kg EPA ug/Kg EPA	8015B 8021B 8021B 8021B 8021B 8021B
Gasoline ( MTBE Benzene Toluene Ethylbenze m,p-Xylene	ene es	ND ND ND ND ND			$ \begin{array}{c} 1.0\\ 20\\ 5.0\\ 5.0\\ 5.0\\ 5.0\\ 5.0\\ 5.0\\ 5.0\\ 5.$	mg/Kg EPA ug/Kg EPA ug/Kg EPA ug/Kg EPA ug/Kg EPA ug/Kg EPA	8015B 8021B 8021B 8021B 8021B 8021B 8021B
Gasoline ( MTBE Benzene Toluene Ethylbenze m,p-Xylene o-Xylene	ene es	ND ND ND ND ND ND			$ \begin{array}{r} 1.0\\ 20\\ 5.0\\ 5.0\\ 5.0\\ 5.0\\ 5.0\\ 5.0\\ 5.0\\ 5.$	mg/Kg EPA ug/Kg EPA ug/Kg EPA ug/Kg EPA ug/Kg EPA ug/Kg EPA ug/Kg EPA	8015B 8021B 8021B 8021B 8021B 8021B 8021B 8021B
Gasoline ( MTBE Benzene Toluene Ethylbenze m,p-Xylene o-Xylene	c7-c12 ene es Surrogate	ND ND ND ND ND ND	Limits	Analy	1.0 20 5.0 5.0 5.0 5.0 5.0 5.0 5.0	mg/Kg EPA ug/Kg EPA ug/Kg EPA ug/Kg EPA ug/Kg EPA ug/Kg EPA ug/Kg EPA	8015B 8021B 8021B 8021B 8021B 8021B 8021B 8021B
Gasoline G MTBE Benzene Toluene Ethylbenze m,p-Xylene O-Xylene	27-C12 ene es <b>Surrogate</b> toluene (FID)	ND ND ND ND ND ND 91	<b>Limits</b> 59-140	Anal) EPA 8015B	1.0 20 5.0 5.0 5.0 5.0 5.0 5.0	mg/Kg EPA ug/Kg EPA ug/Kg EPA ug/Kg EPA ug/Kg EPA ug/Kg EPA ug/Kg EPA	8015B 8021B 8021B 8021B 8021B 8021B 8021B
Gasoline G MTBE Benzene Toluene Ethylbenze m,p-Xylene O-Xylene Trifluorot Bromofluor	27-C12 ene es <b>Surrogate</b> toluene (FID) robenzene (FID)	ND ND ND ND ND ND 91 102	<b>Limits</b> 59-140 62-149	<b>Anal</b> EPA 8015B EPA 8015B	1.0 20 5.0 5.0 5.0 5.0 5.0 5.0	mg/Kg EPA ug/Kg EPA ug/Kg EPA ug/Kg EPA ug/Kg EPA ug/Kg EPA ug/Kg EPA	8015B 8021B 8021B 8021B 8021B 8021B 8021B
Gasoline G MTBE Benzene Toluene Ethylbenze m,p-Xylene O-Xylene Trifluorot Bromofluor Trifluorot	27-C12 ene es <b>Surrogate</b> toluene (FID) robenzene (FID) toluene (PID)	ND ND ND ND ND ND <b>%REC</b> 91 102 88	<b>Limits</b> 59-140 62-149 63-125	<b>Analy</b> EPA 8015B EPA 8015B EPA 8021B	1.0 20 5.0 5.0 5.0 5.0 5.0 5.0	mg/Kg EPA ug/Kg EPA ug/Kg EPA ug/Kg EPA ug/Kg EPA ug/Kg EPA ug/Kg EPA	8015B 8021B 8021B 8021B 8021B 8021B 8021B

\*= Value outside of QC limits; see narrative C= Presence confirmed, but RPD between columns exceeds 40% ND= Not Detected RL= Reporting Limit Page 7 of 7

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	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



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	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



Curtis & Tompkins Laboratories Analytical Report						
Lab #: 1	82598	Location:	Acts Church-Phase I&II			
Client: S	tellar Environmental Solutions	Prep:	EPA 5030B			
Project#: S	TANDARD	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:	Q	C313744		
	Analyte	MSS Re	sult	Spike	ed	Result	%REC	Limits
Gasoline	C7-C12		0.1332	9.	.346	6.365	67	44-120
	Surrogate	%REC	Limits					
Trifluor	otoluene (FID)	107	59-140					
Bromoflu	orobenzene (FID)	106	62-149					
Туре:	MSD			Lab ID:	Q	C313745		
	Analyte		Spiked		Result	%REC	Limits	RPD Lim
Gasoline	C7-C12		9.09	1	6.46	5 70	44-120	4 23

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

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	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



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	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



Curtis & Tompkins Laboratories Analytical Report								
Lab #: 182	598	Location:	Acts Church-Phase I&II					
Client: Ste	llar Environmental Solutions	Prep:	EPA 5030B					
Project#: STA	NDARD	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:	QC	2314113		
	Analyte	MSS Re	sult	Spike	ed	Result	%REC	Limits
Gasoline	C7-C12	<	0.1049	10.	.75	8.687	81	44-120
	Surrogate	%REC	Limits					
Trifluor	otoluene (FID)	116	59-140					
Bromoflu	orobenzene (FID)	116	62-149					
Type:	MSD			Lab ID:	QC	2314114		
	Analyte		Spiked		Result	%REC	Limits	RPD Lim
Gasoline	C7-C12		9.61	5	7.751	L 81	44-120	0 23

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

		Total Ext	racta	ble Hydroc	arbor	າຮ
Lab #: Client: Project#:	182598 Stellar Environmen STANDARD	tal Solutio	ns	Location: Prep: Analysis:		Acts Church-Phase I&II EPA 3520C EPA 8015B
Matrix: Units: Diln Fac: Batch#:	Water ug/L 1.000 107055			Sampled: Received: Prepared: Analyzed:		10/19/05 10/19/05 10/24/05 10/27/05
Datesiin -	107035			maryzea		10/21/03
Field ID: Type:	BH-03-GW SAMPLE			Lab ID:		182598-001
Kerosene C Diesel C10 Motor Oil	Analyte 10-C16 1-C24 C24-C36	Re	<b>sult</b> 570 Y 530 L Y		<b>RL</b> 50 50	
MOCOL OII	Surrogate	%REC L	imits		500	
Hexacosane		104 6	0-135			
Field ID: Type:	BH-04-GW SAMPLE			Lab ID:		182598-002
Kerosene C Diesel C10	Analyte 210-C16 0-C24	Re ND	<b>sult</b> 120 Y		<b>RL</b> 50 50	
Motor 011	C24-C36	ND	·		300	
Hexacosane		104 6	0-135			
Field ID: Type:	BH-05-GW SAMPLE			Lab ID:		182598-003
Kerosene C	Analyte	Re	<b>sult</b> 760 H Y		<b>RL</b> 50	
Diesel C10 Motor Oil	-C24 C24-C36		870 H L 820	Y	50 300	
Hexacosane	Surrogate	<b>%REC L</b>	<b>imits</b> 0-135			
<u>India de Darre</u>			0 100			
Field ID: Type:	BH-06-GW SAMPLE			Lab ID:		182598-004
Kerosene (	Analyte	Re	sult		<b>RL</b>	
Diesel C10 Motor Oil	C24-C36	1,	430 Н Ү 400		50 300	
	Surrogate	%REC L	imits			
Hexacosane		95 6	0-135			

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

	Т	otal E	xtractal	ole Hydroca	rbor	ns
Lab #: Client:	182598 Stellar Environmenta	l Solut:	ions	Location: Prep:		Acts Church-Phase I&II EPA 3520C
Project#:	STANDARD			Analysis:		EPA 8015B
Units:	ug/T			Received:		10/19/05
Diln Fac:	1.000			Prepared:		10/24/05
Batch#:	107055			Analyzed:		10/27/05
Field ID: Type:	BH-07-GW SAMPLE			Lab ID:		182598-005
	Analyte	]	Result		RL	
Kerosene (	C10-C16	ND			50	
Motor Oil	C24 - C36		260 H I 840		300	
110001 011			010		500	
	Surrogate	%REC	Limits			
Hexacosane	2	93	60-135			
Type: Lab ID:	BLANK QC314275			Cleanup Meth	nod:	EPA 3630C
	Analyte	]	Result		RL	
Kerosene (	$C_{10} - C_{16}$	ND			50	
Motor Oil	C24-C36	ND			300	
		_				
II and so so so	Surrogate	%REC	Limits			
нехасозапе		73	0U-135			

	Т	otal 1	Extracta	ble Hydrocarbo	ns			
Lab #:	182598			Location:	Acts Church-H	Phase I&I	I	
Client:	Stellar Environmenta	l Solut	cions	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: Lab ID:	BS QC314276			Cleanup Method:	EPA 3630C			
	Analyte		Spiked	Result	%REC	Limits		
Diesel Cl	0-C24		2,500	2,265	91	53-138		
	Surrogate	%REC	Limits					
Hexacosan	e	116	60-135					
Type: Lab ID:	BSD QC314277			Cleanup Method:	EPA 3630C			
	Analyte		Spiked	Result	%REC	Limits	RPD	Lim
Diesel Cl	0-C24		2,500	2,088	84	53-138	8	36
	Surrogate	%REC	Limits					
Hexacosan	e	105	60-135					

	T	otal E	xtracta	ble Hydroc	arbor	าร
Lab #: Client: Project#:	182598 Stellar Environmental STANDARD	Solut	ions	Location: Prep: Analysis:		Acts Church-Phase I&II SHAKER TABLE EPA 8015B
Matrix: Units: Basis: Batch#:	Soil mg/Kg as received 107073			Sampled: Received: Prepared:		10/19/05 10/19/05 10/25/05
Field ID: Type: Lab ID:	BH-06-7.5' SAMPLE 182598-006			Diln Fac: Analyzed:		1.000 10/27/05
	Analyte	]	Result		RL	
Kerosene C Diesel C10 Motor Oil	10-C16 -C24 C24-C36		1.4 Y 13 H Y 50	-	1. 1. 5.	0 0 0
	Surrogate	%REC	T.imita			
Hexacosane		66	48-132			
Field ID: Type: Lab ID:	BH-07-7.5' SAMPLE 182598-007			Diln Fac: Analyzed:		1.000 10/26/05
Kerosene (	Analyte	ND	Result		<u>RL</u>	0
Diesel C10 Motor Oil	C24-C36	ND	2.5 н	Υ	1. 5.	0 0
	Surrogate	%REC	Limits			
Hexacosane		70	48-132			
Field ID: Type: Lab ID:	BH-03-9.5' SAMPLE 182598-008			Diln Fac: Analyzed:		1.000 10/26/05
	Analyte		Result		RL	
Kerosene C Diesel C10 Motor Oil	210-C16 )-C24 C24-C36	ND	11 Y 9.0 L	Υ	1. 1. 5.	0 0 0
	Surrogate	%PFC	Limite			
Hexacosane	Burroyace	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

	г	otal Extracta	ble Hydroc	arbons	
Lab #: Client: Project#:	182598 Stellar Environmenta STANDARD	l Solutions	Location: Prep: Analysis:	Acts Church-Pl SHAKER TABLE EPA 8015B	nase I&II
Matrix: Units: Basis: Batch#:	Soil mg/Kg as received 107073		Sampled: Received: Prepared:	10/19/05 10/19/05 10/25/05	
Field ID: Type: Lab ID:	BH-03-11.5' SAMPLE 182598-009		Diln Fac: Analyzed:	1.000 10/26/05	
	Analyte	Result		RL	
Kerosene ( Diesel Cl( Motor Oil	C10-C16 )-C24 C24-C36	1.1 Y 2.2 Y ND	Z Z	1.0 1.0 5.0	
	Surrogate	%REC Limite			
Hexacosane	2	77 48-132			
Field ID: Type: Lab ID:	BH-03-12' SAMPLE 182598-010		Diln Fac: Analyzed:	1.000 10/26/05	
	Analyte	Result		RL	
Kerosene ( Diesel C1( Motor Oil	C10-C16 )-C24 C24-C36	ND ND ND		1.0 1.0 5.0	
	Surrogate	%REC Limits			
Hexacosane	2	65 48-132			
Field ID: Type: Lab ID:	BH-04-8.5' SAMPLE 182598-011		Diln Fac: Analyzed:	1.000 10/26/05	
	Analyte	Result		RL	
Kerosene ( Diesel Cl( Motor Oil	C10-C16 D-C24 C24-C36	ND 2.9 H 5.3	ΥΥ	1.0 1.0 5.0	
	Surrogate	SPEC Limita			
Hevecogene	Burroyace				

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 2 of 4

	Тс	otal E	xtracta	ble Hydroc	arbons	
Lab #: Client: Project#:	182598 Stellar Environmental STANDARD	. Solut	ions	Location: Prep: Analysis:	Acts Church SHAKER TABI EPA 8015B	n-Phase I&II E
Matrix: Units: Basis: Batch#:	Soil mg/Kg as received 107073			Sampled: Received: Prepared:	10/19/05 10/19/05 10/25/05	
Field ID: Type: Lab ID:	BH-04-10' SAMPLE 182598-012			Diln Fac: Analyzed:	1.000 10/26/05	
	Analyte		Result		RL	
Kerosene ( Diesel Cl( Motor Oil	C10-C16 D-C24 C24-C36	ND	2.4 H 5.1	Υ	0.99 0.99 5.0	
	Surrogate	% <b>D</b> ₽C	Limita			
Hexacosane		54	48-132			
Field ID: Type: Lab ID:	BH-05-7' SAMPLE 182598-013			Diln Fac: Analyzed:	3.000 10/26/05	
Kerosene ( Diesel Cl( Motor Oil	Analyte C10-C16 )-C24 C24-C36		28 H Y 28 H Y 68 H Y 420	-	RL 3.0 3.0 15	
	Surrogate	%REC	Limits			
Hexacosane		48	48-132			
Field ID: Type: Lab ID:	BH-05-12' SAMPLE 182598-014			Diln Fac: Analyzed:	1.000 10/26/05	
	Analyte		Result		RL	
Kerosene ( Diesel Cl( Motor Oil	C10-C16 D-C24 C24-C36		42 H 51 H L 110	Υ	1.0 1.0 5.0	
	Surrogate	%RFC	T.imi+a			
Hexacosane		70	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 3 of 4

Total Extractable Hydrocarbons								
Lab #: Client: Project#:	182598 Stellar Environmenta STANDARD	L Solut:	ions	Location: Prep: Analysis:	Ad SI El	cts Church-Phase I&II HAKER TABLE PA 8015B		
Matrix: Units: Basis: Batch#:	Soil mg/Kg as received 107073			Sampled: Received: Prepared:	1) 1) 1)	0/19/05 0/19/05 0/25/05		
Field ID:	BH-05-13'			Diln Fac:	1	.000		
Type: Lab ID:	SAMPLE 182598-015			Analyzed:	10	0/26/05		
	Analyte		Result		RL			
Kerosene Diesel Cl Motor Oil	C10-C16 0-C24 C24-C36	ND	1.1 Y 2.5 Y	- -	1.0 1.0 5.0			
TT	Surrogate	%REC	Limits					
Hexacosan	e	/1	48-132					
Field ID: Type: Lab ID:	BH-05-15' SAMPLE 182598-016			Diln Fac: Analyzed:	1	.000 )/26/05		
77	Analyte	]	Result					
Diesel Cl Motor Oil	C10-C16 0-C24 C24-C36	ND	2.7 H 5.3	ΙΥ	1.0 1.0 5.0			
	Surrogate	%REC	Limits					
Hexacosan	e	67	48-132					
Type: Lab ID: Diln Fac:	BLANK QC314345 1.000			Analyzed: Cleanup Meti	10 hod: El	0/26/05 PA 3630C		
	Analyte		Result		RL			
Kerosene Diesel C1 Motor Oil	C10-C16 0-C24 C24-C36	ND ND ND			1.0 1.0 5.0			
	Gummogato	%DEC	Timite					
Hexacosan	e	90	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 4 of 4

Total Extractable Hydrocarbons							
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	



Total Extractable Hydrocarbons							
Lab #:	182598	Location:	Acts Church-Phase I&II				
Client:	Stellar Environmental Solutions	Prep:	SHAKER TABLE				
Project#: STANDARD		Analysis:	EPA 8015B				
Field ID:	ZZZZZZZZZZ	Batch#:	107073				
MSS Lab II	D: 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:	QC31	4347			
	Analyte	MSS Res	ult	Spiked	R	esult	%REC	Limi	ts
Diesel	C10-C24	3	.883	50.48	3	29.94	52	28-1	63
	Surrogate	%REC	Limits						
Hexacos	sane	75	48-132						
Туре:	MSD			Lab ID:	QC31	4348			
	Analyte		Spiked		Result	%REC	Limits	RPD	Lim
Diesel	C10-C24		50.42		26.80	45	28-163	11	46
	Surrogate	%REC	Limits						
Hexacos	sane	65	48-132						