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Environmental Health

SOIL-GAS AND GROUNDWATER INVESTIGATION

**1171 OCEAN AVENUE
OAKLAND, CALIFORNIA**

Prepared for

**1171 OCEAN AVENUE, LLC
OAKLAND, CALIFORNIA**

September 2007

**SOIL-GAS AND GROUNDWATER
INVESTIGATION**

**1171 OCEAN AVENUE
OAKLAND, CALIFORNIA**

Prepared for:

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Prepared by:

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September 26, 2007

Project No. 2006-21

September 26, 2007

Mr. Steven Plunkett
Hazardous Material Specialist
Alameda County Environmental Health Department
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Subject: Soil-Gas and Groundwater Investigation Report
1171 Ocean Avenue, Oakland, California

Dear Mr. Plunkett:

Attached is the Stellar Environmental Solutions (SES) report of findings for the Soil-Gas and Groundwater Investigation conducted at 1171 Ocean Avenue, Oakland, California. On behalf of the property owner, 1170 Ocean Avenue, LLC (represented by Ms. Felicia Woytak), Stellar Environmental Solutions, Inc. (SES) is providing this report to the Alameda County Environmental Health Department.

The scope of work for this project involved the implementation of the July 2007 workplan that was verbally approved by you in early August 2007. The report presents a modification to the last conceptual model we presented, based on the new findings of no TCE in the groundwater immediately upgradient and offsite. The report summarizes the additional characterization investigation conducted in August 2007.

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge. Please call the undersigned at (510) 644-3123 if you have any questions.

Sincerely,



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

cc: Felicia Woytak, 1171 Ocean Avenue, LLC



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EXECUTIVE SUMMARY

This 2007 Soil-Gas and Groundwater Investigation report supplements the Phase III Corrective Action Investigation report (SES, 2006b) and the Phase IV Corrective Action Investigation report (SES, 2006c) prepared for the property located at 1171 Ocean Avenue, Oakland, California. All of the reports were completed by Stellar Environmental Solutions, Inc. (SES) on behalf of Ms. Felicia Woytak of 1171 Ocean Avenue, LLC.

Because of the historical hazardous materials usage at and in the vicinity of the subject property, in May 2006, before the property was acquired by 1171 Ocean Avenue, LLC, a Phase II subsurface investigation was conducted as part of the due diligence process. The Phase II investigation results were reported in a Phase I Environmental Site Assessment (ESA)/Phase II Subsurface Investigation report (SES, 2006a).

Findings of the Phase II investigation of four exploratory bores revealed groundwater contamination by volatile organic compounds (VOCs) and petroleum hydrocarbons. Additional characterization (a Phase III investigation) was conducted in July 2006. The principal objective of the Phase III investigation was to determine if the trichloroethylene (TCE) discovered in the grab-groundwater samples had resulted from historical onsite activities. A conceptual model was developed based on the hypothesis of a local source for the TCE contamination, although there was no historical documentation of either onsite or nearby offsite (upgradient) activities involving the use of TCE.

According to the most recent historical information, Praxair Distribution, Inc. (subject property owner/occupant until July 2006 when the property was sold to 1171 Ocean Avenue LLC), utilized the site from 1984 to 2006. During that time, Praxair Distribution used the site for administrative offices and a bottled gas distribution plant; there was no record of TCE use. Other historical uses are as follows: Prior to 1946, the subject property consisted of undeveloped land in a predominantly residential area of West Oakland. In 1946, the eastern portion of the subject property was developed with a storage/drayage yard with an associated "oil" warehouse that later became a shampoo factory. After 1950, the property was redeveloped as the current configured two-story building. City directory listings indicate that the subject property was operated as a chartered bus company in the late 1960s and early 1970s, and then as a fountain company in the late 1970s and early 1980s. Thus, if the TCE is indeed site-sourced, the property's use as a

chartered bus company in the 1960s and 1970s is the most likely cause, as TCE was commonly used as a cleaning solvent in the 1950s through early 1980s.

The May 2006 borehole soil sampling program documented low to trace levels of petroleum hydrocarbons; however, this was not considered relevant, as regulatory closure for the historical underground fuel storage tank had already been achieved and the new data did not suggest any additional hydrocarbon contamination of regulatory concern. As stated above, the unexpected finding was the significant concentration of TCE (a common VOC solvent) in the grab-groundwater sample. One grab sample in particular (groundwater was not encountered until 36 feet below ground surface [bgs]) contained a TCE concentration of 5,200 micrograms per liter ($\mu\text{g/L}$). Relatively minor concentrations of cis-1,2-dichloroethylene (DCE) and trans-1,2-DCE were also reported in the laboratory results, consistent with TCE degradation products. The TCE concentrations at the other three initial bores ranged from 310 to 910 $\mu\text{g/L}$. The TCE regulatory screening criteria for commercial/ industrial property used is 360 $\mu\text{g/L}$.

During the Phase III investigation in July 2006, another 11 exploratory bores were drilled at the site. This event was designed to determine any evidence of shallow contamination in the soil indicative of a site source, as well as to determine the existence of an upper water-bearing zone (perched or otherwise) that could be sampled for TCE to compare concentrations with the previous hydropunch sample results. The results of the July sampling show non-detectable concentrations of TCE in soil, indicating no discernable "site source area" of TCE in the soil near the highest concentration in the groundwater. Four soil samples per bore were collected in the potential site source area to ensure good vertical definition of potential soil contamination. In addition, the July bores were installed to depths of 26 feet or less, and a temporary screen was installed to allow for any perched water or slowly infiltrating water to work its way into the upper water-bearing zone (to differentiate between local site sources and other potential sources). The objective was to determine if the deeper grab-groundwater sample (BH-02) that showed the highest TCE concentration (5,200 $\mu\text{g/L}$ at 36 feet bgs) was connected to local spill or leaks that would most reasonably affect the first encountered groundwater.

The shallow July 2006 soil and groundwater data from the new bores showed a disconnect between shallow and deeper groundwater, refuting the working model of a site-source origin of the TCE, and raising the prospect of offsite TCE source(s). While no obvious offsite sources were identified in the Phase I ESA conducted in May 2006, the initial indication of a likely site source is called into question by the July 2006 data.

A Phase IV Site Investigation completed in October 2006 was designed to fill data gaps (testing the hypothesis that the contamination was from an offsite source) by the collection of four additional grab-groundwater samples at the upgradient property line from the same depth as the bore with the highest onsite TCE concentration.

The current August 2007 Phase V investigation (the subject of this report) was designed to further corroborate—or disprove—the working conceptual model that the TCE in the groundwater appeared to originate from offsite source(s). This is based on the following data: 1) the highest concentration is at the upgradient portion of the property; 2) the contamination is more concentrated in the deeper (rather than shallower) groundwater; and 3) there is no definitive indication of activities in the southeastern area of the site that suggest onsite origins. To determine if the source of the TCE at bore BH-02 is site-sourced or originates from offsite, SES advanced an additional six bores—one placed on the upgradient portion on the property near BH-02, four in an upgradient area off the property, and one offsite and transgradient to the northeast; all of these additional bores were drilled to the same depth as bore BH-02 (36 feet bgs) to test for TCE concentrations. Eight soil-gas samples were also collected on the property for VOC analyses from a depth of 5 feet bgs to identify onsite impact sources of TCE, the contaminant of concern.

This August 2007 Phase V investigation set out the objectives to test the conceptual model of an offsite origin from an area southeast of the site. The four offsite hydropunch samples showed no or only trace concentration of TCE. Higher concentrations were found in the onsite bores. The soil-gas survey showed a detectable TCE concentration only in one bore (located in the southeast corner of the property) and only at a trace level (860 micrograms per meter cubed ($\mu\text{g}/\text{m}^3$) versus the residential ESL of 1200 $\mu\text{g}/\text{m}^3$). Based on these data, further sampling was conducted at three bores in the southeastern corner of the site. The additional data identified a new highest concentration point of TCE (10,000 $\mu\text{g}/\text{L}$) near the previous high point of 6,000 $\mu\text{g}/\text{L}$, which suggests a localized source. However, the soil and soil-gas sample results showed no shallow zone contamination in the immediate area.

The distribution of contamination does not appear to have any impact on site utilization for its current or projected use in that the TCE contamination at concentrations of concern are at deeper elevations that do not impact users. SES recommends additional source evaluation and extent of contamination be investigated.

1.0 INTRODUCTION AND BACKGROUND

PROJECT BACKGROUND

Historical land uses at the subject property, documented in the May 2006 Phase I & II Environmental Site Assessment (ESA) report (SES, 2006a), include: a drayage yard; an “oil” warehouse that later became a shampoo factory; a chartered bus company; and a fountain company. Various bottled gas distributors occupied the subject property between 1984 and May 2006 when Praxair Distribution, Inc. vacated the site. Land use in the vicinity of the subject property is, and historically has been, mixed residential and commercial (SES, 2006a). There is no regulatory agency documentation of onsite use of hazardous materials containing volatile organic compounds (VOCs); however, given the site history and time period in which trichloroethylene (TCE) was most commonly used as a cleaning solvent (1950s through early 1980s), the previous use of the site as a chartered bus company is the most likely source of the current TCE contamination.

1171 Ocean Avenue, LLC, the current property owner, recently purchased the subject property and assumes liability for the characterization and remediation the site. The only known environmental activities prior to the aforementioned investigation is the removal of an onsite gasoline underground fuel storage tank (UFST) in 1989, which included subsequent investigations and monitoring associated with the release of hydrocarbons from the tank.

KEY OBJECTIVES AND SCOPE OF WORK SUMMARY

Stellar Environmental Solutions, Inc. (SES) was retained by 1171 Ocean Avenue, LLC to conduct an additional subsurface investigation to determine if historical onsite usage of hazardous materials, including a former UFST, had impacted the subject property. The scope of work was implemented in response to a letter by the Alameda County Environmental Health Department (ACEH) on June 28, 2007 that requested additional site assessment to further corroborate the conceptual model developed after three stages of investigation that the TCE in groundwater originates from offsite source(s). The ACEH has identified two areas of focus to provide more conclusive evidence for an offsite origin of the TCE contamination:

- Conduct an onsite soil-gas survey to further corroborate the soil sample data that show no detectable vadose zone contamination; and
- Perform a focused offsite hydropunch investigation program to explore the presumed upgradient offsite source of the TCE in groundwater.

A primary regulatory agency criterion for determining if a listed site is responsible for underlying contamination, and can meet site closure requirements, is the identification and subsequent removal of the source area (in this case, localized TCE-contaminated soils that would impact groundwater hydrochemistry).

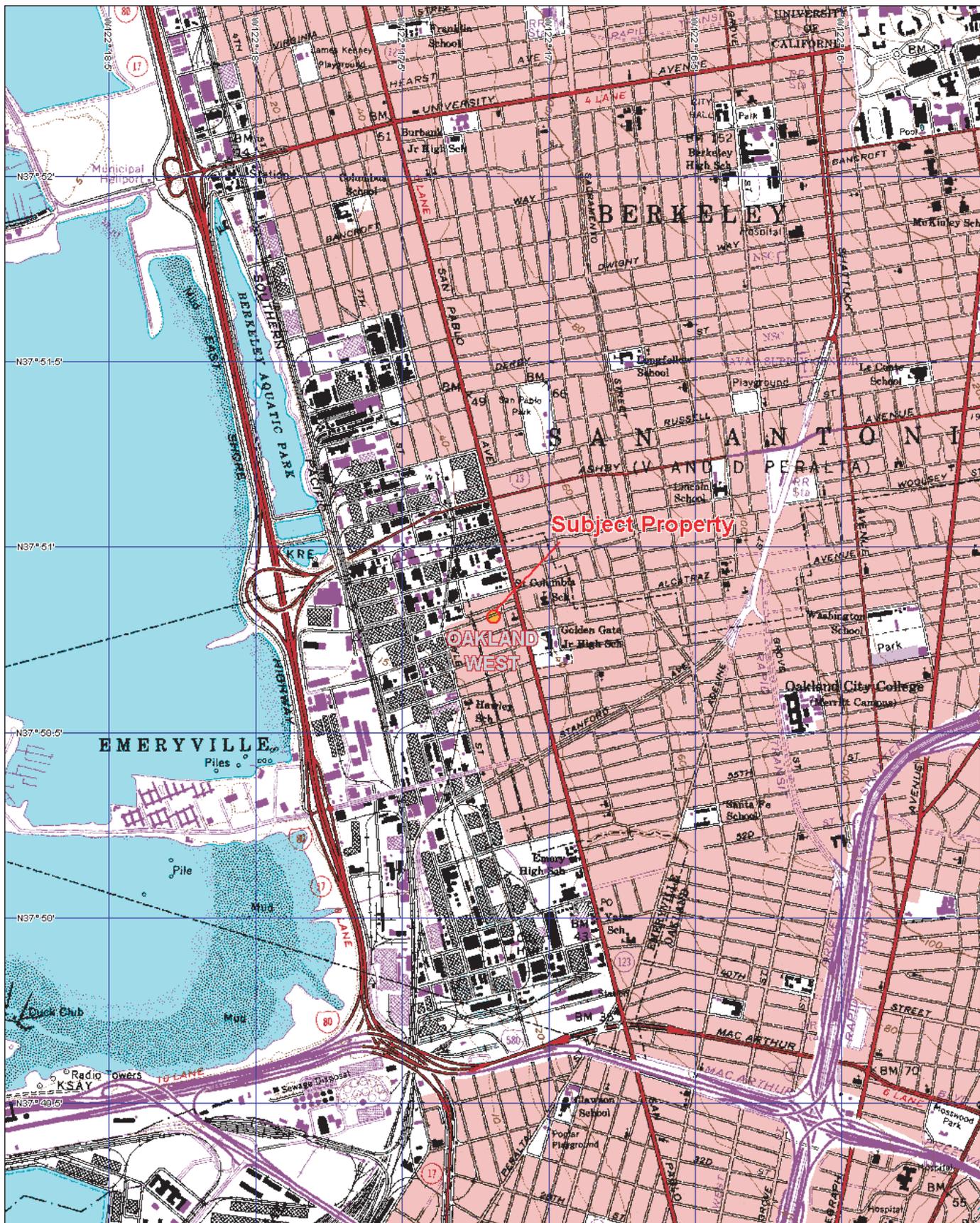
The SES scope of work included the following elements:

- Reviewing data from previous reports—Phase I & II ESA (SES, 2006a); Phase III Investigation (SES, 2006b); and Phase IV Investigation (SES, 2006c)—to optimize new bore placement;
- Advancing and sampling six exploratory boreholes and collecting groundwater samples for VOC analysis to corroborate evidence that the TCE in groundwater beneath the site originates from offsite source(s);
- Collecting eight soil-gas samples on the property for VOC analyses from a depth of 5 feet below ground surface (bgs), designed to identify onsite impact sources of TCE, the contaminant of concern;
- Evaluating the analytical results in the context of the extent and magnitude of contamination and the need for corrective action; and
- Recommending appropriate additional investigations and/or corrective actions, if needed.

SITE DESCRIPTION AND CURRENT LAND USE

The site is located on the south side of Ocean Avenue in northwestern Oakland, Alameda County, California. Figure 1 shows the general location of the subject property on a U.S. Geological Survey (USGS) topographic base map. Figure 2 is a site plan showing the subject property boundaries and former building locations.

The subject property consists of one parcel of approximately 0.74 acre (31,806 square feet) that is developed with an 8,100-square foot two-story commercial office building and an associated exterior above-grade bottled gas distribution plant consisting of a concrete block foundation and steel canopy. The subject property buildings cover approximately 70 percent of the subject property. The subject property building is currently vacant (formerly occupied by Praxair Distribution, Inc.). The bottled gas distribution plant has not been used since February 2006 when distribution operations were transferred to Praxair's Pittsburg, California site.



3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS 750 ft Scale: 1: 25,000 Detail: 13-0 Datum: WGS84



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

1171 Ocean Avenue
Oakland, CA

By: MJC

MARCH 2006

Figure 1



2006-21-01



LEGEND

- ⊕ May 2006 borehole location
- Former monitoring well
- Subject property boundary

The subject property is bordered to the east by Marshall Street and a church; to the west by Bay Area Structural Inc. and Helephant & Associates Engineering and Inspections; to the south by residential homes; and to the north by residential houses and a daycare facility.

REGULATORY STATUS

The subject property currently is a designated ACEH site (Case No. RO0002937); ACEH is the designated lead regulatory agency. The new site owners requested a review of the investigation data. The Regional Water Quality Control Board (Water Board) is not currently involved with this site, and will not likely be involved until the case is reviewed for closure status. The current owner has submitted a notification to ACEH. The site is designated on the Spills, Leaks, Incidents and Cleanup (SLIC) database.

PREVIOUS UFST-RELATED WORK

In March 1989, Union Carbide Corporation (the tenant at that time) had its 5,000-gallon diesel UFST removed from the northwest corner of the subject property (adjacent to Ocean Avenue). While no soil contamination was detected in excavation confirmation soil samples, elevated levels of petroleum hydrocarbons were detected in an excavation grab-groundwater sample. A site characterization was conducted in 1989 (seven exploratory boreholes drilled and sampled). No soil or groundwater contamination was detected at concentrations of concern in any of the boreholes. One groundwater monitoring well was installed in the vicinity of the UFST in 1989, and was sampled in four quarterly events in 1990, followed by two more sampling events in December 1994 and January 1995. Gasoline was detected in the final three events, at concentrations between 0.17 milligrams per liter (mg/L) and 0.22 mg/L. Diesel was never detected, and benzene was detected only once (in 1990). The case closure summary prepared by the Water Board indicates that the gasoline contamination may have originated from an offsite source.

The groundwater monitoring well was destroyed under regulatory permit in 1996. The case was granted full regulatory closure in May 1996 by ACEH (with Water Board concurrence). A list of documented environmental reports and case closure documents is included in the References section of this report.

MAY 2006 GROUNDWATER INVESTIGATION FINDINGS

During the May 2006 Phase II investigation, both petroleum hydrocarbons and VOCs were detected in the four collected groundwater samples. Detected gasoline-range hydrocarbon concentrations ranged from a maximum of 1,400 micrograms per liter ($\mu\text{g/L}$) to a minimum of 130 $\mu\text{g/L}$. Only one of the collected gasoline sample concentrations exceeded the Water Board's established Environmental Screening Level (ESL) of 500 $\mu\text{g/L}$. Diesel-range hydrocarbon

concentrations ranged from a maximum of 610 µg/L to a minimum of 93 µg/L; none of the diesel concentrations exceeded the 640-µg/L ESL. Neither BTEX nor MTBE were detected in any of the groundwater samples.

Three VOCs were detected in the groundwater samples: TCE; cis-1,2-dichloroethylene (DCE); and trans-1,2-DCE. Of these detected compounds, only TCE exceeds the 360 µg/L ESL, with a maximum concentration of 5,200 µg/L and a minimum concentration of 310 µg/L; TCE concentrations in three of the four collected groundwater samples exceed the respective ESL. The concentrations of cis-1,2-DCE and trans-1,2-DCE are consistent with their inferred presence as TCE degradation products.

Because maximum groundwater concentrations of petroleum hydrocarbons and VOCs were found to be centrally located at the site, the data suggested site-sourced contamination, possibly from previous site use as a bus charter and repair facility in the late 1960s and early 1970s. This conclusion is based on: 1) TCE was most commonly used as a cleaning solvent during the 1950s through early 1980s; and 2) the bus charter/repair facility was the business entity in existence within that time period most likely to have used TCE in its operations.

The two identified contaminants of concern at the subject site were gasoline and TCE, with concentrations of each exceeding their respective ESLs. TCE is the more significant of the two contaminants—in terms of its detection above the regulatory ESLs (three of the four bores), maximum concentration above the ESLs (5,200 µg/L TCE), and persistence. The lateral distribution of TCE in the bores, with BH-02 in the central portion of the site, suggested onsite sources.

Although all four groundwater samples showed detectable diesel and gasoline concentrations, only one (gasoline) sample exceeded the ESL of 500 µg/L. Reported concentrations of diesel in all site groundwater samples were less than the ESL of 640 µg/L; none of the observed concentrations exceeded the ESL. The Phase II investigation concluded that the gasoline and diesel contamination could originate from onsite sources, but could also be the result of a ubiquitous regional contamination. There was no correlation between the highest concentration of petroleum hydrocarbons and the location of the former UFST, which would be expected if the source was site based.

JULY 2006 GROUNDWATER INVESTIGATION FINDINGS

The results of the July sampling show non-detectable concentrations of TCE in soil, indicating no discernable “site source area” of TCE in the soil near the highest concentration in the groundwater. Four soil samples per bore were collected in the potential site source area to ensure good vertical definition of potential soil contamination. In addition, the July bores were installed to depths of 26 feet or less, and a temporary screen was installed to allow for any

perched water or slowly infiltrating water to work its way into the upper water-bearing zone (to differentiate between local site sources and other potential sources). The objective was to determine if the deeper grab-groundwater sample (BH-02) that showed the highest TCE concentration (5,200 µg/L at 36 feet bgs) was connected to local spill or leaks that would most reasonably affect the first encountered groundwater.

The shallow July soil and groundwater data from the new bores showed a disconnect between shallow and deeper groundwater, refuting the working model of a site-source origin of the TCE, and raising the prospect of offsite TCE source(s). While no obvious offsite sources were identified in the Phase I ESA conducted in May 2006, the initial indication of a likely site source is called into question by the July 2006 data.

OCTOBER 2006 GROUNDWATER INVESTIGATION FINDINGS

The Phase IV Site Investigation was designed to fill data gaps (testing the hypothesis that the contamination was from an offsite source) by the collection of grab-groundwater samples at the upgradient property line from the same depth as the bore with the highest onsite TCE concentration. During the Phase IV investigation, four additional exploratory bores were installed near the four corners of the site, at the same depth (36 feet bgs) as BH-02, the bore with the highest TCE concentration. With this placement and collection depth for the grab-groundwater samples, a higher concentration of the TCE in groundwater was found at the southeast border of the property (bore BH-16), indicating an offsite (from the southeast) origin.

2.0 AUGUST 2007 FIELDWORK AND ANALYTICAL RESULTS

This section discusses the field and laboratory investigation protocols, and presents the laboratory analytical results of the soil-gas sampling conducted by SES. Included are the rationale for the borehole locations, sampling depths, drilling and sampling methods, and analytical methods. Section 4.0 discusses the analytical results in the context of contaminant distribution, fate, and transport. Appendix A contains photodocumentation of the field activities.

PERMITTING AND NOTIFICATIONS

Prior to drilling, we obtained the required Alameda County Public Works drilling permit and the City of Oakland excavation permit, as boring locations were located on city property (the parking lane areas along Ocean Avenue and Marshall Street). A site visit was made to mark the boring location prior to reporting the proposed 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. Copies of the permits are included in Appendix B.

BOREHOLE LOCATIONS, SAMPLING, AND ANALYTICAL METHOD SELECTION

A specific objective of the program was to identify onsite residual soil contamination and estimate the concentrations and volume of residual contaminated soil, if located, that might require corrective action. Eight soil-gas samples were collected on the property for VOC analysis from a depth of 5 feet bgs to identify possible onsite impact sources of TCE, the contaminant of concern. Six exploratory boreholes were also drilled for grab-groundwater sample collection to determine if the source of the TCE at bores BH-02 and BH-16 is site-sourced or originates from offsite. One bore was placed on the upgradient portion on the property, four bores were placed in an upgradient area off the property, and one bore was placed offsite and transgradient to the northeast. All of these bores were drilled to the same depth (36 feet bgs) as bore BH-02 to test for TCE concentrations. Downgradient boreholes were located to evaluate the lateral extent and magnitude of groundwater contamination. Based on the results of the August 13 sampling, an additional four boreholes were placed on site to investigate the source of soil contamination in the vicinity of borehole BH-16, the bore that historically has had the highest concentrations of TCE. Figure 2 (in Section 1.0) is a site plan that shows the borehole locations.

BOREHOLE DRILLING AND SAMPLING

Exploratory borehole drilling and sampling was conducted on August 13th, 14th, and 24th, 2007. Drilling was conducted by EnProb Environmental Probing (C-57 License No. 777007), under the direct supervision of an SES field geologist. The boreholes were drilled with a truck-mounted direct push Geoprobe™ rig.

Soil Sampling

Boreholes conducted for geologic logging and soil sample collection were drilled and continuously cored with 2-inch-diameter steel outer drive casing lined with acetate sampling sleeves. The core samples were collected for geologic logging using the visual method of the Unified Soils Classification System (USCS). Soil selected for laboratory analysis was sealed with Teflon® tape and plastic caps.

Appendix C contains the borehole geologic logs from this investigation.

Groundwater Sample Collection

Groundwater samples were collected from each of the bores to evaluate the TCE contaminant distribution. Groundwater samples were collected in boreholes BH-20, BH-22, and BH-23 using a 1½-inch outside diameter hydropunch with an expendable tip and retractable 4-foot PVC screen (extending from 32 to 36 feet bgs). Groundwater infiltrated very slowly into boreholes BH-21, BH-24, and BH-25 through BH-29, which were cored for lithologic logging and sampling; therefore, groundwater from these bores was collected utilizing temporary PVC well casing screened from 31 to 36 feet.

Groundwater was withdrawn with a disposable bailer or using new Tygon tubing with a check ball assembly at the base. Groundwater samples were containerized in 40-ml glass VOA vials preserved with hydrochloric acid, labeled, chilled, and transported to the analytical laboratory under chain-of-custody documentation.

Soil-Gas Survey Sampling

The soil-gas survey was completed on August 14, 2007. The survey entailed the collection of soil-gas at eight sample locations. The soil-gas survey utilized standard methods and protocols for VOC soil-gas surveys, based on Department of Toxic Substance Control (DTSC) guidance. One soil-gas sample was collected from each borehole from the depth interval of 5 to 5½ feet bgs. Soil-gas samples were collected with a direct-push Geoprobe™ drill rig to advance a probe with sacrificial tip and post-run tubing (PRT) soil-gas sampling adaptor to a target depth of 5½ feet bgs. Once the target depth was achieved, the sacrificial tip was removed by raising the drilling rods approximately 6 inches and exposing the PRT soil-gas sampling adaptor, thus

allowing for the collection of soil-gas via ¼-inch Tygon[®] tubing extending through the drill rods to the surface. Hydrated bentonite was placed around the drill rod to inhibit surface air migration between the interface of native soil and the rod.

Soil-gas samples were collected in 1.0-liter Summa[®] canisters provided by Air Toxics, Ltd. Prior to the collection of each soil vapor sample, an initial vacuum reading of the sampling Summa[®] canister was recorded using a laboratory-provided vacuum gauge. The vacuum readings are recorded on the laboratory chain-of-custody. The Tygon[®] tubing extending from the drilling rods was connected to a flow regulator with internal particulate filter, calibrated by the laboratory to 100 to 200 milliliters per minute (ml/min). A manifold collection system was used with an in-line Flow Controller (FC) and vacuum gauge. Its purpose is to indicate whether air is escaping from the soil or if the gauge is too tight (to rule out whether faulty media are being used). The second gauge in line after the FC indicates whether the canister is filling or if the media are indeed malfunctioning. A “T” fitting stopcock valve was connected to the flow regulator with hoses—one hose leading to a Summa[®] canister dedicated to purging the void space, and a second hose to a Summa[®] canister dedicated for sampling. All fittings were brushed with a “duster” for leak testing; all collected samples were analyzed for 1,1-difluoroethane, the presence of which would indicate the intrusion of atmospheric air.

Following assembly of the sampling apparatus, the assembly was securely closed and the purge Summa[®] canister opened, thus creating a vacuum that was monitored via a vacuum gauge test for leaks. A vacuum was held for 5 minutes to ensure that all fittings were tight.

A minimum of 15 minutes was allowed to elapse after the drill rig probe was advanced, so that the subsurface vapors could equilibrate. The soil-gas sampling assembly was then connected to the probe in the ground and purged of three volumes of vapor using the purge-dedicated Summa[®] canister. The purge volumes were calculated from the boring length and diameter of the Tygon[®] tubing. Following purging, the soil-gas samples were collected by opening the valve to the dedicated Summa[®] canister and allowing the vacuum within the canister to draw the soil-gas through the assembly at the rate governed by the flow controller (100 to 200 ml/min). The canister was not allowed to fill completely, thus leaving a small vacuum inside the canister. Following sample collection, a final canister vacuum was read and recorded on the chain-of-custody form.

New sacrificial probe tips, Tygon[®] tubing, and Summa[®] canisters were used for the sampling of each location. The canisters were shipped the same day via FedEx to Air Toxics, Ltd., under chain of custody. All samples were maintained at ambient temperature and out of direct sunlight.

Site Restoration and Investigation Related Waste Management

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 this investigation were added to soil from previous investigations in a labeled metal 55-gallon drum with a securely closing lid.

Drill cuttings (soil) generated during the exploratory boring with the GeoProbe rig are contained in one 55-gallon steel drum that is appropriately labeled and stored onsite within the secured fenced area of the property. The soil will be disposed as appropriate by the owner in the future, based on the soil analytical results.

SOIL, SOIL-GAS, AND GROUNDWATER ANALYTICAL METHODS

The samples were analyzed for the following site chemical of concern:

- Soil and grab-groundwater samples were analyzed for the 8010 list of VOCs by a State of California Environmental Laboratory Accreditation Program (ELAP)-certified laboratory, using EPA Method 8260.
- Soil-gas samples were analyzed for VOCs by an ELAP-certified laboratory, using EPA Method TO-15.

The soil and groundwater samples were placed in an ice chest with ice at approximately 4°C and transported to the analytical laboratory under chain-of-custody the same day. Laboratory analysis was conducted by Curtis and Tompkins, Ltd. (of Berkeley, California), an analytical laboratory certified by ELAP.

The soil-gas canisters were shipped the same day via FedEx to Air Toxics, Ltd., under chain of custody. Soil-gas samples were maintained at ambient temperature and out of direct sunlight.

Laboratory quality control (QC) samples (e.g., method blanks, matrix spikes, surrogate spikes, etc.) were analyzed by the laboratory in accordance with requirements of each analytical method. All laboratory QC sample results and sample holding times were within the acceptance limits of the analytical method.

SOIL, SOIL-GAS, AND GROUNDWATER ANALYTICAL RESULTS

Soil Sample Analytical Results

This section includes the soil analytical results for the July 2006 and August 2007 investigations. No soil contamination was found in any of the 32 soil samples collected from the 11 bores at the site during the July 2006 investigation. The results of the soil sampling for VOCs (Table 2)

shows no TCE or cis-1,2 DCE (compared with the groundwater sampling conducted in May 2006). This suggests that the contamination is originating from the project site. Table 2 presents soil sample results for TCE and cis-1,2-DCE concentrations. Appendix D contains the certified analytical laboratory reports and chain-of-custody records. Section 4.0 discusses in detail the contaminant distribution.

Soil-Gas Analytical Results

Table 3 presents the soil-gas sample analytical results. Appendix D contains the certified analytical laboratory reports and chain-of-custody records. Section 4.0 contains a detailed discussion of contaminant distribution.

Groundwater Analytical Results

Table 1 includes the groundwater sample data from the previous investigations in 2006 (SES, 2006a; SES, 2006b; SES, 2006c), as well as from the current (August 2007) investigation. The current investigation involved ten exploratory bores in which groundwater was collected at depths of 25 to 36 feet bgs; 8 of the 10 grab-groundwater samples were collected from the 36-foot depth.

Table 1
Groundwater Sample Analytical Results
1171 Ocean Avenue, Berkeley, California

Sample ID/Sample (depth in feet bgs)	Bore Depth	Date Sampled	Gasoline C7-C12	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	PCE	TCE	trans-1,2-DCE	cis-1,2-DCE	1,1-DCA	1,2-DCA	1,1-DCE
MAY 2006 GRAB-GROUNDWATER SAMPLES															
BH-01 (22)	24	5/3/2006	ND	ND	ND	ND	ND	ND	ND	490	ND	8.4	—	—	—
BH-02 (27.5)	36	5/3/2006	1,400	ND	ND	ND	ND	ND	ND	5,200	ND	44	—	—	—
BH-03 (11.5)	24	5/4/2006	130	ND	ND	ND	ND	ND	ND	310	11	10	—	—	—
BH-04 (5.6)	28	5/4/2006	290	ND	ND	ND	ND	ND	ND	910	ND	16	—	—	—
JULY 2006 GRAB-GROUNDWATER SAMPLES															
BH-05-GW	20	7/25/2006	NA	NA	NA	NA	NA	NA	ND	5.5	ND	ND	—	—	—
BH-06-GW	20	7/25/2006	NA	NA	NA	NA	NA	NA	ND	0.7	ND	ND	—	—	—
BH-07-GW (20)	20	7/21/2006	NA	NA	NA	NA	NA	NA	ND	41	ND	3.7	—	—	—
BH-08-GW (23)	23	7/20/2006	ND	ND	ND	ND	0.54	4.0	ND	1.9	ND	ND	—	—	—
BH-09-GW (20)	20	7/20/2006	NA	NA	NA	NA	NA	NA	0.6	58	ND	5.3	—	—	—
BH-10-GW	26	7/20/2006	NA	NA	NA	NA	NA	NA	1.8	150	1.0	12	—	—	—
BH-11-GW	20	7/21/2006	NA	NA	NA	NA	NA	NA	ND	48	ND	5.3	—	—	—
BH-12-GW	20	7/21/2006	ND	ND	ND	ND	ND	5.4	ND	ND	ND	ND	—	—	—
BH-13-GW	20	7/24/2006	ND	ND	ND	ND	ND	ND	ND	0.9	ND	ND	—	—	—
BH-14-GW	20	7/21/2006	NA	NA	NA	NA	NA	NA	ND	ND	ND	ND	—	—	—
OCTOBER 2006 GRAB-GROUNDWATER SAMPLES															
BH-16-GW	36	10/6/2006	NA	NA	NA	NA	NA	NA	ND	6,000	ND	25	—	—	—
BH-17-GW	36	10/6/2006	NA	NA	NA	NA	NA	NA	ND	230	ND	6.1	—	—	—
BH-18-GW	36	10/6/2006	NA	NA	NA	NA	NA	NA	ND	660	ND	15	—	—	—
BH-19-GW	36*	10/9/2006	NA	NA	NA	NA	NA	NA	ND	33	ND	ND	—	—	—
Groundwater ESLs ^(a)			500	46	130	290	100	1,800	120	360	590	590	—	—	—
Groundwater ESLs ^(b) = MCLs			100	1	40	30	20	5	5	5	1	6	—	—	—

Table 1 continued

Sample ID/Sample (depth in feet bgs)	Bore Depth	Date Sampled	Gasoline C7-C12	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	PCE	TCE	trans-1,2-DCE	cis-1,2-DCE	1,1-DCA	1,2-DCA	1,1-DCE
AUGUST 2007 GRAB-GROUNDWATER SAMPLES															
BH-20-GW (36)	36	8/13/2007	NA	ND	ND	ND	ND	ND	ND	11	ND	ND	14	14	3.3
BH-21-GW (36)	36	8/13/2007	NA	ND	ND	ND	ND	ND	ND	1,400	ND	ND	ND	ND	ND
BH-22-GW (36)	36	8/13/2007	NA	ND	ND	ND	ND	ND	ND	0.8	ND	ND	ND	ND	ND
BH-23-GW (36)	36	8/13/2007	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH-24-GW (36)	36	8/13/2007	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH-25-GW (36)	36	8/13/2007	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
BH-26-GW (25)	25	8/24/2007	NA	ND	ND	ND	ND	ND	ND	190	1.4	19	ND	ND	ND
BH-27-GW (36)	36	8/24/2007	NA	ND	ND	ND	ND	ND	ND	2,500	ND	78	ND	ND	ND
BH-28-GW (30)	30	8/24/2007	NA	ND	ND	ND	ND	ND	ND	230	ND	9.7	ND	ND	ND
BH-29-GW (36)	36	8/24/2007	NA	ND	ND	ND	ND	ND	ND	10,000	ND	ND	ND	ND	ND
Groundwater ESLs ^(a)			500	46	130	290	100	1,800	120	360	590	590	470	6,900	25
Groundwater ESLs ^(b) = MCLs			100	1	40	30	20	5	5	5	1	6	5	0.5	6

Notes:

^(a) Commercial/industrial land use where groundwater *is not* a potential drinking water source.

^(b) Residential use where groundwater *is* a potential drinking water source.

* A grab-groundwater sample was not collected from BH-19-GW immediately after drilling because the well was dry; a temporary screen was placed, and groundwater was allowed to infiltrate over 2 days. When groundwater was collected, the water had risen to a depth of 8 feet bgs.

ESLs = Regional Water Quality Control Board, San Francisco Bay Region Environmental Screening Levels (2004). Concentrations in **bold-face type** equal or exceed regulatory ESL.

MCLs = California maximum contaminant levels

ND = not detected above method reporting limit

NA = not analyzed

All concentrations are expressed in micrograms per liter (µg/L).

Table 2
Soil Sample Analytical Results – July 2006 and August 2007
1171 Ocean Avenue, Berkeley, California

Sample ID	TCE	cis-1,2 DCE	Sample ID	TCE	cis-1,2 DCE
BH-05-2.5'	ND	ND	BH-12-5'	ND	ND
BH-05-5'	ND	ND	BH-12-15'	ND	ND
BH-05-10'	ND	ND	BH-13-5'	ND	ND
BH-05-15'	ND	ND	BH-13-15'	ND	ND
BH-06-2.5'	ND	ND	BH-14-5'	ND	ND
BH-06-5'	ND	ND	BH-14-15'	ND	ND
BH-06-10'	ND	ND	BH-15-2.5'	ND	ND
BH-06-15'	ND	ND	BH-15-5'	ND	ND
BH-07-2.5'	ND	ND	BH-15-10'	ND	ND
BH-07-5'	ND	ND	BH-15-15'	ND	ND
BH-07-10'	ND	ND	BH-26-3'	43	ND
BH-07-15'	ND	ND	BH-26-9'	ND	ND
BH-08-2.5'	ND	ND	BH-26-15'	ND	ND
BH-08-5'	ND	ND	BH-27-3'	ND	ND
BH-08-10'	ND	ND	BH-27-9'	ND	ND
BH-08-15'	ND	ND	BH-27-15'	19	ND
BH-09-5'	ND	ND	BH-28-3'	17	ND
BH-09-15'	ND	ND	BH-28-9'	7.8	ND
BH-10-5'	ND	ND	BH-28-15'	ND	ND
BH-10-15'	ND	ND	BH-29-3'	ND	ND
BH-11-5'	ND	ND	BH-29-10'	ND	ND
BH-11-15'	ND	ND	BH-29-15'	ND	ND
ESLs ^(a)				730	3,600
ESLs ^(b)				260	190

Notes:

^(a) Commercial/industrial land use where groundwater *is not* a potential drinking water source

^(b) Residential use where groundwater *is* a potential drinking water source

ESLs = Regional Water Quality Control Board – San Francisco Bay Region Environmental Screening Levels (2006)

ND = not detected above method reporting limit

All concentrations are expressed in micrograms per kilogram (µg/kg). See Appendix D (laboratory report) for list of method reporting limits.

Table 3
August 14, 2007 Borehole Soil-Gas Sample VOC Analytical Results
1171 Ocean Avenue, Berkeley, California

Sample I.D.	Benzene	Toluene	Ethyl-benzene	m,p-Xylenes	MTBE	Vinyl Chloride	PCE	TCE	trans-1,2-DCE	cis-1,2-DCE	1,1-DCA
SG-1	15	15	ND	8.8	ND	ND	ND	ND	ND	ND	ND
SG-2	16	14	ND	9.0	ND	ND	ND	ND	ND	ND	ND
SG-3	9.8	47	ND	6.8	ND	ND	ND	860	42	72	6.0
SG-4	23	21	ND	9.0	ND	ND	ND	ND	ND	ND	39
SG-5	21	11	ND	5.1	ND	ND	ND	ND	ND	ND	ND
SG-6	10	14	ND	6.9	ND	ND	35	ND	ND	ND	ND
SG-7	7.1	12	ND	8.0	ND	ND	ND	ND	ND	ND	ND
SG-8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Shallow Soil-Gas ESLs ^(a)	290	180,000	1,200,000	410,000	31,000	1,100	1,400	4,100	41,000	20,000	5,000
Shallow Soil-Gas ESLs ^(b)	85	63,000	420,000	150,000	9,400	32	410	1,200	15,000	7,300	1,500

Notes:

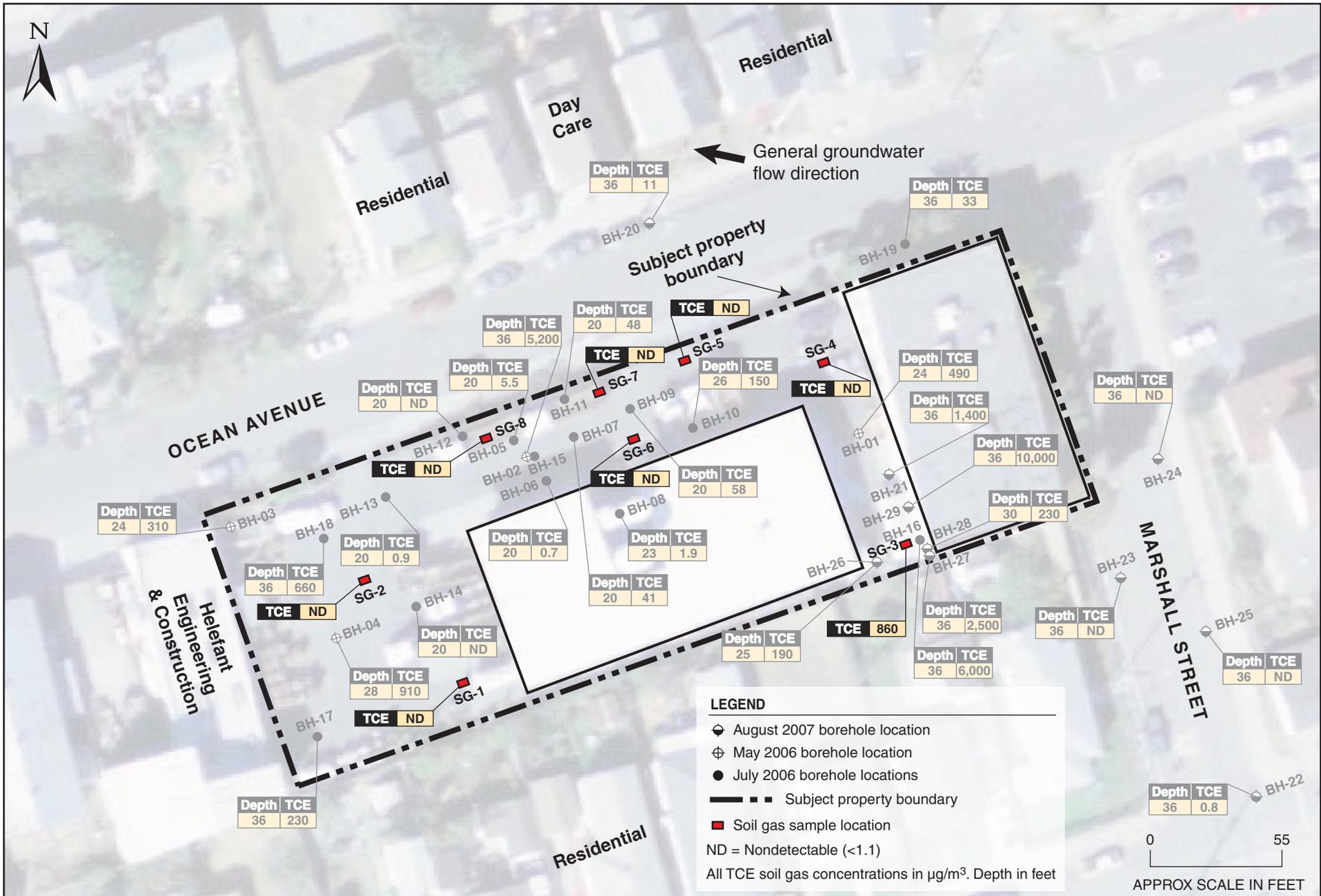
^(a) Commercial/industrial land use where groundwater *is not* a potential drinking water source

^(b) Residential use where groundwater *is* a potential drinking water source

ESLs = Regional Water Quality Control Board – San Francisco Bay Region Environmental Screening Levels (2006)

ND = not detected above method reporting limit

All concentrations are expressed in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).



3.0 REGULATORY CONSIDERATIONS

The Applicable Relevant and Appropriate Regulations (ARARs) are discussed below, to provide a regulatory context for the interpretation of findings and consideration of corrective actions that might bring the site to regulatory closure. The following subsections present potentially applicable criteria for evaluating site contamination in soil and groundwater, and compare the site contamination to the relevant criteria.

INVOLVED REGULATORY AGENCIES

The Water Board is the Local Implementing Agency providing oversight on non-fuel (i.e., VOCs and metals)-related contamination investigations and remediation in the City of Oakland. The DTSC (the California Environmental Protection Agency regional entity) and the ACEH may also participate in site contamination/remediation issues. The Water Board likely will be the decision-making entity on impacts to groundwater, as it is responsible for groundwater quality in this region. However, the DTSC may also be involved, particularly in approving regulatory closure. The contamination finding at the site may result in it being designated a SLIC site.

SOIL CONTAMINATION AND CLEANUP CONSIDERATIONS

The Water Board publishes ESLs for a variety of contaminants in soil, including those detected at the site (Water Board, 2004). The ESLs are conservative criteria used to evaluate if additional investigation is needed to determine potential impacts to human health or the environment. In the most preliminary stage (Tier 1, as utilized in this assessment), direct “look-up” tables provide numerical criteria, below which contamination is generally determined to have little or no risk. Various sets of Tier 1 ESL values are used depending on various determinations (land use type, soil depth, lithology, and groundwater usage), and various risk pathways (direct exposure, groundwater protection, indoor air impacts, etc.). In cases where the ESL(s) is exceeded, a Tier 2 assessment can be utilized, wherein Tier 1 ESLs can be modified using site-specific data. Tier 3 assessments involve a risk assessment methodology that deviates significantly from the approach used to develop the Tier 1 ESLs.

It is important to note that the ESLs are not numerical cleanup goals. Cleanup goals are most appropriately determined by evaluating risk via a Tier 3-type risk assessment process, which considers site-specific considerations (e.g., depth to groundwater, land use type, surface cover, lithology, preferential contaminant migration; contaminant exposure pathways, nearby sensitive receptors, etc.). In some cases, a risk assessment may determine that soil contamination above

the ESL poses no unacceptable risk. Alternatively, an extremely sensitive site may require remediation and/or additional investigation at concentrations less than the Tier 1 ESL.

Once concentrations of concern are determined (i.e., contamination is present above the appropriate ESL or other criteria established via a risk assessment), usage of ESLs is not appropriate, and potential impacts to health and the environment should be evaluated by a risk assessment approach, which requires adequate definition of the extent and magnitude of the contamination, the potential for groundwater impacts, potential exposure pathways, etc.

As discussed below, no soil contamination has been detected, indicating that no local (site) source of contamination is apparent and there is no measurable impact from upward VOC volatilization from the deeper groundwater contamination reported.

GROUNDWATER CONTAMINATION AND CLEANUP CONSIDERATIONS

Several potentially applicable standards exist for groundwater contamination. These include both drinking water standards and Water Board ESLs. As with contaminated soils, groundwater ESLs are used to evaluate if additional investigation/corrective action is necessary.

The standard that can be applied by the lead regulatory agency is the strictest of any applicable State or federal standards, and these can be used as cleanup goals. The majority of the groundwater quality standards are human health risk-based, and apply to groundwater that is a drinking water source; however, regulatory agencies can apply drinking water standards to sites where groundwater is not a drinking water source. Cleanup criteria can be influenced by natural geochemical conditions at a site. For example, where an existing aquifer has a sustained yield of less than 200 gallons per day or the electrical conductivity is greater than 5,000 $\mu\text{mhos/cm}$, the State Water Resources Control Board considers the aquifer not usable as a potential public water supply.

The Water Board 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 (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 is and is not a potential drinking water resource.

In our professional opinion, the appropriate ESLs for the subject site are *commercial/industrial land use* and *groundwater is not a potential drinking water resource*. This is based on both the property zoning status (commercial/industrial) and the designation of groundwater in this area of Oakland as an unlikely drinking water source by the Water Board's East Bay Plain Beneficial Use Study (Water Board, 1999). As such, the Water Board ESL for TCE contamination in groundwater is 120 µg/L.

4.0 CONTAMINANT ORIGINS, DISTRIBUTION FATE AND TRANSPORT

PHYSICAL SETTING

The mean elevation of the property is approximately 40 feet above mean sea level (amsl), with a general topographic gradient in the site vicinity is to the west (toward San Francisco Bay). The site itself slopes to the west.

The nearest permanent surface water body is San Francisco Bay, located approximately 3,800 feet west-southwest of the subject property.

SHALLOW LITHOLOGY AND HYDROGEOLOGY

One exploratory borehole was geologically logged by visual inspection of soil cores using the USCS. Appendix C contains the borehole geologic logs from this investigation.

During this investigation, site lithology was characterized to a maximum depth of 36 feet in borehole BH-25 and to a depth of 15 feet bgs in bores BH-26 through BH-29. Lithology encountered was a mix of silty clay, gravelly clay, clayey gravel, and sandy clay. Soils were stiff and expansive. Soils were generally dry with minor zones of moisture below 22 feet bgs.

The lithology in borehole BH-25, located offsite on Marshall Street, was consistent and fairly uniform, with boreholes observed in previous investigations having commonly encountered stiff gravelly sandy clay with angular gravels interbedded with silty clay.

Groundwater levels in the borings ranged from 22 to 36 feet bgs; however, groundwater was not given time to equilibrate. Depth to groundwater was strongly influenced by the amount of time provided for infiltration.

SOIL CONTAMINATION DISTRIBUTION AND ORIGINS

No site soil contamination was discovered until the current site investigation, and it was then discovered at relatively minor concentrations (not suggestive of a nearby source area). However, all three of the new bores that showed detectable concentrations were located in the southeastern area (see Figure 3 and Table 2). The four soil samples from the three bores ranged in depth from 3 to 15 feet, and showed TCE concentrations ranging from 7.8 to 43 micrograms per kilogram

($\mu\text{g}/\text{kg}$). These minor to trace concentrations are lower than the residential ESL for TCE, which is 260 $\mu\text{g}/\text{kg}$. The commercial industrial land use ESL for TCE in soil is 730 $\mu\text{g}/\text{kg}$. These concentrations may be indicative of sorption onto soil from upward migrating soil-gas, or could be near an undiscovered relatively shallow source area. However, the soil-gas survey found no indication of a viable “source” to explain the high dissolved fraction of TCE in the deeper (36-foot bgs) groundwater.

In all previous soil sampling efforts, including over 32 samples collected at various depths to a depth of the water table at about 20 feet bgs in front of the loading dock area, no concentrations of TCE or other VOCs were detected. The location of the one other area of high TCE in groundwater—at BH-02, located north of the loading dock—did suggest a possible site source associated with historical use (possibly a solvent spill to the ground that subsequently migrated down to groundwater), but none was found in that area.

SOIL-GAS CONTAMINATION DISTRIBUTION AND ORIGINS

Figure 3 presents the results from the soil-gas survey, which showed one of the eight soil-gas locations (SG-3) with detectable TCE—at a minor level of 840 $\mu\text{g}/\text{m}^3$ (equivalent to 160 parts per billion by volume). While the TCE soil-gas at SG-3 is relatively minor and of no health risk, it is also located in the area of the highest groundwater (and only soil) contamination, probably as a result of proximity to the original source area. The soil-gas ESLs for shallow soil in residential zoning for TCE is 1,200 $\mu\text{g}/\text{m}^3$. Other analytes—such as benzene, toluene, cis- and trans-1,2-DCE, and DCA—were also detected in various samples, all at trace concentration below their respective residential ESLs (as shown in Table 3).

GROUNDWATER CONTAMINATION DISTRIBUTION AND SOURCE ORIGINS

A total of ten grab-groundwater samples were analyzed for VOCs in this August 2007 investigation. Five of the sample set was collected from offsite locations and five from onsite locations. Of the five from offsite locations, four were in the presumed upgradient direction to the southeast. These upgradient samples showed three non-detections and one trace TCE concentration of 0.8 $\mu\text{g}/\text{L}$. The one downgradient/transgradient offsite bore, BH-20, located in front of the house across Ocean Avenue that provides day care, showed a trace TCE level of 11 $\mu\text{g}/\text{L}$; while higher than the 5- $\mu\text{g}/\text{L}$ drinking water standard, this is not considered a risk given the low concentrations and lack of viable exposure route.

The five onsite bores were clustered around the southeastern corner based on the preliminary results, to further explore the potential for an onsite source area. The geographical focus was in the southeastern corner of the property near bore BH-16 (drilled in October 2006), which showed the previous highest TCE concentration of 6,000 $\mu\text{g}/\text{L}$. The concentration range in the five new onsite bores ranged from 190 $\mu\text{g}/\text{L}$ at BH-26 (25 feet bgs) to 10,000 $\mu\text{g}/\text{L}$ at BH-29 (36 feet bgs).

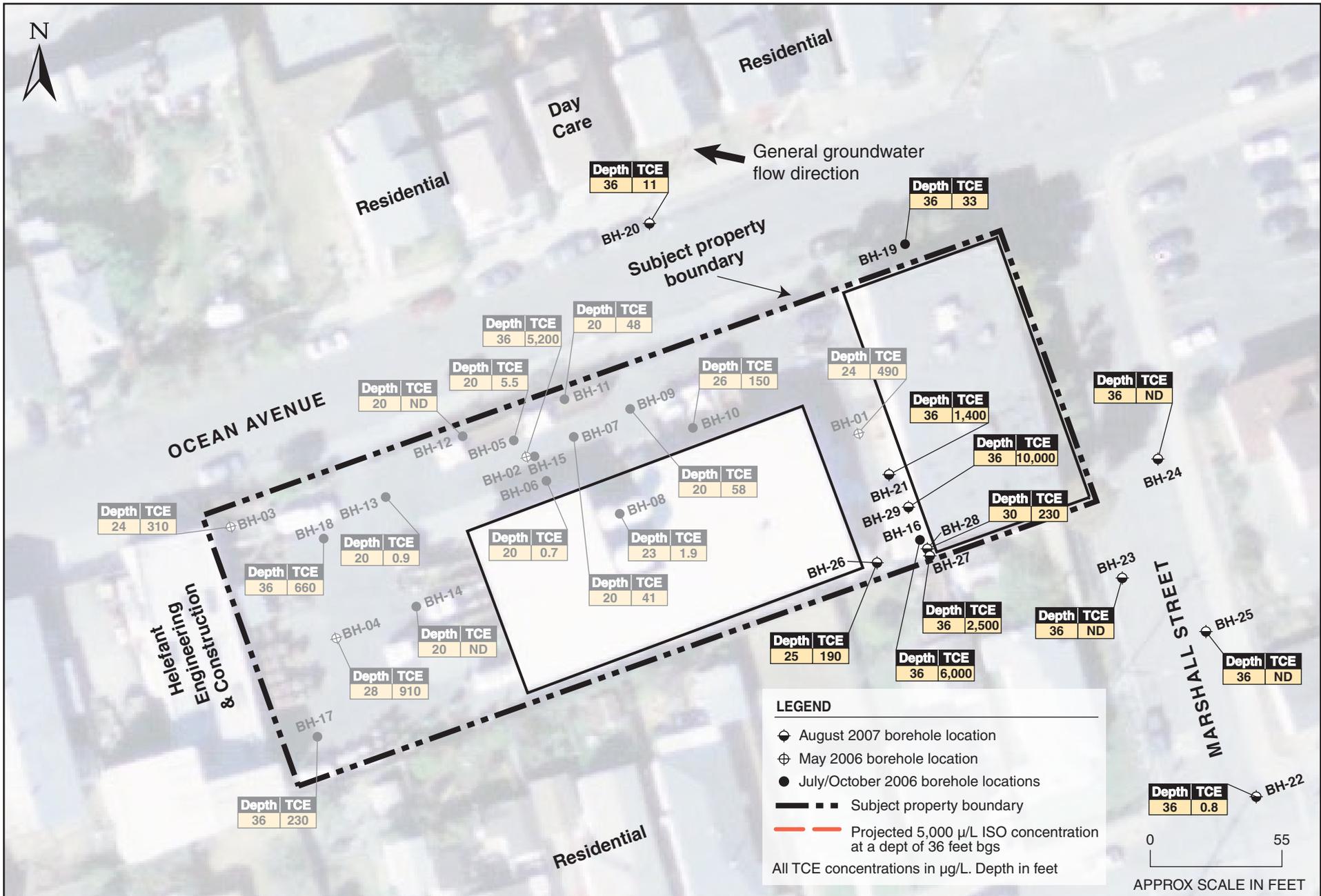
BH-29 is located just 20 feet north of BH-16, and both samples were collected at the same depth interval of 36 feet bgs. Another 20 feet north of BH-29, also at a depth of 36 feet, bore BH-21 showed a significant drop in the TCE concentration to 1,400 µg/L. Bore BH-27 along the property line to the south, also drilled to a depth of 36 feet, likewise shows a drop in TCE concentration, to 2,500 µg/L. Thus, the groundwater concentration of TCE at the 36-foot-depth level in the southeastern corner appears to be limited to a hotspot area.

Figure 4 is a plan view showing TCE groundwater concentrations along with the depth of the grab-groundwater samples for the current August 2007 investigation. Figure 5 is a cross-sectional view, that also shows the location of the non-detectable soil samples above the grab-groundwater samples. Figure 6 shows a plume map compiled from both current and 2006 data, with the current and previous data differentiated.

The origin of the detected TCE contaminant plume in groundwater is not known at this time. The working conceptual model has evolved over the phases of investigation, based on the new data. It has changed from an initial assumption of a site source to a likely offsite source, with the most recent data suggesting an onsite source—again, although no definitive source area has been identified.

The case for a local site source origin may be viable, but it appears to be focused in the southeastern corner; this is based on the lack of detectable contamination in soil or soil-gas anywhere but in a few bores in that area, along with the highest grab-groundwater sample concentrations located in the southeastern corner. Only 4 of 38 soil samples and 1 of 8 soil-gas samples showed detectable TCE. This suggests a limited source, or one that may have had time to migrate downward to deep groundwater, leaving relatively insignificant residual concentrations. While this model fits the chemical data, the site lithology—rich in low permeable silts and clays—suggests that any surface or near-surface spill or leak onsite would result in significant entrainment of the TCE contamination onto the clay fraction as it migrated down to groundwater.

The groundwater TCE concentration pattern, including data collected in the August 2007 fieldwork, shows a distinct higher concentration in deeper groundwater, as illustrated on Figure 5 and in Figures 6, 7, and 8 in progressively shallower perspective in plan view. Figure 6 consists of hydropunch data collected from the deepest (36-foot) depth over the course of the various phases of the investigation in 2006 and 2007. Figure 7 presents the same data, but from the 24- to 30-foot depth interval. Figure 8 displays the data from the most shallow (20-foot) depth near the top of the water-bearing zone.

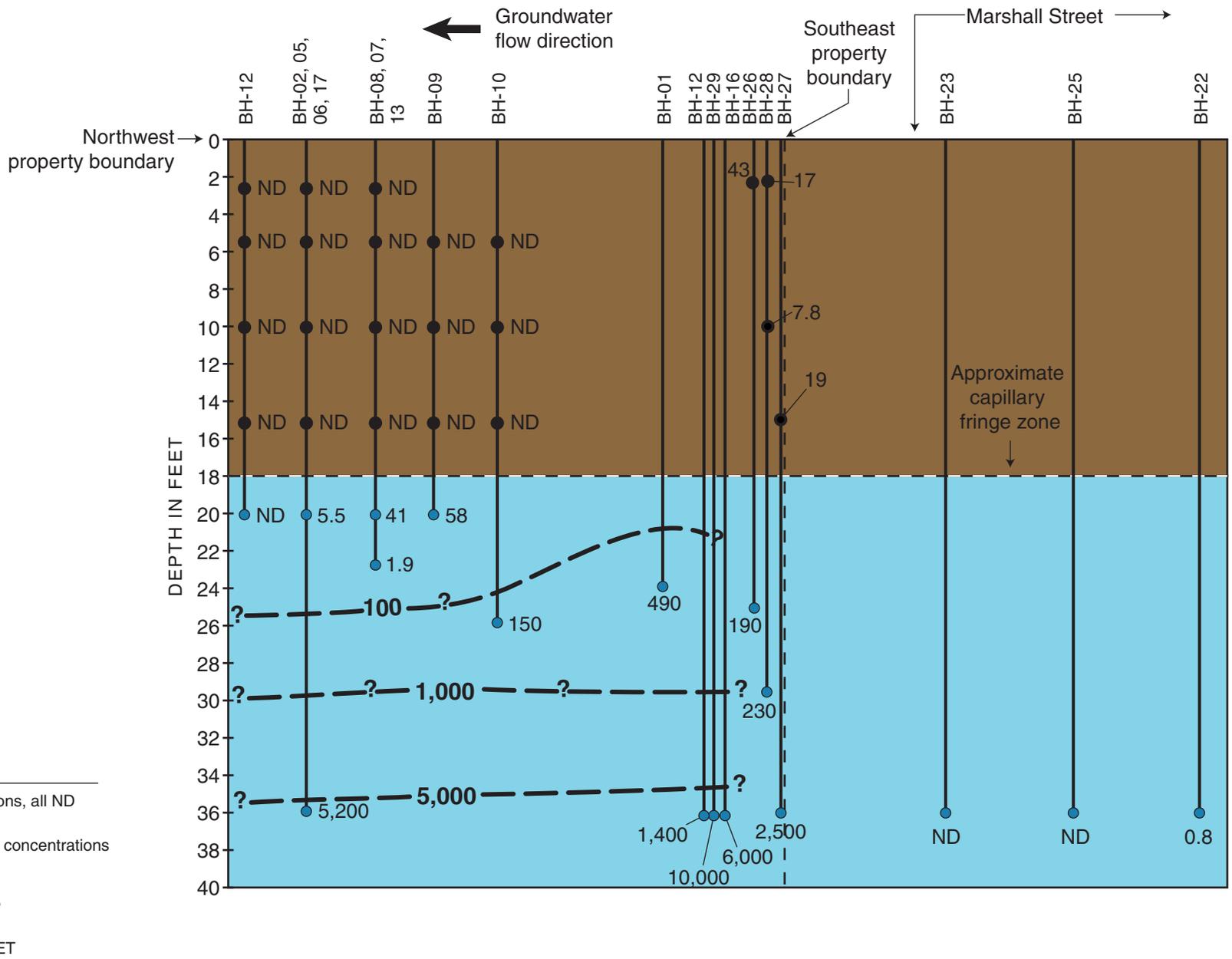


TCE CONCENTRATIONS IN GROUNDWATER, AUGUST 2007
1171 Ocean Avenue, Oakland, CA

Figure 4

by: MJC

SEPTEMBER 2007



LEGEND

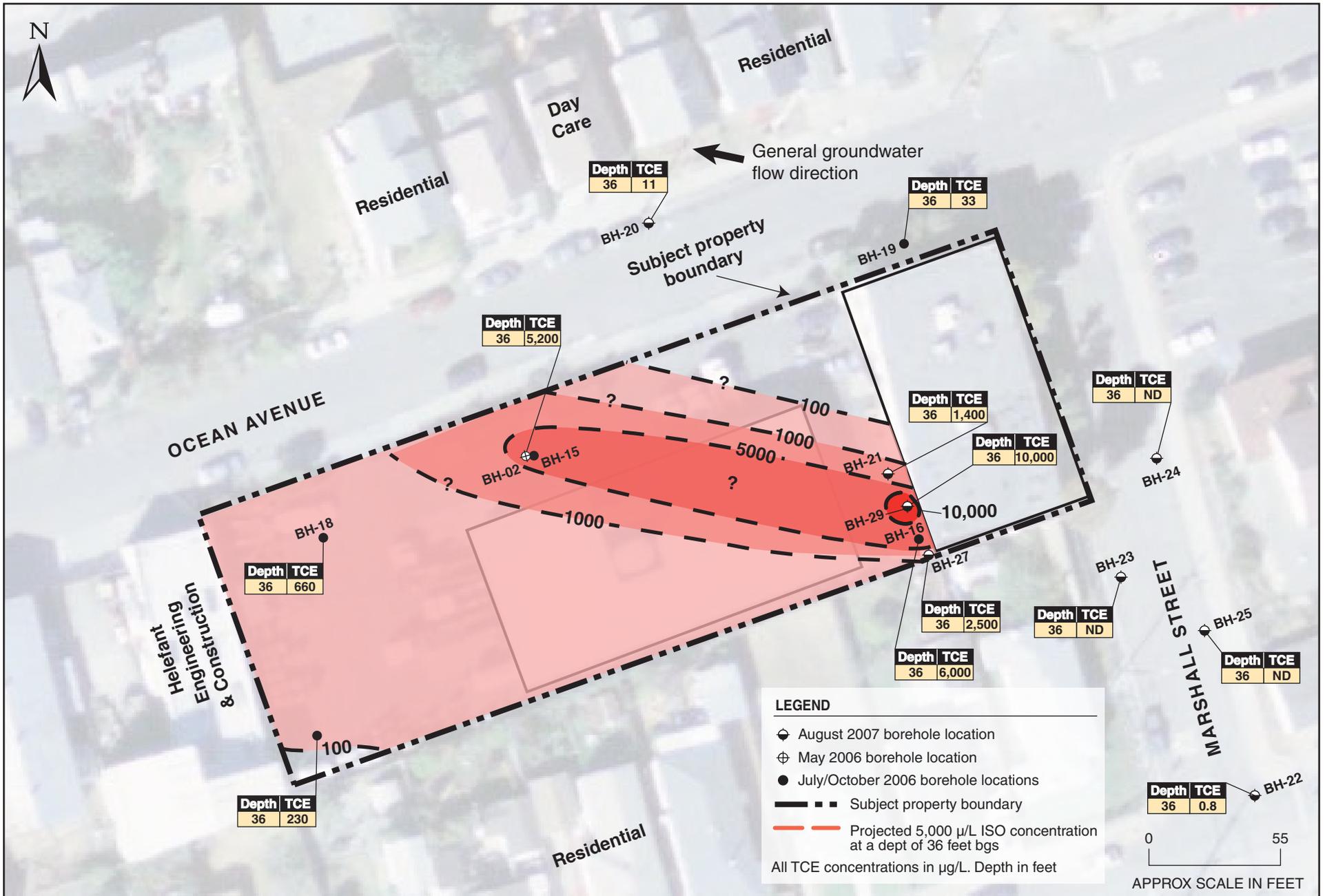
- Soil sample locations, all ND (<5µg/kg)
- Groundwater TCE concentrations in µ/L

0 65
APPROX. SCALE IN FEET

GENERALIZED CROSS SECTION SHOWING SOIL AND GROUNDWATER TCE CONCENTRATIONS ON A SE TO NW SECTION LINE
1171 Ocean Avenue, Oakland, CA

Figure 5
 by: MJC SEPTEMBER 2007



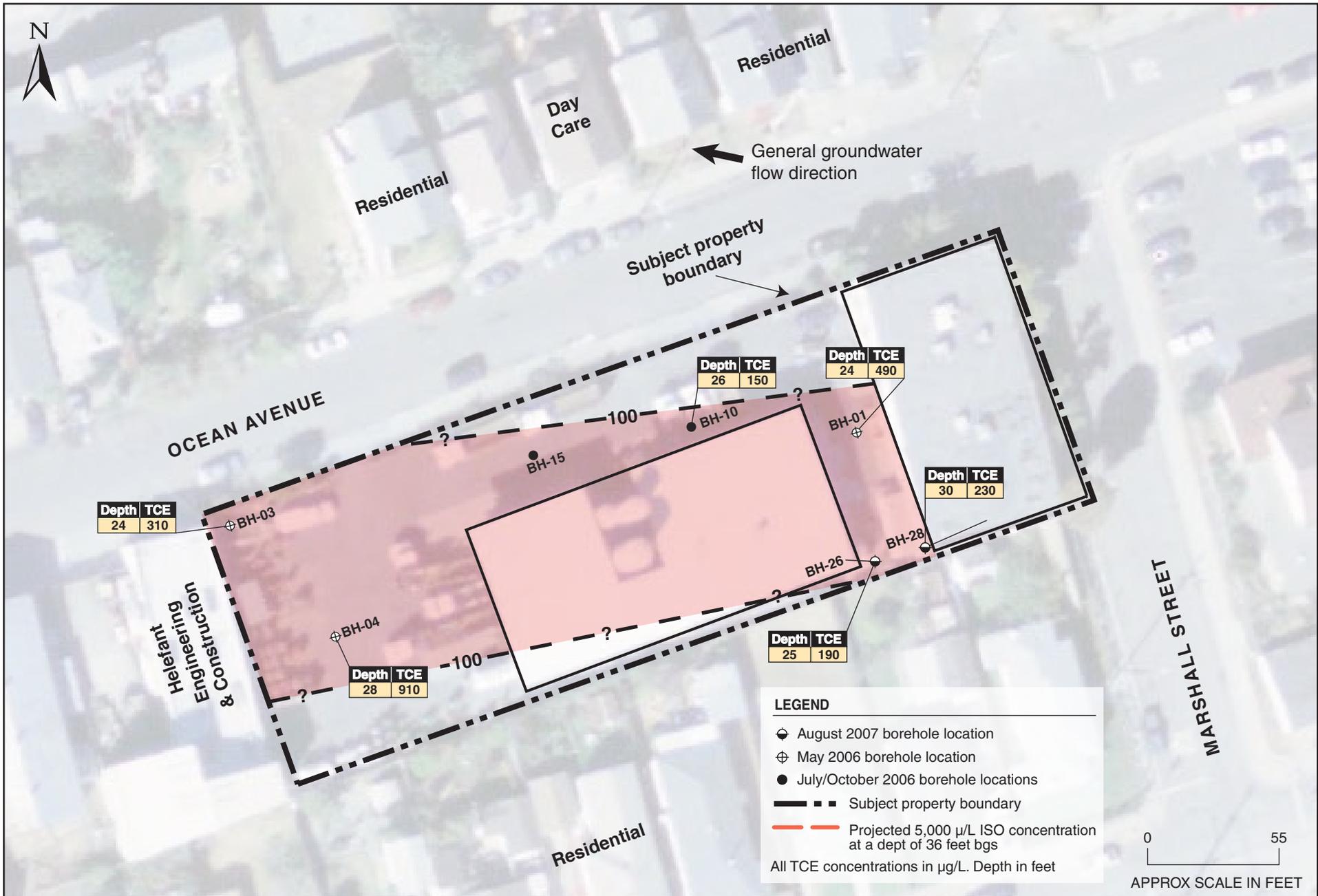


GROUNDWATER TCE PLUME 36 FT. DEPTH BASED ON 2006, 2007 DATA
1171 Ocean Avenue, Oakland, CA

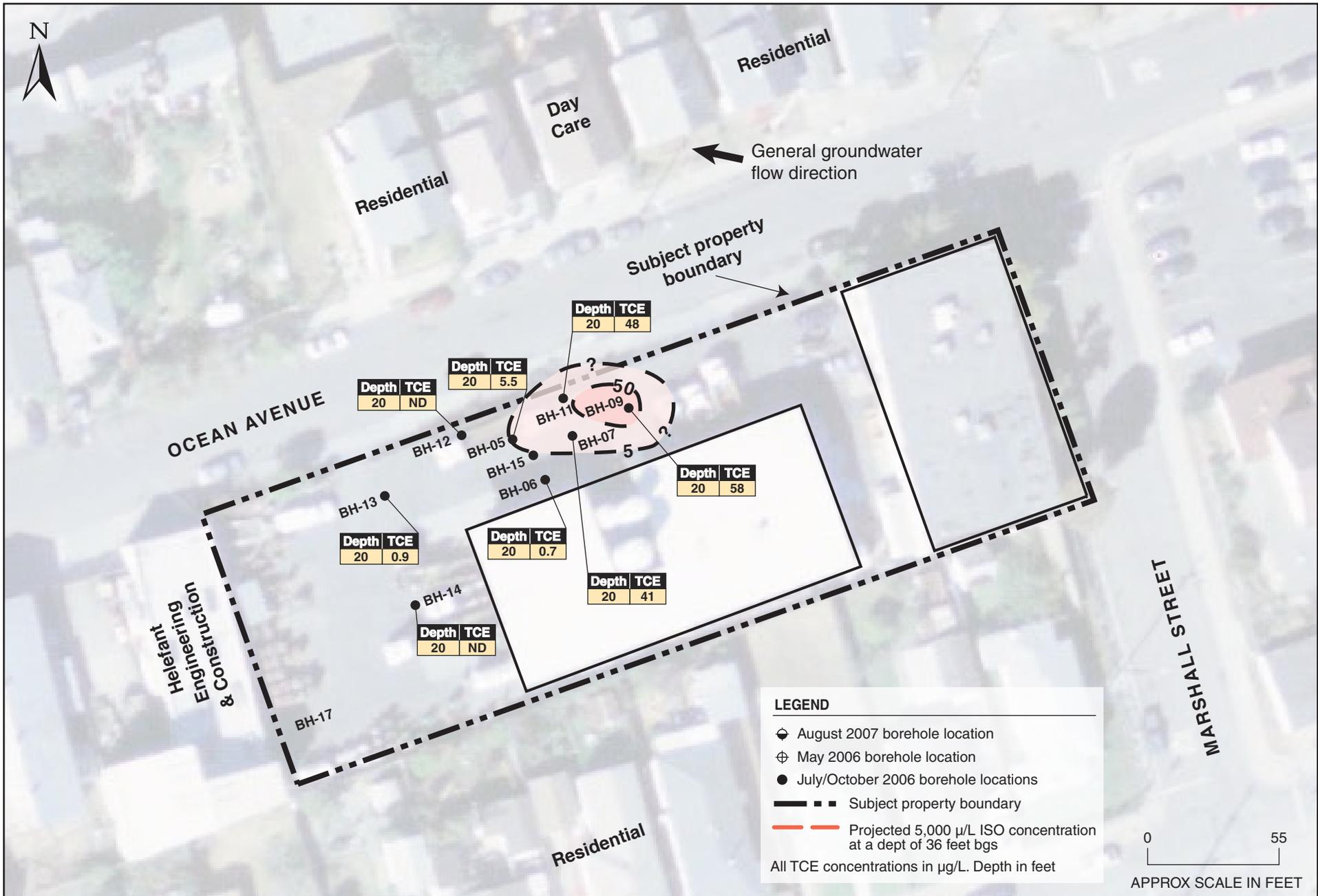
Figure 6

by: MJC

SEPTEMBER 2007



2006-21-36



2006-21-38

While TCE is denser than water, and thus a “sinker” that can migrate to deeper groundwater, concentrations in shallow groundwater are almost always present at significant concentrations where sources are local. This occurs because a site source of TCE in the soil would be desorbing, constantly migrating downward into groundwater, defusing, and showing a significant effect on the first encountered groundwater.

In the case of the subject property, as illustrated in Figures 5 through 8, the highest and most widespread TCE concentrations are associated with the deepest 36-foot-deep bore where groundwater was collected, as illustrated in Figure 6. The TCE concentration drops significantly and the aerial extent decreases upward in the water table with the first encountered groundwater, at a depth of about 20 feet bgs, showing TCE in a limited area with concentrations below 60 µg/L, as shown in Figure 8. While the seven deeper onsite samples at 36 feet bgs showed a maximum TCE concentration of 10,000 µg/L, six samples collected at depths between the two extremes confirm the downward increase in concentration trend. The more common pattern of distribution in cases of local contamination sources in soil involves attenuation of the contaminant concentration with depth.

The investigation bores show a mix of silts, clays, sands, and gravel that would both allow for migration of any site source of TCE that originated in the soil and for sorption onto clays; therefore, TCE contamination would continue to impact the shallow groundwater. The 20-foot zone of first encountered groundwater similarly has enough fines to retain significant TCE and keep elevated concentrations in solution if the origins were nearby site-sourced. However, the soil and soil-gas, while detected in the area of the southeastern corner of the site, show no significant concentrations in those media indicative of a nearby source.

The site-specific lithology, hydrology, and hydrochemical data collected in 2006 and 2007 suggest a new conceptual model of a possible origin, but one that has no obvious source although a limited geographic focal point in the southeast corner of the property. There is little evidence of any shallow soil (or groundwater) concentration, with the higher TCE concentrations of concern at the deeper 36-foot-bgs depth. The deeper, more contaminated, groundwater appears to be in a narrow zone between the southeast and northwest of the site.

5.0 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

SUMMARY AND CONCLUSIONS

- This remedial investigation (Phase V) report for the 1171 Ocean Avenue, Berkeley, California property has been completed by Stellar Environmental Solutions, Inc. (SES), on behalf of Ms. Felicia Woytak of 1171 Ocean Avenue, LLC. 1171 Ocean Avenue, LLC is interested in leasing, developing, and/or selling the subject property.
- The current Phase V investigation had three principal objectives: 1) to test the offsite origins hypothesis by collecting offsite grab-groundwater samples in the presumed upgradient direction at the same depth where significant onsite TCE contamination was found; 2) to complete an onsite soil-gas survey to evaluate potential shallow contamination, and test the validity of the potential use of the site for residential development; and 3) to review all site data collected to date to re-assess the conceptual model.
- Four phases of subsurface investigation have now been conducted (in 2006 and 2007) at the site, including the collection of soil, soil-gas, and groundwater samples from both onsite and offsite bores. Twenty-three exploratory bores were drilled onsite and five bores were drilled offsite to collect soil and groundwater data. An additional eight soil-gas bores were drilled onsite.
- The initial (Phase II) data collection that resulted in a working hypothesis of a site source for TCE was tested by collecting soil and shallow groundwater data in and around the area where the highest TCE was reported in the groundwater at greater depth (Phase III and IV). The new data suggested an offsite source given that the highest concentrations appear to be in the southeastern corner of the property where no historical chemical use is apparent. The Phase V investigation was designed to test the offsite-origin hypothesis, and resulted in data that again suggests an onsite origin but without a definitive (shallow soil) source area identified.
- The site data—the highest concentration of TCE at depths of around 36 feet (10,000 µg/L); much reduced concentrations at levels of 20 feet bgs (less than 60 µg/L); and no detectable TCE in soil or soil-gas, except at low to trace concentration (below their respective ESLs) in the southeast corner—suggest that there would be no impacts to future tenants and no constraints to site development, assuming slab-on-grade construction and no dewatering plans.

RECOMMENDATIONS

The following recommendations are made to remedy the contaminated soil onsite, to allow for site development and move the site toward regulatory resolution and closure:

- Submit this report to Alameda County Environmental Health Department to document implementation of the July 2007 workplan that was verbally approved by Mr. Stephen Plunkett of ACEH.
- Request a meeting with ACEH to discuss development of a roadmap to site closure.
- Develop a workplan to respond to the additional identified environmental needs to move the site toward development or sale. This should include groundwater monitoring wells to determine groundwater flow direction and further TCE contaminant source investigations.

6.0 REFERENCES

- ESE, Inc., 1995. Groundwater Monitoring Results – 1171 Ocean Avenue, Oakland, California. February.
- Regional Water Quality Control Board (Water Board), 1999. East Bay Plains Beneficial Use Study, San Francisco Bay. June 15.
- Regional Water Quality Control Board (Water Board), 2004. Environmental Screening Levels (ESL) Document.
- Stellar Environmental Solutions, Inc. (SES), 2006a. Phase I & II Environmental Site Assessment, 1171 Ocean Avenue, Oakland, California. May 18.
- Stellar Environmental Solutions, Inc. (SES), 2006b. Phase III Environmental Site Assessment, 1171 Ocean Avenue, Oakland, California. August 30.
- Stellar Environmental Solutions, Inc. (SES), 2006c. Phase IV Environmental Site Assessment, 1171 Ocean Avenue, Oakland, California. November 22.
- Uriah, Inc., 1989. Limited Site Assessment at Bayox – 1171 Ocean Avenue, Oakland, California. October 4.
- Uriah, Inc., 1993. Application for Case Closure for Bayox – 1171 Ocean Avenue, Oakland, California. August 12.

7.0 LIMITATIONS

This report has been prepared for the exclusive use of 1171 Ocean Avenue, LLC, their authorized representatives, and the Regulators. No reliance on this report shall be made by anyone other than the client, client representatives, and regulatory agencies for whom it was prepared.

The findings and conclusions presented in this report are based on the review of previous investigators' findings at the site, as well as site activities conducted by SES in May and July 2006 and August 2007. This report has been prepared in accordance with generally accepted methodologies and standards of practice of the area. 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 date of this report. Site conditions may change with the passage of time, natural processes or human intervention, which can invalidate the findings and conclusions presented in this report. As such, this report should be considered a reflection of the current site conditions as based on the investigation completed.

APPENDIX A

Site Investigation Photodocumentation



Subject: Offsite boring BH-22, located at the NE corner of Marshall and 64th Streets

Site: 1171 Ocean Avenue, Oakland, Alameda County, California

Date Taken: August 13, 2007

Project No.: SES 2006-21

Photographer: H. Pietropaoli

Photo No.: 01



Subject: Offsite boring BH-20, located across street on Ocean Avenue

Site: 1171 Ocean Avenue, Oakland, Alameda County, California

Date Taken: August 13, 2007

Project No.: SES 2006-21

Photographer: H. Pietropaoli

Photo No.: 02



Subject: Lithologic logging at borehole location BH-22.

Site: 1171 Ocean Avenue, Oakland, Alameda County, California

Date Taken: August 13, 2007

Project No.: SES 2006-21

Photographer: H. Pietropaoli

Photo No.: 03



Subject: Soil gas sampling at location SG-1.

Site: 1171 Ocean Avenue, Oakland, Alameda County, California

Date Taken: August 14, 2007

Project No.: SES 2006-21

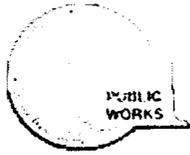
Photographer: H. Pietropaoli

Photo No.: 04

APPENDIX B

Drilling and Excavation 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: 08/01/2007 By jamesy

Permit Numbers: W2007-0883
Permits Valid from 08/13/2007 to 08/14/2007

Application Id: 1185478160028 City of Project Site:Oakland
Site Location: 1171 Ocean Avenue, Oakland, CA/Commercial building
Project Start Date: 08/13/2007 Completion Date:08/14/2007

Applicant: Stellar Environmental Solutions - Henry Phone: 510-644-3123
Pietropaoli
2198 Sixth Street, Suite 201, Berkeley, CA 94710
Property Owner: Felicia Woytak Phone: --
6114 LA SALLE AVENUE, SUITE 260, Oakland, CA 94611
Client: Felicia Woytak Phone: --
6114 LA SALLE AVENUE, SUITE 260, Oakland, CA 94611

	Total Due:	\$200.00
Receipt Number: WR2007-0346	Total Amount Paid:	\$200.00
Payer Name : Teal Glass	Paid By: MC	PAID IN FULL

Works Requesting Permits:

Borehole(s) for Investigation-Contamination Study - 14 Boreholes
Driller: EnProbe - Lic #: 777007 - Method: DP

Work Total: \$200.00

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2007-0883	08/01/2007	11/11/2007	14	2.00 in.	40.00 ft

USA # 285736

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. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.
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. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.
4. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

member contact
www.usanorth.org excavation link

Alameda County Public Works Agency - Water Resources Well Permit

5. Applicant shall contact Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org 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.
 6. 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.
 7. 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.
-



EXCAVATION PERMIT

TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

CIVIL
ENGINEERING

PAGE 2 of 2

Permit valid for 90 days from date of issuance.

PERMIT NUMBER X 0 7 0 0 7 0 2		SITE ADDRESS/LOCATION * 1171 Ocean Ave Oakland, CA
APPROX. START DATE 8/13/07	APPROX. END DATE 8/14/07	24-HOUR EMERGENCY PHONE NUMBER (Permit not valid without 24-hour number) (510) 644-3123
CONTRACTOR'S LICENSE # AND CLASS 777007 C57		CITY BUSINESS TAX # 3222462

ATTENTION:

- State law requires that the contractor/owner shall Underground Service Alert (USA) two working days before excavating. The permit is not valid unless applicant has secured an industry identification number issued by USA. The USA telephone number is (908)451-1444. Underground Service Alert (USA) of _____
- 48 hours prior to starting work, you **MUST CALL (510) 238-5651** to schedule an inspection.
- 48 hours prior to re-paving, a compaction certificate is required (waived for approved slurry backfill).

OWNER/BUILDER:

I hereby affirm that I am exempt from the Contractor's License Law for the following reason (Sec. 7031.5 Business and Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he is licensed pursuant to the provisions of the Contractor's License law Chapter 9 commencing with Sec. 7000 of Division 5 of the Business and Professions Code; or that he is exempt therefrom, and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than \$500:

I, as owner of the property, or my employees with wages or their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044 Business Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or through his own employees provided that such improvements are not intended or offered for sale. If however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale).

I, as owner of the property, am exempt from the said requirements of the above due to: (1) I am improving my principal place of residence or appurtenances thereto, (2) the work will be performed prior to sale, (3) I have resided in the residence for the 12 months prior to completion of the work, and (4) I have not claimed exemption on this subdivision or more than two structures more than once during any three-year period. (Sec. 7044 Business and Professions Code)

I, as owner of the property, am exclusively contracting with licensed contractors to construct the project. (Sec. 7044 Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such project with a contractor's licensee pursuant to the Contractor's License law).

I am exempt under Sec. _____, B&PC for this reason: _____

WORKER'S COMPENSATION:

I hereby affirm that I have a certificate of consent to self-insure, or a certificate of Worker's Compensation Insurance, or a certified copy thereof (Sec. 3709 Labor Code).

Policy # **0007363-2006** Company Name **State Compensation Insurance Fund**

I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Worker's Compensation Law of California (not required for work valued at one hundred dollars (\$100) or less).

NOTICE TO APPLICANT: If, after making this Certificate of Exemption, you should become subject to the Worker's Compensation provisions of the Labor Code, you must forthwith comply with such provisions or this permit shall be deemed revoked. This permit is issued pursuant to all provisions of Title 12 Chapter 12.12 of the Oakland Municipal Code. It is granted upon the express condition that the permittee shall be responsible for all claims and liabilities arising out of work performed under the permit or arising out of permittee's failure to perform the obligations with respect to street maintenance. The permittee shall, and by acceptance of this permit agrees to defend, indemnify, save and hold harmless the City, its officers and employees, from and against any and all suits, claims, or actions brought by any person for or on account of any bodily injuries, disease or illness or damage to persons and/or property sustained or arising in the construction of the work performed under the permit or in consequence of permittee's failure to perform the obligations with respect to street maintenance. This permit is void 90 days from the date of issuance unless an extension is granted by the Director of the Office of Planning and Building.

I hereby affirm that I am licensed under provisions of Chapter 9 of Division 5 of the Business and Professions Code and my license is in full force and effect (if contractor), that I have read this permit and agree to its requirements, and that the above information is true and correct under penalty of law.

X Henry Pietropaoli for Dennis Ott July 27, 2007
 Signature of Permittee _____ Date _____
 Agent for Contractor Owner

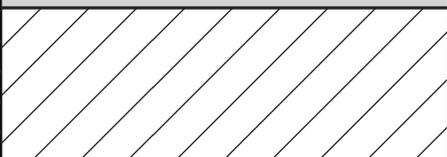
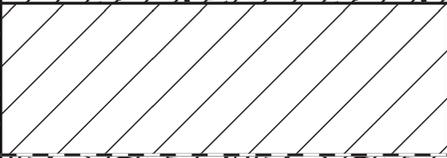
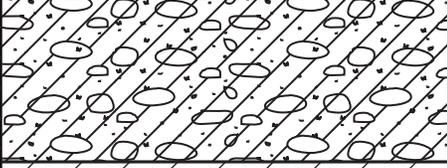
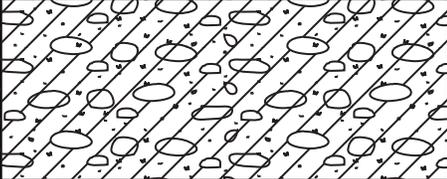
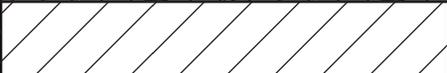
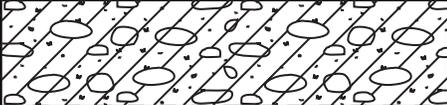
DATE STREET LAST RESURFACED	SPECIAL PAVING DETAIL REQUIRED? <input type="checkbox"/> YES <input type="checkbox"/> NO	HOLIDAY RESTRICTION? (NOV 1 - JAN 1) <input type="checkbox"/> YES <input type="checkbox"/> NO	LIMITED OPERATION AREA? (7AM-9AM & 4PM-6PM) <input type="checkbox"/> YES <input type="checkbox"/> NO
ISSUED BY M. Austin		DATE ISSUED 7-27-07	

APPENDIX C

Borehole Geologic Log

BORING NUMBER BH-25 Page 1 of 1

PROJECT Phase V Investigation OWNER 1171 Ocean Ave., LLC
 LOCATION 1171 Ocean Ave., Oakland PROJECT NUMBER 2006-21
 TOTAL DEPTH 36 feet bgs BOREHOLE DIA. 2 inch
 SURFACE ELEV. Unknown WATER FIRST ENCOUNTERED 22 feet
 DRILLING COMPANY Enprob Environmental DRILLING METHOD GeoProbe Direct Push
 DRILLER Jeff GEOLOGIST H. Pietropaoli DATE DRILLED 8/13/2007

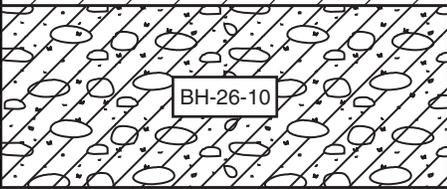
DEPTH (feet)	GRAPHIC LOG	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
0		Asphalt w/underlying gravel	
0-5		CL, light brown silty clay, slightly plastic, damp, rust colored patches, ≤3% coarse sand	
5-8		GC, orange brown gravelly clay, slightly plastic matrix, angular clasts ≤1/2"	
8-14		CL, silty clay, grey, damp, slightly plastic, 5% black coarse sand	
14-17		GC, reddish yellow brown gravelly clay, slightly plastic, moist, interbedded clay (3-6" wide) layers at 14 and 17 feet	
17-22		CL, yellow brown clay, plastic, soft, moist, rust-colored streaks	
22-30		GC, gravelly clay, wet, reddish yellow brown, loose, crumbles, interbedded with clay above	
30-31		CL, as above	
31-32		GC, as above	
32-33		CL, as above	
33-36		GC, as above	
36		Bottom of borehole = 36 feet	
40			

Notes:
 Continuous core sampling.
 100% core recovery unless otherwise specified
 Grab groundwater sample collected. Temporary screen set at 31-36 feet bgs

2006-21-24

BORING NUMBER BH-26 Page 1 of 1

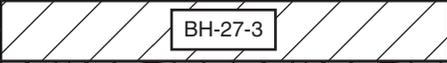
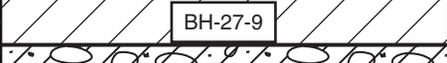
PROJECT Phase V Investigation OWNER 1171 Ocean Ave., LLC
 LOCATION 1171 Ocean Ave., Oakland PROJECT NUMBER 2006-21
 TOTAL DEPTH 25 feet bgs BOREHOLE DIA. 2 inch
 SURFACE ELEV. Unknown WATER FIRST ENCOUNTERED Not encountered
 DRILLING COMPANY Precision DRILLING METHOD GeoProbe Direct Push
 DRILLER Roberto GEOLOGIST H. Pietropaoli DATE DRILLED 8/24/2007

DEPTH (feet)	GRAPHIC LOG	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
0		4-inches asphalt w/underlying gravel	
		GC, gravelly clay, fill, reddish brown, damp	
5		CL, yellow brown clay, med. soft, damp, plastic	
	 BH-26-10	GC, yellow brown, gravelly clay, clast 1", moist	
15	 BH-26-15	CL, reddish brown, soft, moist, plastic, expansive	
		End of logging	
25		Total depth = 25' bgs	
30			Notes: Continuous core sampling. 100% recovery unless otherwise specified
			Soil sample <u>BH-26-3</u> collected for laboratory analysis
			Soil collected for lithologic logging to 15 feet bgs
			Grab groundwater sample collected. Temporary screen set from 20-25 feet bgs

2006-21-28

BORING NUMBER BH-27 Page 1 of 1

PROJECT Phase V Investigation OWNER 1171 Ocean Ave., LLC
 LOCATION 1171 Ocean Ave., Oakland PROJECT NUMBER 2006-21
 TOTAL DEPTH 36 feet bgs BOREHOLE DIA. 2 inch
 SURFACE ELEV. Unknown WATER FIRST ENCOUNTERED Not encountered
 DRILLING COMPANY Precision DRILLING METHOD GeoProbe Direct Push
 DRILLER Roberto GEOLOGIST H. Pietropaoli DATE DRILLED 8/24/2007

DEPTH (feet)	GRAPHIC LOG	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
0		4-inches asphalt w/underlying gravel	
3	 BH-27-3	CL, yellowish brown, med. soft, plastic	
5		GC, yellow brown, angular clasts 1/2", damp, crumbles	
8	 BH-27-9	CL, greenish yellow clay, <5% coarse sand, soft, moist, damp	
10	 BH-27-15	GC, reddish brown gravelly clay, soft, damp matrix, clasts 1"	
15	-----		
20		End of lithologic logging	
25			
30			
35			
36	-----		
		Total depth = 36' bgs	
40			

Notes:
 Continuous core sampling.
 100% recovery unless otherwise specified

Soil sample BH-27-3 collected for laboratory analysis

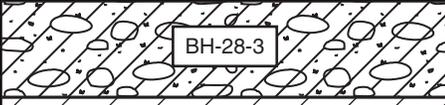
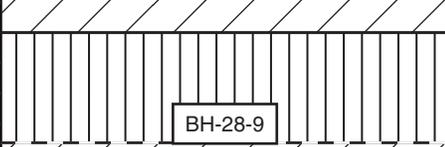
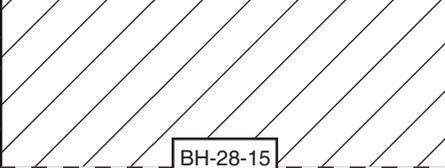
Soil collected for lithologic logging to 15 feet bgs

Grab groundwater sample collected. Temporary screen set from 31-36 feet bgs

2006-21-29

BORING NUMBER BH-28 Page 1 of 1

PROJECT Phase V Investigation OWNER 1171 Ocean Ave., LLC
 LOCATION 1171 Ocean Ave., Oakland PROJECT NUMBER 2006-21
 TOTAL DEPTH 30 feet bgs BOREHOLE DIA. 2 inch
 SURFACE ELEV. Unknown WATER FIRST ENCOUNTERED Not encountered
 DRILLING COMPANY Precision DRILLING METHOD GeoProbe Direct Push
 DRILLER Roberto GEOLOGIST H. Pietropaoli DATE DRILLED 8/24/2007

DEPTH (feet)	GRAPHIC LOG	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
0		4-inches asphalt w/underlying gravel	
0-5		GC, red brown yellow gravelly clay, damp, crumbles	
5-10		CL, reddish brown clay, soft, plastic, damp	
10-15		ML, clayey silt, light gray, 3% coarse grains, damp to dry, hard	
10-15		--- gradational contact ---	
15-30		CL, reddish brown silty clay, damp, med. stiff, med. plastic	
15		End of logging	
30		Total depth = 30' bgs	
25-30			Notes: Continuous core sampling. 100% recovery unless otherwise specified Soil sample <u>BH-28-3</u> collected for laboratory analysis Soil collected for lithologic logging to 15 feet bgs Grab groundwater sample collected. Temporary screen set from 25-30 feet bgs

2006-21-30

BORING NUMBER BH-29 Page 1 of 1

PROJECT Phase V Investigation OWNER 1171 Ocean Ave., LLC

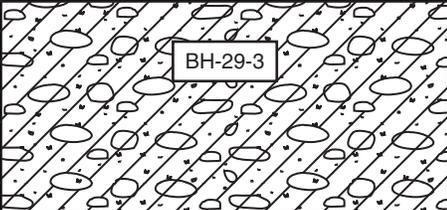
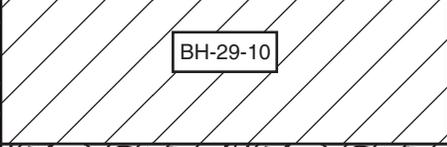
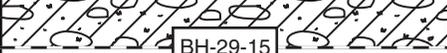
LOCATION 1171 Ocean Ave., Oakland PROJECT NUMBER 2006-21

TOTAL DEPTH 36 feet bgs BOREHOLE DIA. 2 inch

SURFACE ELEV. Unknown WATER FIRST ENCOUNTERED Not encountered

DRILLING COMPANY Precision DRILLING METHOD GeoProbe Direct Push

DRILLER Roberto GEOLOGIST H. Pietropaoli DATE DRILLED 8/24/2007

DEPTH (feet)	GRAPHIC LOG	DESCRIPTION/SOIL CLASSIFICATION	REMARKS
0		Asphalt w/underlying gravel	
5		GC, reddish brown clayey gravel, crumbles, damp, plastic matrix, angular clasts 1"	
10		CL, reddish brown silty clay, soft, slightly plastic, damp, expansive	
15		GC, as above	
15		End of logging	
20			<p>Notes: Continuous core sampling. 100% recovery unless otherwise specified</p> <p>Soil sample <u>BH-29-3</u> collected for laboratory analysis</p> <p>Soil collected for lithologic logging to 15 feet bgs</p> <p>Grab groundwater sample collected. Temporary screen set from 31-36 feet bgs</p>
25			
30			
35			
36		Total depth = 36' bgs	
40			

2006-21-31

APPENDIX D

August 2007 Analytical Laboratory Results and Chain-of-Custody Records

Purgeable Organics by GC/MS

Lab #: 196722	Location: 1170 Ocean Ave, LLC
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2006-21	Analysis: EPA 8260B
Field ID: BH-20	Batch#: 128372
Lab ID: 196722-001	Sampled: 08/13/07
Matrix: Water	Received: 08/13/07
Units: ug/L	Analyzed: 08/14/07
Diln Fac: 1.000	

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	3.3	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	14	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	14	0.5
Benzene	ND	0.5
Trichloroethene	11	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #: 196722	Location: 1170 Ocean Ave, LLC
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2006-21	Analysis: EPA 8260B
Field ID: BH-20	Batch#: 128372
Lab ID: 196722-001	Sampled: 08/13/07
Matrix: Water	Received: 08/13/07
Units: ug/L	Analyzed: 08/14/07
Diln Fac: 1.000	

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-123
1,2-Dichloroethane-d4	121	79-134
Toluene-d8	103	80-120
Bromofluorobenzene	107	80-122

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #: 196722	Location: 1170 Ocean Ave, LLC
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2006-21	Analysis: EPA 8260B
Field ID: BH-21	Batch#: 128372
Lab ID: 196722-002	Sampled: 08/13/07
Matrix: Water	Received: 08/13/07
Units: ug/L	Analyzed: 08/14/07
Diln Fac: 20.00	

Analyte	Result	RL
Freon 12	ND	20
Chloromethane	ND	20
Vinyl Chloride	ND	10
Bromomethane	ND	20
Chloroethane	ND	20
Trichlorofluoromethane	ND	20
Acetone	ND	200
Freon 113	ND	40
1,1-Dichloroethene	ND	10
Methylene Chloride	ND	200
Carbon Disulfide	ND	10
MTBE	ND	10
trans-1,2-Dichloroethene	ND	10
Vinyl Acetate	ND	200
1,1-Dichloroethane	ND	10
2-Butanone	ND	200
cis-1,2-Dichloroethene	18	10
2,2-Dichloropropane	ND	10
Chloroform	ND	10
Bromochloromethane	ND	10
1,1,1-Trichloroethane	ND	10
1,1-Dichloropropene	ND	10
Carbon Tetrachloride	ND	10
1,2-Dichloroethane	ND	10
Benzene	ND	10
Trichloroethene	1,400	10
1,2-Dichloropropane	ND	10
Bromodichloromethane	ND	10
Dibromomethane	ND	10
4-Methyl-2-Pentanone	ND	200
cis-1,3-Dichloropropene	ND	10
Toluene	ND	10
trans-1,3-Dichloropropene	ND	10
1,1,2-Trichloroethane	ND	10
2-Hexanone	ND	200
1,3-Dichloropropane	ND	10
Tetrachloroethene	ND	10

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #: 196722	Location: 1170 Ocean Ave, LLC
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2006-21	Analysis: EPA 8260B
Field ID: BH-21	Batch#: 128372
Lab ID: 196722-002	Sampled: 08/13/07
Matrix: Water	Received: 08/13/07
Units: ug/L	Analyzed: 08/14/07
Diln Fac: 20.00	

Analyte	Result	RL
Dibromochloromethane	ND	10
1,2-Dibromoethane	ND	10
Chlorobenzene	ND	10
1,1,1,2-Tetrachloroethane	ND	10
Ethylbenzene	ND	10
m,p-Xylenes	ND	10
o-Xylene	ND	10
Styrene	ND	10
Bromoform	ND	20
Isopropylbenzene	ND	10
1,1,2,2-Tetrachloroethane	ND	10
1,2,3-Trichloropropane	ND	10
Propylbenzene	ND	10
Bromobenzene	ND	10
1,3,5-Trimethylbenzene	ND	10
2-Chlorotoluene	ND	10
4-Chlorotoluene	ND	10
tert-Butylbenzene	ND	10
1,2,4-Trimethylbenzene	ND	10
sec-Butylbenzene	ND	10
para-Isopropyl Toluene	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
n-Butylbenzene	ND	10
1,2-Dichlorobenzene	ND	10
1,2-Dibromo-3-Chloropropane	ND	40
1,2,4-Trichlorobenzene	ND	10
Hexachlorobutadiene	ND	40
Naphthalene	ND	40
1,2,3-Trichlorobenzene	ND	10

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-123
1,2-Dichloroethane-d4	123	79-134
Toluene-d8	104	80-120
Bromofluorobenzene	108	80-122

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #: 196722	Location: 1170 Ocean Ave, LLC
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2006-21	Analysis: EPA 8260B
Field ID: BH-22	Batch#: 128372
Lab ID: 196722-003	Sampled: 08/13/07
Matrix: Water	Received: 08/13/07
Units: ug/L	Analyzed: 08/14/07
Diln Fac: 1.000	

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	0.8	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #: 196722	Location: 1170 Ocean Ave, LLC
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2006-21	Analysis: EPA 8260B
Field ID: BH-22	Batch#: 128372
Lab ID: 196722-003	Sampled: 08/13/07
Matrix: Water	Received: 08/13/07
Units: ug/L	Analyzed: 08/14/07
Diln Fac: 1.000	

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-123
1,2-Dichloroethane-d4	123	79-134
Toluene-d8	105	80-120
Bromofluorobenzene	105	80-122

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #: 196722	Location: 1170 Ocean Ave, LLC
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2006-21	Analysis: EPA 8260B
Field ID: BH-23	Batch#: 128372
Lab ID: 196722-004	Sampled: 08/13/07
Matrix: Water	Received: 08/13/07
Units: ug/L	Analyzed: 08/14/07
Diln Fac: 1.000	

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #: 196722	Location: 1170 Ocean Ave, LLC
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2006-21	Analysis: EPA 8260B
Field ID: BH-23	Batch#: 128372
Lab ID: 196722-004	Sampled: 08/13/07
Matrix: Water	Received: 08/13/07
Units: ug/L	Analyzed: 08/14/07
Diln Fac: 1.000	

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-123
1,2-Dichloroethane-d4	119	79-134
Toluene-d8	100	80-120
Bromofluorobenzene	102	80-122

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #: 196722	Location: 1170 Ocean Ave, LLC
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2006-21	Analysis: EPA 8260B
Field ID: BH-24	Batch#: 128372
Lab ID: 196722-005	Sampled: 08/13/07
Matrix: Water	Received: 08/13/07
Units: ug/L	Analyzed: 08/14/07
Diln Fac: 1.000	

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #: 196722	Location: 1170 Ocean Ave, LLC
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2006-21	Analysis: EPA 8260B
Field ID: BH-24	Batch#: 128372
Lab ID: 196722-005	Sampled: 08/13/07
Matrix: Water	Received: 08/13/07
Units: ug/L	Analyzed: 08/14/07
Diln Fac: 1.000	

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-123
1,2-Dichloroethane-d4	124	79-134
Toluene-d8	103	80-120
Bromofluorobenzene	103	80-122

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #: 196722	Location: 1170 Ocean Ave, LLC
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2006-21	Analysis: EPA 8260B
Field ID: BH-25	Batch#: 128372
Lab ID: 196722-006	Sampled: 08/13/07
Matrix: Water	Received: 08/13/07
Units: ug/L	Analyzed: 08/14/07
Diln Fac: 1.000	

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #: 196722	Location: 1170 Ocean Ave, LLC
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2006-21	Analysis: EPA 8260B
Field ID: BH-25	Batch#: 128372
Lab ID: 196722-006	Sampled: 08/13/07
Matrix: Water	Received: 08/13/07
Units: ug/L	Analyzed: 08/14/07
Diln Fac: 1.000	

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-123
1,2-Dichloroethane-d4	121	79-134
Toluene-d8	98	80-120
Bromofluorobenzene	100	80-122

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	196722	Location:	1170 Ocean Ave, LLC
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2006-21	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC401146	Batch#:	128372
Matrix:	Water	Analyzed:	08/14/07
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5

b= See narrative
 ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	196722	Location:	1170 Ocean Ave, LLC
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2006-21	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC401146	Batch#:	128372
Matrix:	Water	Analyzed:	08/14/07
Units:	ug/L		

Analyte	Result	RL
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	0.6 b	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-123
1,2-Dichloroethane-d4	111	79-134
Toluene-d8	100	80-120
Bromofluorobenzene	106	80-122

b= See narrative
 ND= Not Detected
 RL= Reporting Limit



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

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

Laboratory Job Number 197168

Stellar Environmental Solutions
2198 6th Street
Berkeley, CA 94710

Project : 2006-21
Location : Woytak-Oakland
Level : II

Table with 2 columns: Sample ID and Lab ID. Lists 16 sample entries such as BH26-3, BH26-9, BH26-15, etc.

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 NELAP and pertain only to those samples which were submitted for analysis.

Signature: [Handwritten Signature]
Project Manager

Date: 08/30/2007

Signature: [Handwritten Signature]
Quality Assurance Director

Date: 08/30/2007

CASE NARRATIVE

Laboratory number: 197168
Client: Stellar Environmental Solutions
Project: 2006-21
Location: Woytak-Oakland
Request Date: 08/24/07
Samples Received: 08/24/07

This hardcopy data package contains sample and QC results for twelve soil samples and four water samples, requested for the above referenced project on 08/24/07. The samples were received cold and intact.

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

No analytical problems were encountered.

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

No analytical problems were encountered.

Purgeable Halocarbons by GC/MS

Lab #: 197168	Location: Woytak-Oakland
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2006-21	Analysis: EPA 8260B
Field ID: BH27-GW	Batch#: 128895
Lab ID: 197168-010	Sampled: 08/24/07
Matrix: Water	Received: 08/24/07
Units: ug/L	Analyzed: 08/28/07
Diln Fac: 40.00	

Analyte	Result	RL
Freon 12	ND	40
Chloromethane	ND	40
Vinyl Chloride	ND	20
Bromomethane	ND	40
Chloroethane	ND	40
Trichlorofluoromethane	ND	40
Freon 113	ND	20
1,1-Dichloroethene	ND	20
Methylene Chloride	ND	800
trans-1,2-Dichloroethene	ND	20
1,1-Dichloroethane	ND	20
cis-1,2-Dichloroethene	78	20
Chloroform	ND	20
1,1,1-Trichloroethane	ND	20
Carbon Tetrachloride	ND	20
1,2-Dichloroethane	ND	20
Trichloroethene	2,500	20
1,2-Dichloropropane	ND	20
Bromodichloromethane	ND	20
cis-1,3-Dichloropropene	ND	20
trans-1,3-Dichloropropene	ND	20
1,1,2-Trichloroethane	ND	20
Tetrachloroethene	ND	20
Dibromochloromethane	ND	20
Chlorobenzene	ND	20
Bromoform	ND	20
1,1,2,2-Tetrachloroethane	ND	20
1,3-Dichlorobenzene	ND	40
1,4-Dichlorobenzene	ND	40
1,2-Dichlorobenzene	ND	40

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	108	79-134
Toluene-d8	98	80-120
Bromofluorobenzene	95	80-122

ND= Not Detected
 RL= Reporting Limit

Purgeable Halocarbons by GC/MS

Lab #: 197168	Location: Woytak-Oakland
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2006-21	Analysis: EPA 8260B
Field ID: BH26-GW	Batch#: 128895
Lab ID: 197168-014	Sampled: 08/24/07
Matrix: Water	Received: 08/24/07
Units: ug/L	Analyzed: 08/28/07
Diln Fac: 2.500	

Analyte	Result	RL
Freon 12	ND	2.5
Chloromethane	ND	2.5
Vinyl Chloride	ND	1.3
Bromomethane	ND	2.5
Chloroethane	ND	2.5
Trichlorofluoromethane	ND	2.5
Freon 113	ND	1.3
1,1-Dichloroethene	ND	1.3
Methylene Chloride	ND	50
trans-1,2-Dichloroethene	1.4	1.3
1,1-Dichloroethane	ND	1.3
cis-1,2-Dichloroethene	19	1.3
Chloroform	ND	1.3
1,1,1-Trichloroethane	ND	1.3
Carbon Tetrachloride	ND	1.3
1,2-Dichloroethane	ND	1.3
Trichloroethene	190	1.3
1,2-Dichloropropane	ND	1.3
Bromodichloromethane	ND	1.3
cis-1,3-Dichloropropene	ND	1.3
trans-1,3-Dichloropropene	ND	1.3
1,1,2-Trichloroethane	ND	1.3
Tetrachloroethene	ND	1.3
Dibromochloromethane	ND	1.3
Chlorobenzene	ND	1.3
Bromoform	ND	1.3
1,1,2,2-Tetrachloroethane	ND	1.3
1,3-Dichlorobenzene	ND	2.5
1,4-Dichlorobenzene	ND	2.5
1,2-Dichlorobenzene	ND	2.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	106	79-134
Toluene-d8	100	80-120
Bromofluorobenzene	97	80-122

ND= Not Detected
 RL= Reporting Limit

Purgeable Halocarbons by GC/MS

Lab #: 197168	Location: Woytak-Oakland
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2006-21	Analysis: EPA 8260B
Field ID: BH29-GW	Batch#: 128895
Lab ID: 197168-015	Sampled: 08/24/07
Matrix: Water	Received: 08/24/07
Units: ug/L	Analyzed: 08/28/07
Diln Fac: 200.0	

Analyte	Result	RL
Freon 12	ND	200
Chloromethane	ND	200
Vinyl Chloride	ND	100
Bromomethane	ND	200
Chloroethane	ND	200
Trichlorofluoromethane	ND	200
Freon 113	ND	100
1,1-Dichloroethene	ND	100
Methylene Chloride	ND	4,000
trans-1,2-Dichloroethene	ND	100
1,1-Dichloroethane	ND	100
cis-1,2-Dichloroethene	ND	100
Chloroform	ND	100
1,1,1-Trichloroethane	ND	100
Carbon Tetrachloride	ND	100
1,2-Dichloroethane	ND	100
Trichloroethene	10,000	100
1,2-Dichloropropane	ND	100
Bromodichloromethane	ND	100
cis-1,3-Dichloropropene	ND	100
trans-1,3-Dichloropropene	ND	100
1,1,2-Trichloroethane	ND	100
Tetrachloroethene	ND	100
Dibromochloromethane	ND	100
Chlorobenzene	ND	100
Bromoform	ND	100
1,1,2,2-Tetrachloroethane	ND	100
1,3-Dichlorobenzene	ND	200
1,4-Dichlorobenzene	ND	200
1,2-Dichlorobenzene	ND	200

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	106	79-134
Toluene-d8	96	80-120
Bromofluorobenzene	95	80-122

ND= Not Detected
 RL= Reporting Limit

Purgeable Halocarbons by GC/MS

Lab #: 197168	Location: Woytak-Oakland
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2006-21	Analysis: EPA 8260B
Field ID: BH28-GW	Batch#: 128895
Lab ID: 197168-016	Sampled: 08/24/07
Matrix: Water	Received: 08/24/07
Units: ug/L	Analyzed: 08/28/07
Diln Fac: 3.333	

Analyte	Result	RL
Freon 12	ND	3.3
Chloromethane	ND	3.3
Vinyl Chloride	ND	1.7
Bromomethane	ND	3.3
Chloroethane	ND	3.3
Trichlorofluoromethane	ND	3.3
Freon 113	ND	1.7
1,1-Dichloroethene	ND	1.7
Methylene Chloride	ND	67
trans-1,2-Dichloroethene	ND	1.7
1,1-Dichloroethane	ND	1.7
cis-1,2-Dichloroethene	9.7	1.7
Chloroform	ND	1.7
1,1,1-Trichloroethane	ND	1.7
Carbon Tetrachloride	ND	1.7
1,2-Dichloroethane	ND	1.7
Trichloroethene	230	1.7
1,2-Dichloropropane	ND	1.7
Bromodichloromethane	ND	1.7
cis-1,3-Dichloropropene	ND	1.7
trans-1,3-Dichloropropene	ND	1.7
1,1,2-Trichloroethane	ND	1.7
Tetrachloroethene	ND	1.7
Dibromochloromethane	ND	1.7
Chlorobenzene	ND	1.7
Bromoform	ND	1.7
1,1,2,2-Tetrachloroethane	ND	1.7
1,3-Dichlorobenzene	ND	3.3
1,4-Dichlorobenzene	ND	3.3
1,2-Dichlorobenzene	ND	3.3

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	104	79-134
Toluene-d8	96	80-120
Bromofluorobenzene	96	80-122

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Halocarbons by GC/MS			
Lab #:	197168	Location:	Woytak-Oakland
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2006-21	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC403561	Batch#:	128895
Matrix:	Water	Analyzed:	08/28/07
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Freon 113	ND	0.5
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	106	79-134
Toluene-d8	99	80-120
Bromofluorobenzene	96	80-122

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Halocarbons by GC/MS			
Lab #:	197168	Location:	Woytak-Oakland
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2006-21	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	128895
Units:	ug/L	Analyzed:	08/28/07
Diln Fac:	1.000		

Type: BS Lab ID: QC403562

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	15.21	122	59-172
Trichloroethene	12.50	13.08	105	62-137
Chlorobenzene	12.50	13.93	111	60-133

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	99	79-134
Toluene-d8	96	80-120
Bromofluorobenzene	92	80-122

Type: BSD Lab ID: QC403563

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	12.50	15.09	121	59-172	1	22
Trichloroethene	12.50	12.97	104	62-137	1	24
Chlorobenzene	12.50	14.17	113	60-133	2	21

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	98	79-134
Toluene-d8	94	80-120
Bromofluorobenzene	95	80-122

RPD= Relative Percent Difference

Purgeable Halocarbons by GC/MS

Lab #: 197168	Location: Woytak-Oakland
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2006-21	Analysis: EPA 8260B
Field ID: BH26-3	Diln Fac: 0.9804
Lab ID: 197168-001	Batch#: 128852
Matrix: Soil	Sampled: 08/24/07
Units: ug/Kg	Received: 08/24/07
Basis: as received	Analyzed: 08/28/07

Analyte	Result	RL
Chloromethane	ND	9.8
Vinyl Chloride	ND	9.8
Bromomethane	ND	9.8
Chloroethane	ND	9.8
Trichlorofluoromethane	ND	4.9
Freon 113	ND	4.9
1,1-Dichloroethene	ND	4.9
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	4.9
1,1-Dichloroethane	ND	4.9
cis-1,2-Dichloroethene	ND	4.9
Chloroform	ND	4.9
1,1,1-Trichloroethane	ND	4.9
Carbon Tetrachloride	ND	4.9
1,2-Dichloroethane	ND	4.9
Trichloroethene	43	4.9
1,2-Dichloropropane	ND	4.9
Bromodichloromethane	ND	4.9
cis-1,3-Dichloropropene	ND	4.9
trans-1,3-Dichloropropene	ND	4.9
1,1,2-Trichloroethane	ND	4.9
Tetrachloroethene	ND	4.9
Dibromochloromethane	ND	4.9
Chlorobenzene	ND	4.9
Bromoform	ND	9.8
1,1,2,2-Tetrachloroethane	ND	4.9
1,3-Dichlorobenzene	ND	4.9
1,4-Dichlorobenzene	ND	4.9
1,2-Dichlorobenzene	ND	4.9

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	110	76-135
Toluene-d8	101	80-120
Bromofluorobenzene	107	80-126

ND= Not Detected
 RL= Reporting Limit

Purgeable Halocarbons by GC/MS

Lab #: 197168	Location: Woytak-Oakland
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2006-21	Analysis: EPA 8260B
Field ID: BH26-9	Diln Fac: 0.9091
Lab ID: 197168-002	Batch#: 128852
Matrix: Soil	Sampled: 08/24/07
Units: ug/Kg	Received: 08/24/07
Basis: as received	Analyzed: 08/27/07

Analyte	Result	RL
Chloromethane	ND	9.1
Vinyl Chloride	ND	9.1
Bromomethane	ND	9.1
Chloroethane	ND	9.1
Trichlorofluoromethane	ND	4.5
Freon 113	ND	4.5
1,1-Dichloroethene	ND	4.5
Methylene Chloride	ND	18
trans-1,2-Dichloroethene	ND	4.5
1,1-Dichloroethane	ND	4.5
cis-1,2-Dichloroethene	ND	4.5
Chloroform	ND	4.5
1,1,1-Trichloroethane	ND	4.5
Carbon Tetrachloride	ND	4.5
1,2-Dichloroethane	ND	4.5
Trichloroethene	ND	4.5
1,2-Dichloropropane	ND	4.5
Bromodichloromethane	ND	4.5
cis-1,3-Dichloropropene	ND	4.5
trans-1,3-Dichloropropene	ND	4.5
1,1,2-Trichloroethane	ND	4.5
Tetrachloroethene	ND	4.5
Dibromochloromethane	ND	4.5
Chlorobenzene	ND	4.5
Bromoform	ND	9.1
1,1,2,2-Tetrachloroethane	ND	4.5
1,3-Dichlorobenzene	ND	4.5
1,4-Dichlorobenzene	ND	4.5
1,2-Dichlorobenzene	ND	4.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	103	76-135
Toluene-d8	100	80-120
Bromofluorobenzene	100	80-126

ND= Not Detected
 RL= Reporting Limit

Purgeable Halocarbons by GC/MS

Lab #: 197168	Location: Woytak-Oakland
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2006-21	Analysis: EPA 8260B
Field ID: BH26-15	Diln Fac: 0.9615
Lab ID: 197168-003	Batch#: 128901
Matrix: Soil	Sampled: 08/24/07
Units: ug/Kg	Received: 08/24/07
Basis: as received	Analyzed: 08/28/07

Analyte	Result	RL
Chloromethane	ND	9.6
Vinyl Chloride	ND	9.6
Bromomethane	ND	9.6
Chloroethane	ND	9.6
Trichlorofluoromethane	ND	4.8
Freon 113	ND	4.8
1,1-Dichloroethene	ND	4.8
Methylene Chloride	ND	19
trans-1,2-Dichloroethene	ND	4.8
1,1-Dichloroethane	ND	4.8
cis-1,2-Dichloroethene	ND	4.8
Chloroform	ND	4.8
1,1,1-Trichloroethane	ND	4.8
Carbon Tetrachloride	ND	4.8
1,2-Dichloroethane	ND	4.8
Trichloroethene	ND	4.8
1,2-Dichloropropane	ND	4.8
Bromodichloromethane	ND	4.8
cis-1,3-Dichloropropene	ND	4.8
trans-1,3-Dichloropropene	ND	4.8
1,1,2-Trichloroethane	ND	4.8
Tetrachloroethene	ND	4.8
Dibromochloromethane	ND	4.8
Chlorobenzene	ND	4.8
Bromoform	ND	9.6
1,1,2,2-Tetrachloroethane	ND	4.8
1,3-Dichlorobenzene	ND	4.8
1,4-Dichlorobenzene	ND	4.8
1,2-Dichlorobenzene	ND	4.8

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	108	76-135
Toluene-d8	101	80-120
Bromofluorobenzene	97	80-126

ND= Not Detected
 RL= Reporting Limit

Purgeable Halocarbons by GC/MS

Lab #: 197168	Location: Woytak-Oakland
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2006-21	Analysis: EPA 8260B
Field ID: BH27-3	Diln Fac: 0.9091
Lab ID: 197168-004	Batch#: 128852
Matrix: Soil	Sampled: 08/24/07
Units: ug/Kg	Received: 08/24/07
Basis: as received	Analyzed: 08/28/07

Analyte	Result	RL
Chloromethane	ND	9.1
Vinyl Chloride	ND	9.1
Bromomethane	ND	9.1
Chloroethane	ND	9.1
Trichlorofluoromethane	ND	4.5
Freon 113	ND	4.5
1,1-Dichloroethene	ND	4.5
Methylene Chloride	ND	18
trans-1,2-Dichloroethene	ND	4.5
1,1-Dichloroethane	ND	4.5
cis-1,2-Dichloroethene	ND	4.5
Chloroform	ND	4.5
1,1,1-Trichloroethane	ND	4.5
Carbon Tetrachloride	ND	4.5
1,2-Dichloroethane	ND	4.5
Trichloroethene	ND	4.5
1,2-Dichloropropane	ND	4.5
Bromodichloromethane	ND	4.5
cis-1,3-Dichloropropene	ND	4.5
trans-1,3-Dichloropropene	ND	4.5
1,1,2-Trichloroethane	ND	4.5
Tetrachloroethene	ND	4.5
Dibromochloromethane	ND	4.5
Chlorobenzene	ND	4.5
Bromoform	ND	9.1
1,1,2,2-Tetrachloroethane	ND	4.5
1,3-Dichlorobenzene	ND	4.5
1,4-Dichlorobenzene	ND	4.5
1,2-Dichlorobenzene	ND	4.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	107	76-135
Toluene-d8	100	80-120
Bromofluorobenzene	99	80-126

ND= Not Detected
 RL= Reporting Limit

Purgeable Halocarbons by GC/MS

Lab #: 197168	Location: Woytak-Oakland
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2006-21	Analysis: EPA 8260B
Field ID: BH27-9	Diln Fac: 0.9804
Lab ID: 197168-005	Batch#: 128852
Matrix: Soil	Sampled: 08/24/07
Units: ug/Kg	Received: 08/24/07
Basis: as received	Analyzed: 08/28/07

Analyte	Result	RL
Chloromethane	ND	9.8
Vinyl Chloride	ND	9.8
Bromomethane	ND	9.8
Chloroethane	ND	9.8
Trichlorofluoromethane	ND	4.9
Freon 113	ND	4.9
1,1-Dichloroethene	ND	4.9
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	4.9
1,1-Dichloroethane	ND	4.9
cis-1,2-Dichloroethene	ND	4.9
Chloroform	ND	4.9
1,1,1-Trichloroethane	ND	4.9
Carbon Tetrachloride	ND	4.9
1,2-Dichloroethane	ND	4.9
Trichloroethene	ND	4.9
1,2-Dichloropropane	ND	4.9
Bromodichloromethane	ND	4.9
cis-1,3-Dichloropropene	ND	4.9
trans-1,3-Dichloropropene	ND	4.9
1,1,2-Trichloroethane	ND	4.9
Tetrachloroethene	ND	4.9
Dibromochloromethane	ND	4.9
Chlorobenzene	ND	4.9
Bromoform	ND	9.8
1,1,2,2-Tetrachloroethane	ND	4.9
1,3-Dichlorobenzene	ND	4.9
1,4-Dichlorobenzene	ND	4.9
1,2-Dichlorobenzene	ND	4.9

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	105	76-135
Toluene-d8	101	80-120
Bromofluorobenzene	99	80-126

ND= Not Detected
 RL= Reporting Limit

Purgeable Halocarbons by GC/MS

Lab #: 197168	Location: Woytak-Oakland
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2006-21	Analysis: EPA 8260B
Field ID: BH27-15	Diln Fac: 0.9804
Lab ID: 197168-006	Batch#: 128852
Matrix: Soil	Sampled: 08/24/07
Units: ug/Kg	Received: 08/24/07
Basis: as received	Analyzed: 08/28/07

Analyte	Result	RL
Chloromethane	ND	9.8
Vinyl Chloride	ND	9.8
Bromomethane	ND	9.8
Chloroethane	ND	9.8
Trichlorofluoromethane	ND	4.9
Freon 113	ND	4.9
1,1-Dichloroethene	ND	4.9
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	4.9
1,1-Dichloroethane	ND	4.9
cis-1,2-Dichloroethene	ND	4.9
Chloroform	ND	4.9
1,1,1-Trichloroethane	ND	4.9
Carbon Tetrachloride	ND	4.9
1,2-Dichloroethane	ND	4.9
Trichloroethene	19	4.9
1,2-Dichloropropane	ND	4.9
Bromodichloromethane	ND	4.9
cis-1,3-Dichloropropene	ND	4.9
trans-1,3-Dichloropropene	ND	4.9
1,1,2-Trichloroethane	ND	4.9
Tetrachloroethene	ND	4.9
Dibromochloromethane	ND	4.9
Chlorobenzene	ND	4.9
Bromoform	ND	9.8
1,1,2,2-Tetrachloroethane	ND	4.9
1,3-Dichlorobenzene	ND	4.9
1,4-Dichlorobenzene	ND	4.9
1,2-Dichlorobenzene	ND	4.9

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	103	76-135
Toluene-d8	100	80-120
Bromofluorobenzene	100	80-126

ND= Not Detected
 RL= Reporting Limit

Purgeable Halocarbons by GC/MS

Lab #: 197168	Location: Woytak-Oakland
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2006-21	Analysis: EPA 8260B
Field ID: BH28-3	Diln Fac: 0.8772
Lab ID: 197168-007	Batch#: 128852
Matrix: Soil	Sampled: 08/24/07
Units: ug/Kg	Received: 08/24/07
Basis: as received	Analyzed: 08/28/07

Analyte	Result	RL
Chloromethane	ND	8.8
Vinyl Chloride	ND	8.8
Bromomethane	ND	8.8
Chloroethane	ND	8.8
Trichlorofluoromethane	ND	4.4
Freon 113	ND	4.4
1,1-Dichloroethene	ND	4.4
Methylene Chloride	ND	18
trans-1,2-Dichloroethene	ND	4.4
1,1-Dichloroethane	ND	4.4
cis-1,2-Dichloroethene	ND	4.4
Chloroform	ND	4.4
1,1,1-Trichloroethane	ND	4.4
Carbon Tetrachloride	ND	4.4
1,2-Dichloroethane	ND	4.4
Trichloroethene	17	4.4
1,2-Dichloropropane	ND	4.4
Bromodichloromethane	ND	4.4
cis-1,3-Dichloropropene	ND	4.4
trans-1,3-Dichloropropene	ND	4.4
1,1,2-Trichloroethane	ND	4.4
Tetrachloroethene	ND	4.4
Dibromochloromethane	ND	4.4
Chlorobenzene	ND	4.4
Bromoform	ND	8.8
1,1,2,2-Tetrachloroethane	ND	4.4
1,3-Dichlorobenzene	ND	4.4
1,4-Dichlorobenzene	ND	4.4
1,2-Dichlorobenzene	ND	4.4

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	108	76-135
Toluene-d8	100	80-120
Bromofluorobenzene	100	80-126

ND= Not Detected
 RL= Reporting Limit

Purgeable Halocarbons by GC/MS

Lab #: 197168	Location: Woytak-Oakland
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2006-21	Analysis: EPA 8260B
Field ID: BH28-9	Diln Fac: 0.9804
Lab ID: 197168-008	Batch#: 128901
Matrix: Soil	Sampled: 08/24/07
Units: ug/Kg	Received: 08/24/07
Basis: as received	Analyzed: 08/28/07

Analyte	Result	RL
Chloromethane	ND	9.8
Vinyl Chloride	ND	9.8
Bromomethane	ND	9.8
Chloroethane	ND	9.8
Trichlorofluoromethane	ND	4.9
Freon 113	ND	4.9
1,1-Dichloroethene	ND	4.9
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	4.9
1,1-Dichloroethane	ND	4.9
cis-1,2-Dichloroethene	ND	4.9
Chloroform	ND	4.9
1,1,1-Trichloroethane	ND	4.9
Carbon Tetrachloride	ND	4.9
1,2-Dichloroethane	ND	4.9
Trichloroethene	7.8	4.9
1,2-Dichloropropane	ND	4.9
Bromodichloromethane	ND	4.9
cis-1,3-Dichloropropene	ND	4.9
trans-1,3-Dichloropropene	ND	4.9
1,1,2-Trichloroethane	ND	4.9
Tetrachloroethene	ND	4.9
Dibromochloromethane	ND	4.9
Chlorobenzene	ND	4.9
Bromoform	ND	9.8
1,1,2,2-Tetrachloroethane	ND	4.9
1,3-Dichlorobenzene	ND	4.9
1,4-Dichlorobenzene	ND	4.9
1,2-Dichlorobenzene	ND	4.9

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	108	76-135
Toluene-d8	100	80-120
Bromofluorobenzene	100	80-126

ND= Not Detected
 RL= Reporting Limit

Purgeable Halocarbons by GC/MS

Lab #: 197168	Location: Woytak-Oakland
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2006-21	Analysis: EPA 8260B
Field ID: BH28-15	Diln Fac: 0.9434
Lab ID: 197168-009	Batch#: 128901
Matrix: Soil	Sampled: 08/24/07
Units: ug/Kg	Received: 08/24/07
Basis: as received	Analyzed: 08/28/07

Analyte	Result	RL
Chloromethane	ND	9.4
Vinyl Chloride	ND	9.4
Bromomethane	ND	9.4
Chloroethane	ND	9.4
Trichlorofluoromethane	ND	4.7
Freon 113	ND	4.7
1,1-Dichloroethene	ND	4.7
Methylene Chloride	ND	19
trans-1,2-Dichloroethene	ND	4.7
1,1-Dichloroethane	ND	4.7
cis-1,2-Dichloroethene	ND	4.7
Chloroform	ND	4.7
1,1,1-Trichloroethane	ND	4.7
Carbon Tetrachloride	ND	4.7
1,2-Dichloroethane	ND	4.7
Trichloroethene	ND	4.7
1,2-Dichloropropane	ND	4.7
Bromodichloromethane	ND	4.7
cis-1,3-Dichloropropene	ND	4.7
trans-1,3-Dichloropropene	ND	4.7
1,1,2-Trichloroethane	ND	4.7
Tetrachloroethene	ND	4.7
Dibromochloromethane	ND	4.7
Chlorobenzene	ND	4.7
Bromoform	ND	9.4
1,1,2,2-Tetrachloroethane	ND	4.7
1,3-Dichlorobenzene	ND	4.7
1,4-Dichlorobenzene	ND	4.7
1,2-Dichlorobenzene	ND	4.7

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	107	76-135
Toluene-d8	101	80-120
Bromofluorobenzene	96	80-126

ND= Not Detected
 RL= Reporting Limit

Purgeable Halocarbons by GC/MS

Lab #: 197168	Location: Woytak-Oakland
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2006-21	Analysis: EPA 8260B
Field ID: BH29-3	Diln Fac: 0.9804
Lab ID: 197168-011	Batch#: 128901
Matrix: Soil	Sampled: 08/24/07
Units: ug/Kg	Received: 08/24/07
Basis: as received	Analyzed: 08/28/07

Analyte	Result	RL
Chloromethane	ND	9.8
Vinyl Chloride	ND	9.8
Bromomethane	ND	9.8
Chloroethane	ND	9.8
Trichlorofluoromethane	ND	4.9
Freon 113	ND	4.9
1,1-Dichloroethene	ND	4.9
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	4.9
1,1-Dichloroethane	ND	4.9
cis-1,2-Dichloroethene	ND	4.9
Chloroform	ND	4.9
1,1,1-Trichloroethane	ND	4.9
Carbon Tetrachloride	ND	4.9
1,2-Dichloroethane	ND	4.9
Trichloroethene	ND	4.9
1,2-Dichloropropane	ND	4.9
Bromodichloromethane	ND	4.9
cis-1,3-Dichloropropene	ND	4.9
trans-1,3-Dichloropropene	ND	4.9
1,1,2-Trichloroethane	ND	4.9
Tetrachloroethene	ND	4.9
Dibromochloromethane	ND	4.9
Chlorobenzene	ND	4.9
Bromoform	ND	9.8
1,1,2,2-Tetrachloroethane	ND	4.9
1,3-Dichlorobenzene	ND	4.9
1,4-Dichlorobenzene	ND	4.9
1,2-Dichlorobenzene	ND	4.9

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	109	76-135
Toluene-d8	101	80-120
Bromofluorobenzene	98	80-126

ND= Not Detected
 RL= Reporting Limit

Purgeable Halocarbons by GC/MS

Lab #: 197168	Location: Woytak-Oakland
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2006-21	Analysis: EPA 8260B
Field ID: BH29-10	Diln Fac: 0.9434
Lab ID: 197168-012	Batch#: 128901
Matrix: Soil	Sampled: 08/24/07
Units: ug/Kg	Received: 08/24/07
Basis: as received	Analyzed: 08/28/07

Analyte	Result	RL
Chloromethane	ND	9.4
Vinyl Chloride	ND	9.4
Bromomethane	ND	9.4
Chloroethane	ND	9.4
Trichlorofluoromethane	ND	4.7
Freon 113	ND	4.7
1,1-Dichloroethene	ND	4.7
Methylene Chloride	ND	19
trans-1,2-Dichloroethene	ND	4.7
1,1-Dichloroethane	ND	4.7
cis-1,2-Dichloroethene	ND	4.7
Chloroform	ND	4.7
1,1,1-Trichloroethane	ND	4.7
Carbon Tetrachloride	ND	4.7
1,2-Dichloroethane	ND	4.7
Trichloroethene	ND	4.7
1,2-Dichloropropane	ND	4.7
Bromodichloromethane	ND	4.7
cis-1,3-Dichloropropene	ND	4.7
trans-1,3-Dichloropropene	ND	4.7
1,1,2-Trichloroethane	ND	4.7
Tetrachloroethene	ND	4.7
Dibromochloromethane	ND	4.7
Chlorobenzene	ND	4.7
Bromoform	ND	9.4
1,1,2,2-Tetrachloroethane	ND	4.7
1,3-Dichlorobenzene	ND	4.7
1,4-Dichlorobenzene	ND	4.7
1,2-Dichlorobenzene	ND	4.7

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	106	76-135
Toluene-d8	100	80-120
Bromofluorobenzene	101	80-126

ND= Not Detected

RL= Reporting Limit

Purgeable Halocarbons by GC/MS

Lab #: 197168	Location: Woytak-Oakland
Client: Stellar Environmental Solutions	Prep: EPA 5030B
Project#: 2006-21	Analysis: EPA 8260B
Field ID: BH29-15	Diln Fac: 0.9804
Lab ID: 197168-013	Batch#: 128901
Matrix: Soil	Sampled: 08/24/07
Units: ug/Kg	Received: 08/24/07
Basis: as received	Analyzed: 08/28/07

Analyte	Result	RL
Chloromethane	ND	9.8
Vinyl Chloride	ND	9.8
Bromomethane	ND	9.8
Chloroethane	ND	9.8
Trichlorofluoromethane	ND	4.9
Freon 113	ND	4.9
1,1-Dichloroethene	ND	4.9
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	4.9
1,1-Dichloroethane	ND	4.9
cis-1,2-Dichloroethene	ND	4.9
Chloroform	ND	4.9
1,1,1-Trichloroethane	ND	4.9
Carbon Tetrachloride	ND	4.9
1,2-Dichloroethane	ND	4.9
Trichloroethene	ND	4.9
1,2-Dichloropropane	ND	4.9
Bromodichloromethane	ND	4.9
cis-1,3-Dichloropropene	ND	4.9
trans-1,3-Dichloropropene	ND	4.9
1,1,2-Trichloroethane	ND	4.9
Tetrachloroethene	ND	4.9
Dibromochloromethane	ND	4.9
Chlorobenzene	ND	4.9
Bromoform	ND	9.8
1,1,2,2-Tetrachloroethane	ND	4.9
1,3-Dichlorobenzene	ND	4.9
1,4-Dichlorobenzene	ND	4.9
1,2-Dichlorobenzene	ND	4.9

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	108	76-135
Toluene-d8	100	80-120
Bromofluorobenzene	97	80-126

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Halocarbons by GC/MS			
Lab #:	197168	Location:	Woytak-Oakland
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2006-21	Analysis:	EPA 8260B
Type:	LCS	Basis:	as received
Lab ID:	QC403326	Diln Fac:	1.000
Matrix:	Soil	Batch#:	128852
Units:	ug/Kg	Analyzed:	08/27/07

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	50.00	52.29	105	76-132
Trichloroethene	50.00	49.81	100	80-120
Chlorobenzene	50.00	48.51	97	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	99	76-135
Toluene-d8	100	80-120
Bromofluorobenzene	94	80-126

Batch QC Report

Purgeable Halocarbons by GC/MS			
Lab #:	197168	Location:	Woytak-Oakland
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2006-21	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	128852
MSS Lab ID:	197194-005	Sampled:	08/27/07
Matrix:	Soil	Received:	08/27/07
Units:	ug/Kg	Analyzed:	08/28/07
Basis:	as received		

Type: MS Diln Fac: 0.8772
 Lab ID: QC403488

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.3134	43.86	35.32	81	72-138
Trichloroethene	<0.2412	43.86	31.47	72	62-134
Chlorobenzene	<0.2822	43.86	29.06	66	55-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	94	76-135
Toluene-d8	100	80-120
Bromofluorobenzene	92	80-126

Type: MSD Diln Fac: 1.087
 Lab ID: QC403489

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	54.35	47.40	87	72-138	8	20
Trichloroethene	54.35	43.12	79	62-134	10	20
Chlorobenzene	54.35	41.27	76	55-120	14	22

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	92	76-135
Toluene-d8	99	80-120
Bromofluorobenzene	94	80-126

RPD= Relative Percent Difference

Batch QC Report

Purgeable Halocarbons by GC/MS			
Lab #:	197168	Location:	Woytak-Oakland
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2006-21	Analysis:	EPA 8260B
Type:	BLANK	Basis:	as received
Lab ID:	QC403490	Diln Fac:	1.000
Matrix:	Soil	Batch#:	128852
Units:	ug/Kg	Analyzed:	08/27/07

Analyte	Result	RL
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0
Chlorobenzene	ND	5.0
Bromoform	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	98	76-135
Toluene-d8	101	80-120
Bromofluorobenzene	100	80-126

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Halocarbons by GC/MS			
Lab #:	197168	Location:	Woytak-Oakland
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2006-21	Analysis:	EPA 8260B
Type:	BLANK	Basis:	as received
Lab ID:	QC403582	Diln Fac:	1.000
Matrix:	Soil	Batch#:	128901
Units:	ug/Kg	Analyzed:	08/28/07

Analyte	Result	RL
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
trans-1,2-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0
Chlorobenzene	ND	5.0
Bromoform	ND	10
1,1,2,2-Tetrachloroethane	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	106	76-135
Toluene-d8	101	80-120
Bromofluorobenzene	97	80-126

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Halocarbons by GC/MS			
Lab #:	197168	Location:	Woytak-Oakland
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2006-21	Analysis:	EPA 8260B
Type:	LCS	Basis:	as received
Lab ID:	QC403583	Diln Fac:	1.000
Matrix:	Soil	Batch#:	128901
Units:	ug/Kg	Analyzed:	08/28/07

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	24.90	100	76-132
Trichloroethene	25.00	26.31	105	80-120
Chlorobenzene	25.00	26.67	107	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	103	76-135
Toluene-d8	100	80-120
Bromofluorobenzene	97	80-126

Batch QC Report

Purgeable Halocarbons by GC/MS			
Lab #:	197168	Location:	Woytak-Oakland
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2006-21	Analysis:	EPA 8260B
Field ID:	BH29-3	Diln Fac:	0.9804
MSS Lab ID:	197168-011	Batch#:	128901
Matrix:	Soil	Sampled:	08/24/07
Units:	ug/Kg	Received:	08/24/07
Basis:	as received	Analyzed:	08/28/07

Type: MS Lab ID: QC403649

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.8783	49.02	44.81	91	72-138
Trichloroethene	1.452	49.02	46.78	92	62-134
Chlorobenzene	<0.3769	49.02	43.11	88	55-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	108	76-135
Toluene-d8	101	80-120
Bromofluorobenzene	98	80-126

Type: MSD Lab ID: QC403650

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	49.02	45.01	92	72-138	0	20
Trichloroethene	49.02	46.12	91	62-134	1	20
Chlorobenzene	49.02	42.81	87	55-120	1	22

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	107	76-135
Toluene-d8	101	80-120
Bromofluorobenzene	97	80-126

RPD= Relative Percent Difference



AN ENVIRONMENTAL ANALYTICAL LABORATORY

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- Work order Summary;
- Laboratory Narrative;
- Results; and
- Chain of Custody (copy).

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0708300

Work Order Summary

CLIENT:	Mr. Henry Pietropaoli Stellar Environmental Solutions, Inc. 2198 6th Street Suite 201 Berkeley, CA 94710	BILL TO:	Mr. Henry Pietropaoli Stellar Environmental Solutions, Inc. 2198 6th Street Suite 201 Berkeley, CA 94710
PHONE:	510-644-3123	P.O. #	2006-21
FAX:		PROJECT #	1171 Ocean Ave Woytach/SES
DATE RECEIVED:	08/15/2007	CONTACT:	Kyle Vagadori
DATE COMPLETED:	08/28/2007		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>
01A	SG-1	Modified TO-15	3.5 "Hg
01AA	SG-1 Lab Duplicate	Modified TO-15	3.5 "Hg
02A	SG-2	Modified TO-15	3.5 "Hg
03A	SG-3	Modified TO-15	2.5 "Hg
04A	SG-4	Modified TO-15	2.5 "Hg
05A	SG-5	Modified TO-15	3.5 "Hg
06A	SG-6	Modified TO-15	3.0 "Hg
07A	SG-7	Modified TO-15	3.5 "Hg
08A	SG-8	Modified TO-15	4.0 "Hg
09A	Lab Blank	Modified TO-15	NA
09B	Lab Blank	Modified TO-15	NA
10A	CCV	Modified TO-15	NA
10B	CCV	Modified TO-15	NA
11A	LCS	Modified TO-15	NA
11B	LCS	Modified TO-15	NA

CERTIFIED BY:  DATE: 08/28/07

Laboratory Director

Certification numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892

Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/07, Expiration date: 06/30/08

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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**LABORATORY NARRATIVE
Modified TO-15
Stellar Environmental Solutions, Inc.
Workorder# 0708300**



Eight 1 Liter Summa Canister samples were received on August 15, 2007. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 0.2 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Daily CCV	+/- 30% Difference	<= 30% Difference with two allowed out up to <=40%.; flag and narrate outliers
Sample collection media	Summa canister	ATL recommends use of summa canisters to insure data defensibility, but will report results from Tedlar bags at client request
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The reported CCV for each daily batch may be derived from more than one analytical file due to the client's request for non-standard compounds.

Non-standard compounds may have different acceptance criteria than the standard TO-14A/TO-15 compound list as per contract or verbal agreement.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SG-1

Lab ID#: 0708300-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,3-Butadiene	1.1	12	2.5	26
Ethanol	4.6	15	8.6	28
Acetone	4.6	180	11	440
2-Propanol	4.6	12	11	30
Carbon Disulfide	1.1	12	3.6	37
Hexane	1.1	4.4	4.0	15
2-Butanone (Methyl Ethyl Ketone)	1.1	28	3.4	83
Benzene	1.1	4.8	3.6	15
Heptane	1.1	2.0	4.7	8.1
Toluene	1.1	4.1	4.3	15
m,p-Xylene	1.1	2.0	5.0	8.8

Client Sample ID: SG-1 Lab Duplicate

Lab ID#: 0708300-01AA

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,3-Butadiene	1.1	12	2.5	27
Ethanol	4.6	15	8.6	28
Acetone	4.6	190	11	450
2-Propanol	4.6	13	11	32
Carbon Disulfide	1.1	12	3.6	38
Hexane	1.1	4.9	4.0	17
2-Butanone (Methyl Ethyl Ketone)	1.1	28	3.4	83
Benzene	1.1	4.7	3.6	15
Heptane	1.1	2.0	4.7	8.0
Toluene	1.1	3.9	4.3	15
m,p-Xylene	1.1	2.0	5.0	8.6

Client Sample ID: SG-2

Lab ID#: 0708300-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,3-Butadiene	1.1	18	2.5	40
Ethanol	4.6	28	8.6	53
Acetone	4.6	150	11	350
2-Propanol	4.6	26	11	63



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SG-2

Lab ID#: 0708300-02A

Carbon Disulfide	1.1	7.9	3.6	24
Hexane	1.1	6.1	4.0	22
2-Butanone (Methyl Ethyl Ketone)	1.1	22	3.4	65
Benzene	1.1	4.9	3.6	16
Heptane	1.1	1.9	4.7	8.0
Toluene	1.1	3.7	4.3	14
m,p-Xylene	1.1	2.1	5.0	9.0

Client Sample ID: SG-3

Lab ID#: 0708300-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,3-Butadiene	1.1	15	2.4	34
Ethanol	4.4	7.2	8.3	14
1,1-Dichloroethene	1.1	1.1	4.4	4.5
Acetone	4.4	74	10	180
2-Propanol	4.4	9.5	11	23
Carbon Disulfide	1.1	4.8	3.4	15
trans-1,2-Dichloroethene	1.1	10	4.4	42
Hexane	1.1	14	3.9	49
1,1-Dichloroethane	1.1	1.5	4.4	6.0
2-Butanone (Methyl Ethyl Ketone)	1.1	15	3.2	44
cis-1,2-Dichloroethene	1.1	18	4.4	72
Cyclohexane	1.1	50	3.8	170
2,2,4-Trimethylpentane	1.1	3.3	5.1	15
Benzene	1.1	3.1	3.5	9.8
Heptane	1.1	3.3	4.5	14
Trichloroethene	1.1	160	5.9	860
Toluene	1.1	12	4.1	47
m,p-Xylene	1.1	1.6	4.8	6.8

Client Sample ID: SG-4

Lab ID#: 0708300-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,3-Butadiene	1.1	25	2.4	55
Ethanol	4.4	12	8.3	24
Acetone	4.4	81	10	190



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SG-4

Lab ID#: 0708300-04A

2-Propanol	4.4	16	11	39
Carbon Disulfide	1.1	7.5	3.4	23
Hexane	1.1	18	3.9	64
1,1-Dichloroethane	1.1	9.7	4.4	39
2-Butanone (Methyl Ethyl Ketone)	1.1	15	3.2	43
Cyclohexane	1.1	8.5	3.8	29
Benzene	1.1	7.2	3.5	23
Heptane	1.1	4.8	4.5	19
Toluene	1.1	5.5	4.1	21
m,p-Xylene	1.1	2.1	4.8	9.0

Client Sample ID: SG-5

Lab ID#: 0708300-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,3-Butadiene	1.1	95	2.5	210
Ethanol	4.6	7.0	8.6	13
Acetone	4.6	120	11	280
2-Propanol	4.6	6.0	11	15
Carbon Disulfide	1.1	2.4	3.6	7.5
Hexane	1.1	20	4.0	71
2-Butanone (Methyl Ethyl Ketone)	1.1	28	3.4	81
Cyclohexane	1.1	7.5	3.9	26
Benzene	1.1	6.7	3.6	21
Heptane	1.1	6.0	4.7	25
Toluene	1.1	3.0	4.3	11
m,p-Xylene	1.1	1.2	5.0	5.1
1,2,4-Trimethylbenzene	1.1	1.9	5.6	9.2
1,2-Dichlorobenzene	1.1	2.0	6.9	12

Client Sample ID: SG-6

Lab ID#: 0708300-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,3-Butadiene	1.1	14	2.5	32
Ethanol	4.5	18	8.4	34
Acetone	4.5	130	11	300
2-Propanol	4.5	18	11	45



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SG-6

Lab ID#: 0708300-06A

Carbon Disulfide	1.1	11	3.5	34
Hexane	1.1	4.3	3.9	15
2-Butanone (Methyl Ethyl Ketone)	1.1	12	3.3	35
Benzene	1.1	3.2	3.6	10
Heptane	1.1	1.8	4.6	7.3
Toluene	1.1	3.6	4.2	14
Tetrachloroethene	1.1	5.2	7.6	35
m,p-Xylene	1.1	1.6	4.9	6.9

Client Sample ID: SG-7

Lab ID#: 0708300-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,3-Butadiene	1.1	12	2.5	28
Ethanol	4.6	33	8.6	62
Acetone	4.6	160	11	370
2-Propanol	4.6	25	11	62
Carbon Disulfide	1.1	2.5	3.6	7.8
Hexane	1.1	4.6	4.0	16
2-Butanone (Methyl Ethyl Ketone)	1.1	8.3	3.4	24
Cyclohexane	1.1	3.7	3.9	13
Benzene	1.1	2.2	3.6	7.1
Heptane	1.1	1.5	4.7	6.0
Toluene	1.1	3.1	4.3	12
m,p-Xylene	1.1	1.8	5.0	8.0

Client Sample ID: SG-8

Lab ID#: 0708300-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,3-Butadiene	1.2	16	2.6	34
Ethanol	4.7	13	8.8	24
Acetone	4.7	130	11	310
2-Propanol	4.7	12	11	28
Carbon Disulfide	1.2	5.6	3.6	17
Hexane	1.2	8.2	4.1	29
2-Butanone (Methyl Ethyl Ketone)	1.2	15	3.4	44
Cyclohexane	1.2	2.1	4.0	7.1



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: SG-8

Lab ID#: 0708300-08A

Benzene	1.2	4.6	3.7	15
Heptane	1.2	3.1	4.8	13
Toluene	1.2	4.0	4.4	15
m,p-Xylene	1.2	1.8	5.0	8.0



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SG-1

Lab ID#: 0708300-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082511	Date of Collection:	8/13/07
Dil. Factor:	2.29	Date of Analysis:	8/25/07 07:09 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	1.1	Not Detected	5.7	Not Detected
Freon 114	1.1	Not Detected	8.0	Not Detected
Chloromethane	4.6	Not Detected	9.4	Not Detected
Vinyl Chloride	1.1	Not Detected	2.9	Not Detected
1,3-Butadiene	1.1	12	2.5	26
Bromomethane	1.1	Not Detected	4.4	Not Detected
Chloroethane	1.1	Not Detected	3.0	Not Detected
Freon 11	1.1	Not Detected	6.4	Not Detected
Ethanol	4.6	15	8.6	28
Freon 113	1.1	Not Detected	8.8	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Acetone	4.6	180	11	440
2-Propanol	4.6	12	11	30
Carbon Disulfide	1.1	12	3.6	37
3-Chloropropene	4.6	Not Detected	14	Not Detected
Methylene Chloride	1.1	Not Detected	4.0	Not Detected
Methyl tert-butyl ether	1.1	Not Detected	4.1	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Hexane	1.1	4.4	4.0	15
1,1-Dichloroethane	1.1	Not Detected	4.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.1	28	3.4	83
cis-1,2-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Tetrahydrofuran	1.1	Not Detected	3.4	Not Detected
Chloroform	1.1	Not Detected	5.6	Not Detected
1,1,1-Trichloroethane	1.1	Not Detected	6.2	Not Detected
Cyclohexane	1.1	Not Detected	3.9	Not Detected
Carbon Tetrachloride	1.1	Not Detected	7.2	Not Detected
2,2,4-Trimethylpentane	1.1	Not Detected	5.3	Not Detected
Benzene	1.1	4.8	3.6	15
1,2-Dichloroethane	1.1	Not Detected	4.6	Not Detected
Heptane	1.1	2.0	4.7	8.1
Trichloroethene	1.1	Not Detected	6.2	Not Detected
1,2-Dichloropropane	1.1	Not Detected	5.3	Not Detected
1,4-Dioxane	4.6	Not Detected	16	Not Detected
Bromodichloromethane	1.1	Not Detected	7.7	Not Detected
cis-1,3-Dichloropropene	1.1	Not Detected	5.2	Not Detected
4-Methyl-2-pentanone	1.1	Not Detected	4.7	Not Detected
Toluene	1.1	4.1	4.3	15
trans-1,3-Dichloropropene	1.1	Not Detected	5.2	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SG-1

Lab ID#: 0708300-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082511	Date of Collection:	8/13/07
Dil. Factor:	2.29	Date of Analysis:	8/25/07 07:09 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	1.1	Not Detected	6.2	Not Detected
Tetrachloroethene	1.1	Not Detected	7.8	Not Detected
2-Hexanone	4.6	Not Detected	19	Not Detected
Dibromochloromethane	1.1	Not Detected	9.8	Not Detected
1,2-Dibromoethane (EDB)	1.1	Not Detected	8.8	Not Detected
Chlorobenzene	1.1	Not Detected	5.3	Not Detected
Ethyl Benzene	1.1	Not Detected	5.0	Not Detected
m,p-Xylene	1.1	2.0	5.0	8.8
o-Xylene	1.1	Not Detected	5.0	Not Detected
Styrene	1.1	Not Detected	4.9	Not Detected
Bromoform	1.1	Not Detected	12	Not Detected
Cumene	1.1	Not Detected	5.6	Not Detected
1,1,2,2-Tetrachloroethane	1.1	Not Detected	7.9	Not Detected
Propylbenzene	1.1	Not Detected	5.6	Not Detected
4-Ethyltoluene	1.1	Not Detected	5.6	Not Detected
1,3,5-Trimethylbenzene	1.1	Not Detected	5.6	Not Detected
1,2,4-Trimethylbenzene	1.1	Not Detected	5.6	Not Detected
1,3-Dichlorobenzene	1.1	Not Detected	6.9	Not Detected
1,4-Dichlorobenzene	1.1	Not Detected	6.9	Not Detected
alpha-Chlorotoluene	1.1	Not Detected	5.9	Not Detected
1,2-Dichlorobenzene	1.1	Not Detected	6.9	Not Detected
1,2,4-Trichlorobenzene	4.6	Not Detected	34	Not Detected
Hexachlorobutadiene	4.6	Not Detected	49	Not Detected
1,1-Difluoroethane	4.6	Not Detected	12	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	94	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	99	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SG-1 Lab Duplicate

Lab ID#: 0708300-01AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082513	Date of Collection:	8/13/07
Dil. Factor:	2.29	Date of Analysis:	8/25/07 08:47 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	1.1	Not Detected	5.7	Not Detected
Freon 114	1.1	Not Detected	8.0	Not Detected
Chloromethane	4.6	Not Detected	9.4	Not Detected
Vinyl Chloride	1.1	Not Detected	2.9	Not Detected
1,3-Butadiene	1.1	12	2.5	27
Bromomethane	1.1	Not Detected	4.4	Not Detected
Chloroethane	1.1	Not Detected	3.0	Not Detected
Freon 11	1.1	Not Detected	6.4	Not Detected
Ethanol	4.6	15	8.6	28
Freon 113	1.1	Not Detected	8.8	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Acetone	4.6	190	11	450
2-Propanol	4.6	13	11	32
Carbon Disulfide	1.1	12	3.6	38
3-Chloropropene	4.6	Not Detected	14	Not Detected
Methylene Chloride	1.1	Not Detected	4.0	Not Detected
Methyl tert-butyl ether	1.1	Not Detected	4.1	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Hexane	1.1	4.9	4.0	17
1,1-Dichloroethane	1.1	Not Detected	4.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.1	28	3.4	83
cis-1,2-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Tetrahydrofuran	1.1	Not Detected	3.4	Not Detected
Chloroform	1.1	Not Detected	5.6	Not Detected
1,1,1-Trichloroethane	1.1	Not Detected	6.2	Not Detected
Cyclohexane	1.1	Not Detected	3.9	Not Detected
Carbon Tetrachloride	1.1	Not Detected	7.2	Not Detected
2,2,4-Trimethylpentane	1.1	Not Detected	5.3	Not Detected
Benzene	1.1	4.7	3.6	15
1,2-Dichloroethane	1.1	Not Detected	4.6	Not Detected
Heptane	1.1	2.0	4.7	8.0
Trichloroethene	1.1	Not Detected	6.2	Not Detected
1,2-Dichloropropane	1.1	Not Detected	5.3	Not Detected
1,4-Dioxane	4.6	Not Detected	16	Not Detected
Bromodichloromethane	1.1	Not Detected	7.7	Not Detected
cis-1,3-Dichloropropene	1.1	Not Detected	5.2	Not Detected
4-Methyl-2-pentanone	1.1	Not Detected	4.7	Not Detected
Toluene	1.1	3.9	4.3	15
trans-1,3-Dichloropropene	1.1	Not Detected	5.2	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SG-1 Lab Duplicate

Lab ID#: 0708300-01AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082513	Date of Collection:	8/13/07
Dil. Factor:	2.29	Date of Analysis:	8/25/07 08:47 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	1.1	Not Detected	6.2	Not Detected
Tetrachloroethene	1.1	Not Detected	7.8	Not Detected
2-Hexanone	4.6	Not Detected	19	Not Detected
Dibromochloromethane	1.1	Not Detected	9.8	Not Detected
1,2-Dibromoethane (EDB)	1.1	Not Detected	8.8	Not Detected
Chlorobenzene	1.1	Not Detected	5.3	Not Detected
Ethyl Benzene	1.1	Not Detected	5.0	Not Detected
m,p-Xylene	1.1	2.0	5.0	8.6
o-Xylene	1.1	Not Detected	5.0	Not Detected
Styrene	1.1	Not Detected	4.9	Not Detected
Bromoform	1.1	Not Detected	12	Not Detected
Cumene	1.1	Not Detected	5.6	Not Detected
1,1,2,2-Tetrachloroethane	1.1	Not Detected	7.9	Not Detected
Propylbenzene	1.1	Not Detected	5.6	Not Detected
4-Ethyltoluene	1.1	Not Detected	5.6	Not Detected
1,3,5-Trimethylbenzene	1.1	Not Detected	5.6	Not Detected
1,2,4-Trimethylbenzene	1.1	Not Detected	5.6	Not Detected
1,3-Dichlorobenzene	1.1	Not Detected	6.9	Not Detected
1,4-Dichlorobenzene	1.1	Not Detected	6.9	Not Detected
alpha-Chlorotoluene	1.1	Not Detected	5.9	Not Detected
1,2-Dichlorobenzene	1.1	Not Detected	6.9	Not Detected
1,2,4-Trichlorobenzene	4.6	Not Detected	34	Not Detected
Hexachlorobutadiene	4.6	Not Detected	49	Not Detected
1,1-Difluoroethane	4.6	Not Detected	12	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	94	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	98	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SG-2

Lab ID#: 0708300-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082512	Date of Collection:	8/13/07
Dil. Factor:	2.29	Date of Analysis:	8/25/07 08:08 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	1.1	Not Detected	5.7	Not Detected
Freon 114	1.1	Not Detected	8.0	Not Detected
Chloromethane	4.6	Not Detected	9.4	Not Detected
Vinyl Chloride	1.1	Not Detected	2.9	Not Detected
1,3-Butadiene	1.1	18	2.5	40
Bromomethane	1.1	Not Detected	4.4	Not Detected
Chloroethane	1.1	Not Detected	3.0	Not Detected
Freon 11	1.1	Not Detected	6.4	Not Detected
Ethanol	4.6	28	8.6	53
Freon 113	1.1	Not Detected	8.8	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Acetone	4.6	150	11	350
2-Propanol	4.6	26	11	63
Carbon Disulfide	1.1	7.9	3.6	24
3-Chloropropene	4.6	Not Detected	14	Not Detected
Methylene Chloride	1.1	Not Detected	4.0	Not Detected
Methyl tert-butyl ether	1.1	Not Detected	4.1	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Hexane	1.1	6.1	4.0	22
1,1-Dichloroethane	1.1	Not Detected	4.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.1	22	3.4	65
cis-1,2-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Tetrahydrofuran	1.1	Not Detected	3.4	Not Detected
Chloroform	1.1	Not Detected	5.6	Not Detected
1,1,1-Trichloroethane	1.1	Not Detected	6.2	Not Detected
Cyclohexane	1.1	Not Detected	3.9	Not Detected
Carbon Tetrachloride	1.1	Not Detected	7.2	Not Detected
2,2,4-Trimethylpentane	1.1	Not Detected	5.3	Not Detected
Benzene	1.1	4.9	3.6	16
1,2-Dichloroethane	1.1	Not Detected	4.6	Not Detected
Heptane	1.1	1.9	4.7	8.0
Trichloroethene	1.1	Not Detected	6.2	Not Detected
1,2-Dichloropropane	1.1	Not Detected	5.3	Not Detected
1,4-Dioxane	4.6	Not Detected	16	Not Detected
Bromodichloromethane	1.1	Not Detected	7.7	Not Detected
cis-1,3-Dichloropropene	1.1	Not Detected	5.2	Not Detected
4-Methyl-2-pentanone	1.1	Not Detected	4.7	Not Detected
Toluene	1.1	3.7	4.3	14
trans-1,3-Dichloropropene	1.1	Not Detected	5.2	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SG-2

Lab ID#: 0708300-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082512	Date of Collection: 8/13/07
Dil. Factor:	2.29	Date of Analysis: 8/25/07 08:08 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	1.1	Not Detected	6.2	Not Detected
Tetrachloroethene	1.1	Not Detected	7.8	Not Detected
2-Hexanone	4.6	Not Detected	19	Not Detected
Dibromochloromethane	1.1	Not Detected	9.8	Not Detected
1,2-Dibromoethane (EDB)	1.1	Not Detected	8.8	Not Detected
Chlorobenzene	1.1	Not Detected	5.3	Not Detected
Ethyl Benzene	1.1	Not Detected	5.0	Not Detected
m,p-Xylene	1.1	2.1	5.0	9.0
o-Xylene	1.1	Not Detected	5.0	Not Detected
Styrene	1.1	Not Detected	4.9	Not Detected
Bromoform	1.1	Not Detected	12	Not Detected
Cumene	1.1	Not Detected	5.6	Not Detected
1,1,2,2-Tetrachloroethane	1.1	Not Detected	7.9	Not Detected
Propylbenzene	1.1	Not Detected	5.6	Not Detected
4-Ethyltoluene	1.1	Not Detected	5.6	Not Detected
1,3,5-Trimethylbenzene	1.1	Not Detected	5.6	Not Detected
1,2,4-Trimethylbenzene	1.1	Not Detected	5.6	Not Detected
1,3-Dichlorobenzene	1.1	Not Detected	6.9	Not Detected
1,4-Dichlorobenzene	1.1	Not Detected	6.9	Not Detected
alpha-Chlorotoluene	1.1	Not Detected	5.9	Not Detected
1,2-Dichlorobenzene	1.1	Not Detected	6.9	Not Detected
1,2,4-Trichlorobenzene	4.6	Not Detected	34	Not Detected
Hexachlorobutadiene	4.6	Not Detected	49	Not Detected
1,1-Difluoroethane	4.6	Not Detected	12	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	93	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	98	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SG-3

Lab ID#: 0708300-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082607	Date of Collection:	8/14/07
Dil. Factor:	2.20	Date of Analysis:	8/26/07 01:15 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	1.1	Not Detected	5.4	Not Detected
Freon 114	1.1	Not Detected	7.7	Not Detected
Chloromethane	4.4	Not Detected	9.1	Not Detected
Vinyl Chloride	1.1	Not Detected	2.8	Not Detected
1,3-Butadiene	1.1	15	2.4	34
Bromomethane	1.1	Not Detected	4.3	Not Detected
Chloroethane	1.1	Not Detected	2.9	Not Detected
Freon 11	1.1	Not Detected	6.2	Not Detected
Ethanol	4.4	7.2	8.3	14
Freon 113	1.1	Not Detected	8.4	Not Detected
1,1-Dichloroethene	1.1	1.1	4.4	4.5
Acetone	4.4	74	10	180
2-Propanol	4.4	9.5	11	23
Carbon Disulfide	1.1	4.8	3.4	15
3-Chloropropene	4.4	Not Detected	14	Not Detected
Methylene Chloride	1.1	Not Detected	3.8	Not Detected
Methyl tert-butyl ether	1.1	Not Detected	4.0	Not Detected
trans-1,2-Dichloroethene	1.1	10	4.4	42
Hexane	1.1	14	3.9	49
1,1-Dichloroethane	1.1	1.5	4.4	6.0
2-Butanone (Methyl Ethyl Ketone)	1.1	15	3.2	44
cis-1,2-Dichloroethene	1.1	18	4.4	72
Tetrahydrofuran	1.1	Not Detected	3.2	Not Detected
Chloroform	1.1	Not Detected	5.4	Not Detected
1,1,1-Trichloroethane	1.1	Not Detected	6.0	Not Detected
Cyclohexane	1.1	50	3.8	170
Carbon Tetrachloride	1.1	Not Detected	6.9	Not Detected
2,2,4-Trimethylpentane	1.1	3.3	5.1	15
Benzene	1.1	3.1	3.5	9.8
1,2-Dichloroethane	1.1	Not Detected	4.4	Not Detected
Heptane	1.1	3.3	4.5	14
Trichloroethene	1.1	160	5.9	860
1,2-Dichloropropane	1.1	Not Detected	5.1	Not Detected
1,4-Dioxane	4.4	Not Detected	16	Not Detected
Bromodichloromethane	1.1	Not Detected	7.4	Not Detected
cis-1,3-Dichloropropene	1.1	Not Detected	5.0	Not Detected
4-Methyl-2-pentanone	1.1	Not Detected	4.5	Not Detected
Toluene	1.1	12	4.1	47
trans-1,3-Dichloropropene	1.1	Not Detected	5.0	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SG-3

Lab ID#: 0708300-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082607	Date of Collection:	8/14/07
Dil. Factor:	2.20	Date of Analysis:	8/26/07 01:15 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	1.1	Not Detected	6.0	Not Detected
Tetrachloroethene	1.1	Not Detected	7.5	Not Detected
2-Hexanone	4.4	Not Detected	18	Not Detected
Dibromochloromethane	1.1	Not Detected	9.4	Not Detected
1,2-Dibromoethane (EDB)	1.1	Not Detected	8.4	Not Detected
Chlorobenzene	1.1	Not Detected	5.1	Not Detected
Ethyl Benzene	1.1	Not Detected	4.8	Not Detected
m,p-Xylene	1.1	1.6	4.8	6.8
o-Xylene	1.1	Not Detected	4.8	Not Detected
Styrene	1.1	Not Detected	4.7	Not Detected
Bromoform	1.1	Not Detected	11	Not Detected
Cumene	1.1	Not Detected	5.4	Not Detected
1,1,2,2-Tetrachloroethane	1.1	Not Detected	7.6	Not Detected
Propylbenzene	1.1	Not Detected	5.4	Not Detected
4-Ethyltoluene	1.1	Not Detected	5.4	Not Detected
1,3,5-Trimethylbenzene	1.1	Not Detected	5.4	Not Detected
1,2,4-Trimethylbenzene	1.1	Not Detected	5.4	Not Detected
1,3-Dichlorobenzene	1.1	Not Detected	6.6	Not Detected
1,4-Dichlorobenzene	1.1	Not Detected	6.6	Not Detected
alpha-Chlorotoluene	1.1	Not Detected	5.7	Not Detected
1,2-Dichlorobenzene	1.1	Not Detected	6.6	Not Detected
1,2,4-Trichlorobenzene	4.4	Not Detected	33	Not Detected
Hexachlorobutadiene	4.4	Not Detected	47	Not Detected
1,1-Difluoroethane	4.4	Not Detected	12	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	100	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SG-4

Lab ID#: 0708300-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082608	Date of Collection:	8/14/07
Dil. Factor:	2.20	Date of Analysis:	8/26/07 02:08 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	1.1	Not Detected	5.4	Not Detected
Freon 114	1.1	Not Detected	7.7	Not Detected
Chloromethane	4.4	Not Detected	9.1	Not Detected
Vinyl Chloride	1.1	Not Detected	2.8	Not Detected
1,3-Butadiene	1.1	25	2.4	55
Bromomethane	1.1	Not Detected	4.3	Not Detected
Chloroethane	1.1	Not Detected	2.9	Not Detected
Freon 11	1.1	Not Detected	6.2	Not Detected
Ethanol	4.4	12	8.3	24
Freon 113	1.1	Not Detected	8.4	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.4	Not Detected
Acetone	4.4	81	10	190
2-Propanol	4.4	16	11	39
Carbon Disulfide	1.1	7.5	3.4	23
3-Chloropropene	4.4	Not Detected	14	Not Detected
Methylene Chloride	1.1	Not Detected	3.8	Not Detected
Methyl tert-butyl ether	1.1	Not Detected	4.0	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.4	Not Detected
Hexane	1.1	18	3.9	64
1,1-Dichloroethane	1.1	9.7	4.4	39
2-Butanone (Methyl Ethyl Ketone)	1.1	15	3.2	43
cis-1,2-Dichloroethene	1.1	Not Detected	4.4	Not Detected
Tetrahydrofuran	1.1	Not Detected	3.2	Not Detected
Chloroform	1.1	Not Detected	5.4	Not Detected
1,1,1-Trichloroethane	1.1	Not Detected	6.0	Not Detected
Cyclohexane	1.1	8.5	3.8	29
Carbon Tetrachloride	1.1	Not Detected	6.9	Not Detected
2,2,4-Trimethylpentane	1.1	Not Detected	5.1	Not Detected
Benzene	1.1	7.2	3.5	23
1,2-Dichloroethane	1.1	Not Detected	4.4	Not Detected
Heptane	1.1	4.8	4.5	19
Trichloroethene	1.1	Not Detected	5.9	Not Detected
1,2-Dichloropropane	1.1	Not Detected	5.1	Not Detected
1,4-Dioxane	4.4	Not Detected	16	Not Detected
Bromodichloromethane	1.1	Not Detected	7.4	Not Detected
cis-1,3-Dichloropropene	1.1	Not Detected	5.0	Not Detected
4-Methyl-2-pentanone	1.1	Not Detected	4.5	Not Detected
Toluene	1.1	5.5	4.1	21
trans-1,3-Dichloropropene	1.1	Not Detected	5.0	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SG-4

Lab ID#: 0708300-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082608	Date of Collection:	8/14/07
Dil. Factor:	2.20	Date of Analysis:	8/26/07 02:08 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	1.1	Not Detected	6.0	Not Detected
Tetrachloroethene	1.1	Not Detected	7.5	Not Detected
2-Hexanone	4.4	Not Detected	18	Not Detected
Dibromochloromethane	1.1	Not Detected	9.4	Not Detected
1,2-Dibromoethane (EDB)	1.1	Not Detected	8.4	Not Detected
Chlorobenzene	1.1	Not Detected	5.1	Not Detected
Ethyl Benzene	1.1	Not Detected	4.8	Not Detected
m,p-Xylene	1.1	2.1	4.8	9.0
o-Xylene	1.1	Not Detected	4.8	Not Detected
Styrene	1.1	Not Detected	4.7	Not Detected
Bromoform	1.1	Not Detected	11	Not Detected
Cumene	1.1	Not Detected	5.4	Not Detected
1,1,2,2-Tetrachloroethane	1.1	Not Detected	7.6	Not Detected
Propylbenzene	1.1	Not Detected	5.4	Not Detected
4-Ethyltoluene	1.1	Not Detected	5.4	Not Detected
1,3,5-Trimethylbenzene	1.1	Not Detected	5.4	Not Detected
1,2,4-Trimethylbenzene	1.1	Not Detected	5.4	Not Detected
1,3-Dichlorobenzene	1.1	Not Detected	6.6	Not Detected
1,4-Dichlorobenzene	1.1	Not Detected	6.6	Not Detected
alpha-Chlorotoluene	1.1	Not Detected	5.7	Not Detected
1,2-Dichlorobenzene	1.1	Not Detected	6.6	Not Detected
1,2,4-Trichlorobenzene	4.4	Not Detected	33	Not Detected
Hexachlorobutadiene	4.4	Not Detected	47	Not Detected
1,1-Difluoroethane	4.4	Not Detected	12	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	94	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	98	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SG-5

Lab ID#: 0708300-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082609	Date of Collection:	8/14/07
Dil. Factor:	2.29	Date of Analysis:	8/26/07 02:47 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	1.1	Not Detected	5.7	Not Detected
Freon 114	1.1	Not Detected	8.0	Not Detected
Chloromethane	4.6	Not Detected	9.4	Not Detected
Vinyl Chloride	1.1	Not Detected	2.9	Not Detected
1,3-Butadiene	1.1	95	2.5	210
Bromomethane	1.1	Not Detected	4.4	Not Detected
Chloroethane	1.1	Not Detected	3.0	Not Detected
Freon 11	1.1	Not Detected	6.4	Not Detected
Ethanol	4.6	7.0	8.6	13
Freon 113	1.1	Not Detected	8.8	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Acetone	4.6	120	11	280
2-Propanol	4.6	6.0	11	15
Carbon Disulfide	1.1	2.4	3.6	7.5
3-Chloropropene	4.6	Not Detected	14	Not Detected
Methylene Chloride	1.1	Not Detected	4.0	Not Detected
Methyl tert-butyl ether	1.1	Not Detected	4.1	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Hexane	1.1	20	4.0	71
1,1-Dichloroethane	1.1	Not Detected	4.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.1	28	3.4	81
cis-1,2-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Tetrahydrofuran	1.1	Not Detected	3.4	Not Detected
Chloroform	1.1	Not Detected	5.6	Not Detected
1,1,1-Trichloroethane	1.1	Not Detected	6.2	Not Detected
Cyclohexane	1.1	7.5	3.9	26
Carbon Tetrachloride	1.1	Not Detected	7.2	Not Detected
2,2,4-Trimethylpentane	1.1	Not Detected	5.3	Not Detected
Benzene	1.1	6.7	3.6	21
1,2-Dichloroethane	1.1	Not Detected	4.6	Not Detected
Heptane	1.1	6.0	4.7	25
Trichloroethene	1.1	Not Detected	6.2	Not Detected
1,2-Dichloropropane	1.1	Not Detected	5.3	Not Detected
1,4-Dioxane	4.6	Not Detected	16	Not Detected
Bromodichloromethane	1.1	Not Detected	7.7	Not Detected
cis-1,3-Dichloropropene	1.1	Not Detected	5.2	Not Detected
4-Methyl-2-pentanone	1.1	Not Detected	4.7	Not Detected
Toluene	1.1	3.0	4.3	11
trans-1,3-Dichloropropene	1.1	Not Detected	5.2	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SG-5

Lab ID#: 0708300-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082609	Date of Collection:	8/14/07
Dil. Factor:	2.29	Date of Analysis:	8/26/07 02:47 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	1.1	Not Detected	6.2	Not Detected
Tetrachloroethene	1.1	Not Detected	7.8	Not Detected
2-Hexanone	4.6	Not Detected	19	Not Detected
Dibromochloromethane	1.1	Not Detected	9.8	Not Detected
1,2-Dibromoethane (EDB)	1.1	Not Detected	8.8	Not Detected
Chlorobenzene	1.1	Not Detected	5.3	Not Detected
Ethyl Benzene	1.1	Not Detected	5.0	Not Detected
m,p-Xylene	1.1	1.2	5.0	5.1
o-Xylene	1.1	Not Detected	5.0	Not Detected
Styrene	1.1	Not Detected	4.9	Not Detected
Bromoform	1.1	Not Detected	12	Not Detected
Cumene	1.1	Not Detected	5.6	Not Detected
1,1,2,2-Tetrachloroethane	1.1	Not Detected	7.9	Not Detected
Propylbenzene	1.1	Not Detected	5.6	Not Detected
4-Ethyltoluene	1.1	Not Detected	5.6	Not Detected
1,3,5-Trimethylbenzene	1.1	Not Detected	5.6	Not Detected
1,2,4-Trimethylbenzene	1.1	1.9	5.6	9.2
1,3-Dichlorobenzene	1.1	Not Detected	6.9	Not Detected
1,4-Dichlorobenzene	1.1	Not Detected	6.9	Not Detected
alpha-Chlorotoluene	1.1	Not Detected	5.9	Not Detected
1,2-Dichlorobenzene	1.1	2.0	6.9	12
1,2,4-Trichlorobenzene	4.6	Not Detected	34	Not Detected
Hexachlorobutadiene	4.6	Not Detected	49	Not Detected
1,1-Difluoroethane	4.6	Not Detected	12	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	91	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	102	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SG-6

Lab ID#: 0708300-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082610	Date of Collection:	8/14/07
Dil. Factor:	2.24	Date of Analysis:	8/26/07 03:33 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	1.1	Not Detected	5.5	Not Detected
Freon 114	1.1	Not Detected	7.8	Not Detected
Chloromethane	4.5	Not Detected	9.2	Not Detected
Vinyl Chloride	1.1	Not Detected	2.9	Not Detected
1,3-Butadiene	1.1	14	2.5	32
Bromomethane	1.1	Not Detected	4.3	Not Detected
Chloroethane	1.1	Not Detected	3.0	Not Detected
Freon 11	1.1	Not Detected	6.3	Not Detected
Ethanol	4.5	18	8.4	34
Freon 113	1.1	Not Detected	8.6	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.4	Not Detected
Acetone	4.5	130	11	300
2-Propanol	4.5	18	11	45
Carbon Disulfide	1.1	11	3.5	34
3-Chloropropene	4.5	Not Detected	14	Not Detected
Methylene Chloride	1.1	Not Detected	3.9	Not Detected
Methyl tert-butyl ether	1.1	Not Detected	4.0	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.4	Not Detected
Hexane	1.1	4.3	3.9	15
1,1-Dichloroethane	1.1	Not Detected	4.5	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.1	12	3.3	35
cis-1,2-Dichloroethene	1.1	Not Detected	4.4	Not Detected
Tetrahydrofuran	1.1	Not Detected	3.3	Not Detected
Chloroform	1.1	Not Detected	5.5	Not Detected
1,1,1-Trichloroethane	1.1	Not Detected	6.1	Not Detected
Cyclohexane	1.1	Not Detected	3.8	Not Detected
Carbon Tetrachloride	1.1	Not Detected	7.0	Not Detected
2,2,4-Trimethylpentane	1.1	Not Detected	5.2	Not Detected
Benzene	1.1	3.2	3.6	10
1,2-Dichloroethane	1.1	Not Detected	4.5	Not Detected
Heptane	1.1	1.8	4.6	7.3
Trichloroethene	1.1	Not Detected	6.0	Not Detected
1,2-Dichloropropane	1.1	Not Detected	5.2	Not Detected
1,4-Dioxane	4.5	Not Detected	16	Not Detected
Bromodichloromethane	1.1	Not Detected	7.5	Not Detected
cis-1,3-Dichloropropene	1.1	Not Detected	5.1	Not Detected
4-Methyl-2-pentanone	1.1	Not Detected	4.6	Not Detected
Toluene	1.1	3.6	4.2	14
trans-1,3-Dichloropropene	1.1	Not Detected	5.1	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SG-6

Lab ID#: 0708300-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082610	Date of Collection:	8/14/07
Dil. Factor:	2.24	Date of Analysis:	8/26/07 03:33 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	1.1	Not Detected	6.1	Not Detected
Tetrachloroethene	1.1	5.2	7.6	35
2-Hexanone	4.5	Not Detected	18	Not Detected
Dibromochloromethane	1.1	Not Detected	9.5	Not Detected
1,2-Dibromoethane (EDB)	1.1	Not Detected	8.6	Not Detected
Chlorobenzene	1.1	Not Detected	5.2	Not Detected
Ethyl Benzene	1.1	Not Detected	4.9	Not Detected
m,p-Xylene	1.1	1.6	4.9	6.9
o-Xylene	1.1	Not Detected	4.9	Not Detected
Styrene	1.1	Not Detected	4.8	Not Detected
Bromoform	1.1	Not Detected	12	Not Detected
Cumene	1.1	Not Detected	5.5	Not Detected
1,1,2,2-Tetrachloroethane	1.1	Not Detected	7.7	Not Detected
Propylbenzene	1.1	Not Detected	5.5	Not Detected
4-Ethyltoluene	1.1	Not Detected	5.5	Not Detected
1,3,5-Trimethylbenzene	1.1	Not Detected	5.5	Not Detected
1,2,4-Trimethylbenzene	1.1	Not Detected	5.5	Not Detected
1,3-Dichlorobenzene	1.1	Not Detected	6.7	Not Detected
1,4-Dichlorobenzene	1.1	Not Detected	6.7	Not Detected
alpha-Chlorotoluene	1.1	Not Detected	5.8	Not Detected
1,2-Dichlorobenzene	1.1	Not Detected	6.7	Not Detected
1,2,4-Trichlorobenzene	4.5	Not Detected	33	Not Detected
Hexachlorobutadiene	4.5	Not Detected	48	Not Detected
1,1-Difluoroethane	4.5	Not Detected	12	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	93	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	97	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SG-7

Lab ID#: 0708300-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082611	Date of Collection:	8/14/07
Dil. Factor:	2.29	Date of Analysis:	8/26/07 04:12 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	1.1	Not Detected	5.7	Not Detected
Freon 114	1.1	Not Detected	8.0	Not Detected
Chloromethane	4.6	Not Detected	9.4	Not Detected
Vinyl Chloride	1.1	Not Detected	2.9	Not Detected
1,3-Butadiene	1.1	12	2.5	28
Bromomethane	1.1	Not Detected	4.4	Not Detected
Chloroethane	1.1	Not Detected	3.0	Not Detected
Freon 11	1.1	Not Detected	6.4	Not Detected
Ethanol	4.6	33	8.6	62
Freon 113	1.1	Not Detected	8.8	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Acetone	4.6	160	11	370
2-Propanol	4.6	25	11	62
Carbon Disulfide	1.1	2.5	3.6	7.8
3-Chloropropene	4.6	Not Detected	14	Not Detected
Methylene Chloride	1.1	Not Detected	4.0	Not Detected
Methyl tert-butyl ether	1.1	Not Detected	4.1	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Hexane	1.1	4.6	4.0	16
1,1-Dichloroethane	1.1	Not Detected	4.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.1	8.3	3.4	24
cis-1,2-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Tetrahydrofuran	1.1	Not Detected	3.4	Not Detected
Chloroform	1.1	Not Detected	5.6	Not Detected
1,1,1-Trichloroethane	1.1	Not Detected	6.2	Not Detected
Cyclohexane	1.1	3.7	3.9	13
Carbon Tetrachloride	1.1	Not Detected	7.2	Not Detected
2,2,4-Trimethylpentane	1.1	Not Detected	5.3	Not Detected
Benzene	1.1	2.2	3.6	7.1
1,2-Dichloroethane	1.1	Not Detected	4.6	Not Detected
Heptane	1.1	1.5	4.7	6.0
Trichloroethene	1.1	Not Detected	6.2	Not Detected
1,2-Dichloropropane	1.1	Not Detected	5.3	Not Detected
1,4-Dioxane	4.6	Not Detected	16	Not Detected
Bromodichloromethane	1.1	Not Detected	7.7	Not Detected
cis-1,3-Dichloropropene	1.1	Not Detected	5.2	Not Detected
4-Methyl-2-pentanone	1.1	Not Detected	4.7	Not Detected
Toluene	1.1	3.1	4.3	12
trans-1,3-Dichloropropene	1.1	Not Detected	5.2	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SG-7

Lab ID#: 0708300-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082611	Date of Collection:	8/14/07
Dil. Factor:	2.29	Date of Analysis:	8/26/07 04:12 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	1.1	Not Detected	6.2	Not Detected
Tetrachloroethene	1.1	Not Detected	7.8	Not Detected
2-Hexanone	4.6	Not Detected	19	Not Detected
Dibromochloromethane	1.1	Not Detected	9.8	Not Detected
1,2-Dibromoethane (EDB)	1.1	Not Detected	8.8	Not Detected
Chlorobenzene	1.1	Not Detected	5.3	Not Detected
Ethyl Benzene	1.1	Not Detected	5.0	Not Detected
m,p-Xylene	1.1	1.8	5.0	8.0
o-Xylene	1.1	Not Detected	5.0	Not Detected
Styrene	1.1	Not Detected	4.9	Not Detected
Bromoform	1.1	Not Detected	12	Not Detected
Cumene	1.1	Not Detected	5.6	Not Detected
1,1,2,2-Tetrachloroethane	1.1	Not Detected	7.9	Not Detected
Propylbenzene	1.1	Not Detected	5.6	Not Detected
4-Ethyltoluene	1.1	Not Detected	5.6	Not Detected
1,3,5-Trimethylbenzene	1.1	Not Detected	5.6	Not Detected
1,2,4-Trimethylbenzene	1.1	Not Detected	5.6	Not Detected
1,3-Dichlorobenzene	1.1	Not Detected	6.9	Not Detected
1,4-Dichlorobenzene	1.1	Not Detected	6.9	Not Detected
alpha-Chlorotoluene	1.1	Not Detected	5.9	Not Detected
1,2-Dichlorobenzene	1.1	Not Detected	6.9	Not Detected
1,2,4-Trichlorobenzene	4.6	Not Detected	34	Not Detected
Hexachlorobutadiene	4.6	Not Detected	49	Not Detected
1,1-Difluoroethane	4.6	Not Detected	12	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	95	70-130
1,2-Dichloroethane-d4	92	70-130
4-Bromofluorobenzene	96	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SG-8

Lab ID#: 0708300-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082612	Date of Collection:	8/14/07
Dil. Factor:	2.33	Date of Analysis:	8/26/07 04:52 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	1.2	Not Detected	5.8	Not Detected
Freon 114	1.2	Not Detected	8.1	Not Detected
Chloromethane	4.7	Not Detected	9.6	Not Detected
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,3-Butadiene	1.2	16	2.6	34
Bromomethane	1.2	Not Detected	4.5	Not Detected
Chloroethane	1.2	Not Detected	3.1	Not Detected
Freon 11	1.2	Not Detected	6.5	Not Detected
Ethanol	4.7	13	8.8	24
Freon 113	1.2	Not Detected	8.9	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Acetone	4.7	130	11	310
2-Propanol	4.7	12	11	28
Carbon Disulfide	1.2	5.6	3.6	17
3-Chloropropene	4.7	Not Detected	14	Not Detected
Methylene Chloride	1.2	Not Detected	4.0	Not Detected
Methyl tert-butyl ether	1.2	Not Detected	4.2	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Hexane	1.2	8.2	4.1	29
1,1-Dichloroethane	1.2	Not Detected	4.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.2	15	3.4	44
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.4	Not Detected
Chloroform	1.2	Not Detected	5.7	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Cyclohexane	1.2	2.1	4.0	7.1
Carbon Tetrachloride	1.2	Not Detected	7.3	Not Detected
2,2,4-Trimethylpentane	1.2	Not Detected	5.4	Not Detected
Benzene	1.2	4.6	3.7	15
1,2-Dichloroethane	1.2	Not Detected	4.7	Not Detected
Heptane	1.2	3.1	4.8	13
Trichloroethene	1.2	Not Detected	6.3	Not Detected
1,2-Dichloropropane	1.2	Not Detected	5.4	Not Detected
1,4-Dioxane	4.7	Not Detected	17	Not Detected
Bromodichloromethane	1.2	Not Detected	7.8	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.3	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	4.8	Not Detected
Toluene	1.2	4.0	4.4	15
trans-1,3-Dichloropropene	1.2	Not Detected	5.3	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: SG-8

Lab ID#: 0708300-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082612	Date of Collection:	8/14/07
Dil. Factor:	2.33	Date of Analysis:	8/26/07 04:52 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Tetrachloroethene	1.2	Not Detected	7.9	Not Detected
2-Hexanone	4.7	Not Detected	19	Not Detected
Dibromochloromethane	1.2	Not Detected	9.9	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.0	Not Detected
Chlorobenzene	1.2	Not Detected	5.4	Not Detected
Ethyl Benzene	1.2	Not Detected	5.0	Not Detected
m,p-Xylene	1.2	1.8	5.0	8.0
o-Xylene	1.2	Not Detected	5.0	Not Detected
Styrene	1.2	Not Detected	5.0	Not Detected
Bromoform	1.2	Not Detected	12	Not Detected
Cumene	1.2	Not Detected	5.7	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.0	Not Detected
Propylbenzene	1.2	Not Detected	5.7	Not Detected
4-Ethyltoluene	1.2	Not Detected	5.7	Not Detected
1,3,5-Trimethylbenzene	1.2	Not Detected	5.7	Not Detected
1,2,4-Trimethylbenzene	1.2	Not Detected	5.7	Not Detected
1,3-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.0	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
1,2,4-Trichlorobenzene	4.7	Not Detected	34	Not Detected
Hexachlorobutadiene	4.7	Not Detected	50	Not Detected
1,1-Difluoroethane	4.7	Not Detected	12	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	93	70-130
1,2-Dichloroethane-d4	93	70-130
4-Bromofluorobenzene	99	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0708300-09A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082505	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/25/07 01:05 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	2.0	Not Detected	4.1	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	2.0	Not Detected	4.8	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	0.50	Not Detected	1.7	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0708300-09A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082505	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/25/07 01:05 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
1,1-Difluoroethane	2.0	Not Detected	5.4	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	93	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	96	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0708300-09B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082606	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/26/07 12:14 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	2.0	Not Detected	4.1	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	2.0	Not Detected	4.8	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	0.50	Not Detected	1.7	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: Lab Blank

Lab ID#: 0708300-09B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082606	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/26/07 12:14 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
1,1-Difluoroethane	2.0	Not Detected	5.4	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	94	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	97	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0708300-10A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082502	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/25/07 09:36 AM

Compound	%Recovery
Freon 12	101
Freon 114	107
Chloromethane	100
Vinyl Chloride	105
1,3-Butadiene	108
Bromomethane	104
Chloroethane	110
Freon 11	101
Ethanol	109
Freon 113	106
1,1-Dichloroethene	107
Acetone	101
2-Propanol	108
Carbon Disulfide	105
3-Chloropropene	110
Methylene Chloride	101
Methyl tert-butyl ether	117
trans-1,2-Dichloroethene	107
Hexane	111
1,1-Dichloroethane	107
2-Butanone (Methyl Ethyl Ketone)	114
cis-1,2-Dichloroethene	109
Tetrahydrofuran	112
Chloroform	94
1,1,1-Trichloroethane	106
Cyclohexane	110
Carbon Tetrachloride	105
2,2,4-Trimethylpentane	110
Benzene	98
1,2-Dichloroethane	104
Heptane	109
Trichloroethene	108
1,2-Dichloropropane	108
1,4-Dioxane	106
Bromodichloromethane	110
cis-1,3-Dichloropropene	114
4-Methyl-2-pentanone	120
Toluene	109
trans-1,3-Dichloropropene	113



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0708300-10A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082502	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/25/07 09:36 AM

Compound	%Recovery
1,1,2-Trichloroethane	109
Tetrachloroethene	108
2-Hexanone	111
Dibromochloromethane	112
1,2-Dibromoethane (EDB)	113
Chlorobenzene	108
Ethyl Benzene	110
m,p-Xylene	110
o-Xylene	110
Styrene	116
Bromoform	116
Cumene	109
1,1,2,2-Tetrachloroethane	107
Propylbenzene	107
4-Ethyltoluene	108
1,3,5-Trimethylbenzene	110
1,2,4-Trimethylbenzene	109
1,3-Dichlorobenzene	103
1,4-Dichlorobenzene	104
alpha-Chlorotoluene	108
1,2-Dichlorobenzene	102
1,2,4-Trichlorobenzene	70
Hexachlorobutadiene	78
1,1-Difluoroethane	99

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	100	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0708300-10B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/26/07 08:29 AM

Compound	%Recovery
Freon 12	100
Freon 114	106
Chloromethane	100
Vinyl Chloride	107
1,3-Butadiene	111
Bromomethane	105
Chloroethane	114
Freon 11	99
Ethanol	117
Freon 113	105
1,1-Dichloroethene	109
Acetone	106
2-Propanol	114
Carbon Disulfide	109
3-Chloropropene	112
Methylene Chloride	106
Methyl tert-butyl ether	114
trans-1,2-Dichloroethene	109
Hexane	116
1,1-Dichloroethane	110
2-Butanone (Methyl Ethyl Ketone)	119
cis-1,2-Dichloroethene	111
Tetrahydrofuran	119
Chloroform	95
1,1,1-Trichloroethane	105
Cyclohexane	112
Carbon Tetrachloride	104
2,2,4-Trimethylpentane	114
Benzene	98
1,2-Dichloroethane	103
Heptane	110
Trichloroethene	107
1,2-Dichloropropane	111
1,4-Dioxane	107
Bromodichloromethane	107
cis-1,3-Dichloropropene	114
4-Methyl-2-pentanone	121
Toluene	110
trans-1,3-Dichloropropene	112



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0708300-10B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/26/07 08:29 AM

Compound	%Recovery
1,1,2-Trichloroethane	107
Tetrachloroethene	105
2-Hexanone	115
Dibromochloromethane	109
1,2-Dibromoethane (EDB)	110
Chlorobenzene	107
Ethyl Benzene	107
m,p-Xylene	108
o-Xylene	107
Styrene	114
Bromoform	114
Cumene	106
1,1,2,2-Tetrachloroethane	107
Propylbenzene	106
4-Ethyltoluene	106
1,3,5-Trimethylbenzene	107
1,2,4-Trimethylbenzene	106
1,3-Dichlorobenzene	101
1,4-Dichlorobenzene	104
alpha-Chlorotoluene	109
1,2-Dichlorobenzene	101
1,2,4-Trichlorobenzene	76
Hexachlorobutadiene	84
1,1-Difluoroethane	104

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	98	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0708300-11A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082504	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/25/07 12:12 PM

Compound	%Recovery
Freon 12	98
Freon 114	102
Chloromethane	99
Vinyl Chloride	104
1,3-Butadiene	106
Bromomethane	110
Chloroethane	113
Freon 11	101
Ethanol	122
Freon 113	118
1,1-Dichloroethene	120
Acetone	105
2-Propanol	114
Carbon Disulfide	108
3-Chloropropene	107
Methylene Chloride	112
Methyl tert-butyl ether	100
trans-1,2-Dichloroethene	110
Hexane	114
1,1-Dichloroethane	113
2-Butanone (Methyl Ethyl Ketone)	118
cis-1,2-Dichloroethene	112
Tetrahydrofuran	116
Chloroform	97
1,1,1-Trichloroethane	108
Cyclohexane	110
Carbon Tetrachloride	106
2,2,4-Trimethylpentane	112
Benzene	99
1,2-Dichloroethane	106
Heptane	110
Trichloroethene	108
1,2-Dichloropropane	109
1,4-Dioxane	109
Bromodichloromethane	111
cis-1,3-Dichloropropene	115
4-Methyl-2-pentanone	122
Toluene	115
trans-1,3-Dichloropropene	116



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0708300-11A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082504	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/25/07 12:12 PM

Compound	%Recovery
1,1,2-Trichloroethane	112
Tetrachloroethene	112
2-Hexanone	116
Dibromochloromethane	115
1,2-Dibromoethane (EDB)	112
Chlorobenzene	109
Ethyl Benzene	109
m,p-Xylene	111
o-Xylene	111
Styrene	115
Bromoform	117
Cumene	113
1,1,2,2-Tetrachloroethane	108
Propylbenzene	110
4-Ethyltoluene	111
1,3,5-Trimethylbenzene	108
1,2,4-Trimethylbenzene	109
1,3-Dichlorobenzene	106
1,4-Dichlorobenzene	108
alpha-Chlorotoluene	115
1,2-Dichlorobenzene	106
1,2,4-Trichlorobenzene	102
Hexachlorobutadiene	101
1,1-Difluoroethane	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	97	70-130



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0708300-11B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082604	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/26/07 10:16 AM

Compound	%Recovery
Freon 12	98
Freon 114	98
Chloromethane	99
Vinyl Chloride	104
1,3-Butadiene	106
Bromomethane	109
Chloroethane	114
Freon 11	98
Ethanol	125
Freon 113	116
1,1-Dichloroethene	120
Acetone	108
2-Propanol	116
Carbon Disulfide	109
3-Chloropropene	110
Methylene Chloride	114
Methyl tert-butyl ether	98
trans-1,2-Dichloroethene	111
Hexane	116
1,1-Dichloroethane	114
2-Butanone (Methyl Ethyl Ketone)	119
cis-1,2-Dichloroethene	112
Tetrahydrofuran	118
Chloroform	97
1,1,1-Trichloroethane	106
Cyclohexane	111
Carbon Tetrachloride	105
2,2,4-Trimethylpentane	112
Benzene	99
1,2-Dichloroethane	107
Heptane	110
Trichloroethene	108
1,2-Dichloropropane	110
1,4-Dioxane	108
Bromodichloromethane	110
cis-1,3-Dichloropropene	113
4-Methyl-2-pentanone	124
Toluene	114
trans-1,3-Dichloropropene	118



AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0708300-11B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	7082604	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/26/07 10:16 AM

Compound	%Recovery
1,1,2-Trichloroethane	112
Tetrachloroethene	111
2-Hexanone	119
Dibromochloromethane	114
1,2-Dibromoethane (EDB)	112
Chlorobenzene	108
Ethyl Benzene	109
m,p-Xylene	110
o-Xylene	109
Styrene	115
Bromoform	116
Cumene	113
1,1,2,2-Tetrachloroethane	108
Propylbenzene	110
4-Ethyltoluene	110
1,3,5-Trimethylbenzene	108
1,2,4-Trimethylbenzene	107
1,3-Dichlorobenzene	104
1,4-Dichlorobenzene	105
alpha-Chlorotoluene	112
1,2-Dichlorobenzene	103
1,2,4-Trichlorobenzene	84
Hexachlorobutadiene	87
1,1-Difluoroethane	Not Spiked

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	100	70-130

Sample Transportation Notice

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Page 1 of 1

CHAIN-OF-CUSTODY RECORD

Contact Person R. Makdisi
Company Stellar Env. Sol. Email rmakdisi@stellar-environmental.com
Address 2198 Sixth St City Berkeley State CA Zip 94710
Phone 510 644-3123 Fax 510-644-3859
Collected by: (Signature) [Signature]

Project Info:	Turn Around Time:	Lab Use Only
P.O. # <u>2006-21</u>	<input checked="" type="checkbox"/> Normal	Pressurized by <u>[Signature]</u>
Project # <u>1171 Ocean Ave</u>	<input type="checkbox"/> Rush	Date: <u>8/17/07</u>
Project Name <u>Woytack/SFS</u>	specify	Pressurization Gas: <u>He</u>

Lab I.D.	Field Sample I.D. (Location)	Can#	Date	Time	Analyses Requested	Canister Pressure/Vacuum			
						Initial	Final	Receipt	Final Del
01A	SG-1	35624	8/13/07	1700	TO-15	-27.5	-5	3.5" Hg	15.0psi
02A	SG-2	33386	8/13/07	1800	TO-15	-28	-5	3.5" Hg	1
03A	SG-3	35628	8/14/07	0830	TO-15	-28.5	-5	2.5" Hg	1
04A	SG-4	33643	8/14/07	1000	TO-15	-27	-5	2.5" Hg	1
05A	SG-5	21023	8/14/07	1045	TO-15	-28.5	-5	3.5" Hg	1
		35626							
06A	SG-6	12027	8/14/07	1140	TO-15	-28	-5	3.0" Hg	15.0psi
07A	SG-7	35642	8/14/07	1245	TO-15	-28	-4.5	3.5" Hg	1
08A	SG-8	30812	8/14/07	1330	TO-15	-27.5	-5	4.0" Hg	1
Extra included 3 low vac 1-liter, canister used, 6-liter, 11 filters: 3 unused									

Relinquished by: (signature) <u>[Signature]</u> Date/Time <u>8/14/07 1400</u>	Received by: (signature) <u>Monica Hogen</u> Date/Time <u>8/14/07 1400</u>	Notes: <u>8/14/07 email attached to rmakdisi@stellar-environmental.com</u>
Relinquished by: (signature) _____ Date/Time _____	Received by: (signature) _____ Date/Time _____	
Relinquished by: (signature) _____ Date/Time _____	Received by: (signature) _____ Date/Time _____	

Lab Use Only	Shipper Name <u>Fed Ex</u>	Air Bill # <u>858/ 6239 4364</u>	Temp (°C) <u>NA</u>	Condition <u>Good</u>	Customer Seals Intact? <u>Yes No None</u>	Work Order # <u>0708300</u>
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