RO 2518

GROUNDWATER MONITORING WELL INSTALLATION AND BASELINE GROUNDWATER MONITORING REPORT

BENNER AUTO REPAIR
488 25TH STREET
OAKLAND, CALIFORNIA

Prepared for

JOSEPH & LORETTA BENNER FAMILY TRUST
OAKLAND, CALIFORNIA

June 2005

STELLAR
ENVIRONMENTAL SOLUTIONS, INC.
GEOSCIENCE & ENGINEERING CONSULTING

R02518

STELLAR ENVIRONMENTAL SOLUTIONS
2198 SIXTH STREET, SUITE 201, BERKELEY, CA 94710
TEL: 510.644.3123 ★ FAX: 510.644.3859

TRANSMITTAL MEMORANDUM

TO: **ALAMEDA COUNTY HEALTH DEPT.**
LOCAL OVERSIGHT PROGRAM

DATE: **JUNE 21, 2005**

ATTENTION: **MR. DON HWANG**

FILE:

SUBJECT: **UST SITE INVESTIGATION**
488 25TH STREET, OAKLAND, CA

WE ARE SENDING:

- ☒ HEREWITH
- ☐ UNDER SEPARATE COVER
- ☒ VIA MAIL
- ☐ VIA

THE FOLLOWING: "GROUNDWATER MONITORING WELL INSTALLATION AND BASELINE GROUNDWATER MONITORING REPORT" (DATED 6/20/05)

- ☐ AS REQUESTED
- ☐ FOR YOUR APPROVAL
- ☐ FOR REVIEW
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COPIES TO: **MR. MIKE BENNER**
(PROPERTY OWNER)

BY: **Bruce Rucker** BNR

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ENVIRONMENTAL HEALTH SERVICES

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ENVIRONMENTAL SOLUTIONS, INC.

2198 SIXTH STREET, SUITE 201 · BERKELEY, CA 94710
TEL: (510)644-3123 · FAX: (510)644-3859
GEOSCIENCE & ENGINEERING CONSULTING

June 20, 2005

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

Subject: Groundwater Monitoring Well Installation and Baseline Groundwater Monitoring Report
Benner Automotive – 488 25th Street, Oakland, California
Alameda County Health Case No. RO002518
Water Board GeoTracker Global ID T0600114301

Dear Mr. Hwang:

This report documents groundwater monitoring well installation and sampling activities conducted in May and June 2005 by Stellar Environmental Solutions, Inc. at the referenced site. The scope of work was conducted in accordance with our March 2005 technical workplan. The work tasks included: 1) installing three shallow groundwater monitoring wells in the vicinity of a former gasoline underground fuel storage tank; 2) performing well development and surveying; and 3) conducting the initial groundwater sampling event.

The data indicate that residual contaminant concentrations in shallow groundwater are significantly lower than those detected in previous (2003 and 2004) borehole sampling events. Continued groundwater monitoring is warranted to evaluate plume stability over time.

Please contact us at (510) 644-3123 if you have any questions.

Sincerely,

Bruce M. Rucker.

Bruce Rucker, R.G., R.E.A.
Project Manager and Senior Geologist

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

cc: Mr. Michael Benner – Representative of Benner Family Trust

GROUNDWATER MONITORING WELL INSTALLATION AND BASELINE GROUNDWATER MONITORING REPORT

BENNER AUTOMOTIVE
488 25TH STREET
OAKLAND, CALIFORNIA

Prepared for:

JOSEPH & LORETTA BENNER FAMILY TRUST
488 25TH STREET
OAKLAND, CALIFORNIA 94612

Prepared by:

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

June 20, 2005

Project No. 2002-55

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1.0 INTRODUCTION

PROJECT BACKGROUND

Stellar Environmental Solutions, Inc. (SES) was retained by the Joseph & Loretta Benn Family Trust (as property owner) to conduct groundwater monitoring well installation and sampling activities at 488 25th Street in Oakland, California. This work follows the removal of one gasoline underground fuel storage tank (UFST) in 2003, and a Preliminary Site Assessment (PSA) in July 2003, and additional site characterization (borehole drilling and sampling) in July 2004. Previous site corrective actions and investigations are summarized later in this report. The Alameda County Department of Environmental Health (ACDEH) is the lead regulatory agency for the investigation, and has assigned the site as Fuel Leak Case No. RO002518.

SITE AND VICINITY DESCRIPTION

The project site is an active automobile service facility (Benner Automotive) at 488 25th Street, Oakland, Alameda County, California (site). The site is located in downtown Oakland on the north side of 25th Street, approximately 500 feet east of Telegraph Avenue. Figure 1 is a site location map. Figure 2 is a site plan showing the location of the former UFST.

PREVIOUS INVESTIGATIONS

Historical (and current investigation) soil and groundwater sample analytical results are discussed in Section 6.0 of this report. Figure 2 shows the location of the former UFST and historical (prior to the current investigation phase) borehole locations.

January 2003 UFST Removal Findings

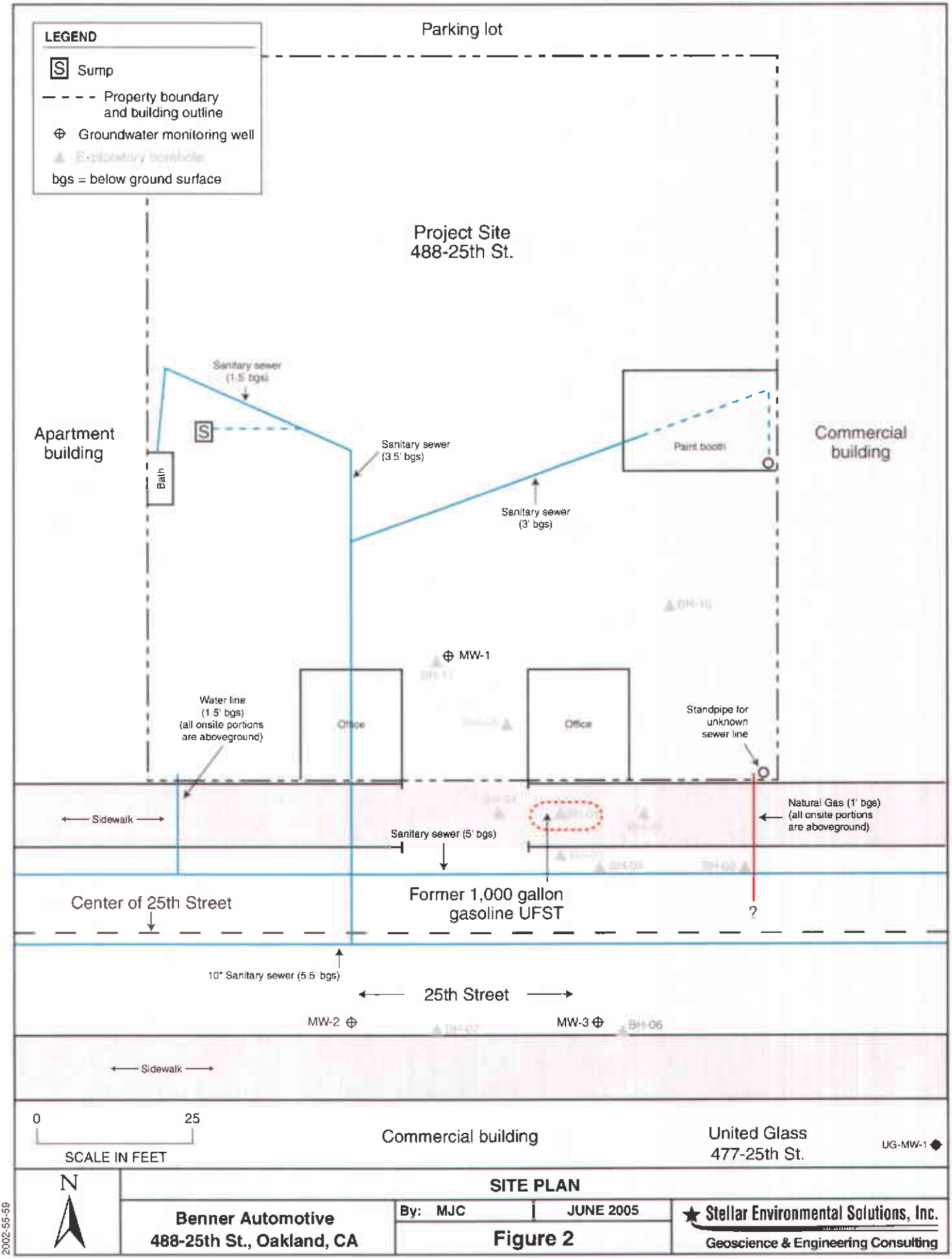
Gasoline-range hydrocarbons (2,500 milligrams per kilogram [mg/kg]) were detected in one of the two base-of-excavation confirmation soil samples. Neither BTEX (benzene, toluene, ethylbenzene, and xylene) nor MTBE (methyl *tertiary*-butyl ether) were detected in that sample, although method reporting limits were elevated due to required dilution. No contamination was detected at the other end of the UFST excavation. Lead was detected at background concentrations, and was deemed not to be a site contaminant of concern. A total of 40 tons of backfill material—with visual and

N

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

488 25th Street Oakland, CA	By: MJC JANUARY 2003 Figure 1	Stellar Environmental Solutions Geoscience & Engineering Consulting

2003-55-01



SITE PLAN

Benner Automotive
488-25th St., Oakland, CA

By: MJC | JUNE 2005

Figure 2

Stellar Environmental Solutions, Inc.
Geoscience & Engineering Consulting

2002-55-59

odiferous evidence of petroleum contamination—was offhauled for Class II landfill disposal. The excavation was then backfilled with clean imported fill and compacted to 95 percent relative compaction.

The base of the original UFST excavation, as evidenced by the interface between backfill material and native soils, was approximately 7 feet below ground surface (bgs), and was underlain by approximately 2 feet of sandy backfill material. Except for potholing with the backhoe bucket to obtain samples of native soil, no additional soil excavation was conducted (beyond that required to expose and remove the UFST). Groundwater was not encountered in the excavation.

July 2003 PSA Findings

Five exploratory boreholes were advanced to depths of 16 to 25 feet on three sides of the former UFST excavation (all within 10 feet of the former excavation), and one was advanced through the approximate center of the former excavation. A total of ten soil samples were collected for laboratory analysis from the unsaturated zone, at depths between 6.5 and 11.5 feet. An additional five soil samples (one from each borehole) were collected at depths below the upper water-bearing zone. One grab-groundwater sample was collected from each borehole. The boreholes were geologically logged from continuous soil cores.

Soil contamination above regulatory agency screening levels appeared to be constrained to an approximately 2-foot-thick zone above groundwater, in the immediate vicinity of the former UFST excavation.

Shallow groundwater in the immediate vicinity of the former UFST had been impacted by gasoline above screening-level criteria, with no apparent contamination by BTEX or MTBE. The area of maximum gasoline contamination appeared to be beneath the UFST and to the east and south, with minor to insignificant gasoline contamination to the west and northwest.

Exploratory borehole PID readings and soil sample analytical results suggested no soil or groundwater contamination beneath the upper water-bearing zone.

July 2004 Additional Site Characterization Findings

Additional site characterization was conducted in July 2004. Six exploratory boreholes were drilled and sampled in the vicinity of the former UFSTs. Thirty soil samples and six borehole grab-groundwater samples were collected for analysis. One adjacent property groundwater monitoring well was also sampled.

The lateral and vertical extent of soil contamination above regulatory agency screening levels was well defined by available data, and appeared to be limited to an approximately 2-foot-thick zone above groundwater in the immediate vicinity of the former UFST excavation. The data suggested that no significant mass of residual soil contamination exists to act as a long-term source of groundwater contamination; this likely due to the age of the release and the subsequent diffusion of hydrocarbons to groundwater.

The water-bearing zone from which samples were taken at a maximum depth of 16 feet bgs has been impacted by several contaminants above the Environmental Screening Level (ESL) criteria set by the Regional Water Quality Control Board (Water Board); the contaminants consist primarily of gasoline, with lesser concentrations of ethylbenzene, xylenes, and MTBE. There was no apparent contamination above ESLs of benzene, toluene, fuel oxygenates, or lead scavengers.

The long axis of the groundwater contaminant plume was oriented north-south (consistent with local groundwater flow direction), with the eastern and western lateral limits well defined. The contaminant plume had apparently migrated offsite to the south, with gasoline concentrations up to 120,000 milligrams per liter (mg/L) in a borehole approximately 35 feet south of the property. The southern extent of the groundwater contaminant plume was not defined.

Neither soil nor groundwater concentrations exceeded ESL criteria for potential indoor air impacts.

Exploratory borehole photoionization detector (PID) readings and soil sample analytical results suggested no soil or groundwater contamination beneath the upper water-bearing zone (i.e., deeper than 11 feet below grade).

The contaminant geometry and relatively lower concentrations of volatile components (e.g., benzene) suggested an old release; there is downgradient migration through groundwater such that the center of contaminant mass is at least 35 feet from the UFST, and the plume appears to have disconnected from the source area. This distribution corroborates the absence of a continuing source of contamination to groundwater (i.e., residual contaminated soil).

No vicinity water wells were identified that could intercept site-sourced groundwater contamination, except for an inactive groundwater monitoring well (installed to monitor a fuel release) at a property across the street. This well is not considered a receptor, as it was installed specifically to monitor similar petroleum contamination.

The only underground utilities identified at a possible groundwater depth are sanitary and storm sewer lines located approximately 150 feet west (crossgradient) of the subject property. Based on the distance of these lines from the site, it is unlikely that they are located near enough to intercept site-sourced groundwater, and to therefore act as preferential contaminant migration pathways.

An adjacent property groundwater monitoring well (across 25th Street, to the southeast) was installed to monitor a former UFST. Based on July 2004 groundwater sampling conducted by SES, that well appears to define the eastern lateral edge of the contaminant plume (i.e., no contamination was detected).

CURRENT PROGRAM OBJECTIVES AND SCOPE OF WORK

This current phase of the investigation was conducted to provide "permanent" groundwater monitoring points (wells) to allow for periodic monitoring of the contaminant plume, and to provide additional data on site hydrogeology and lithologic conditions.

2.0 WELL INSTALLATIONS

This section summarizes the installation, development, and surveying of three shallow groundwater monitoring wells at the subject property in May and June 2005. Figure 2 (in Section 1.0) shows the area of the former UFST, as well as previous borehole locations.

Underground Service Alert (USA) was contacted before drilling to identify potential underground utilities (none were encountered during drilling). Appendix A contains the Alameda County Public Works Agency drilling permit and City of Oakland excavation and encroachment permits. SES notified both those agencies of the schedule for our work; neither agency performed an onsite inspection during our work. Appendix A also contains the California Department of Water Resources (DWR) Well Completion Reports. Appendix B contains photodocumentation of the investigation field activities.

Drilling, soil sampling, and well installation were conducted on May 25, 2005. Drilling was conducted by Vironex, Inc. (C-57 License No. 705927) under the direct supervision of a SES representative. The primary objectives of the well installation program were to:

- Provide "permanent" groundwater monitoring points to evaluate the magnitude of groundwater contamination and evaluate groundwater flow direction; and
- Provide additional information on site lithology and soil contaminant concentrations.

Three groundwater monitoring wells were installed:

- MW-1: 30 feet to the northeast of the former UFST, near the former dispenser, and within 2 feet of previous BH-11).
- MW-2: 45 feet southeast of the former UFST (on the south side of 25th Street), approximately 5 feet west of previous BH-07.
- MW-3: 30 feet south of the former UFST (on the south side of 25th Street), within 2 feet of previous BH-06.

Soil Sampling

The boreholes were drilled with a truck-mounted GeoProbe™ (direct-push) rig. The boreholes were advanced with 3¼-inch-diameter "dual-tube" equipment. This equipment advances a hollow outer

steel casing, with an approximately 2-inch-diameter inner soil sampling casing lined with acetate sleeves (5-foot-long sleeves). Continuous soil cores were collected in 4-foot-long segments, which were retrieved while the outer casing stayed in place to keep the borehole open. Borehole geologic logs for the current phase boreholes are included in Appendix C.

Soil samples were collected from each borehole for laboratory analysis at depths of approximately 10 feet, 15 feet, 20 feet, and 25 feet. The samples were actually collected from the 6-inch interval (e.g., 9.5 feet to 10 feet) because there is better depth control on the bottom of the 5-foot-long sampler than on the top. In the MW-2 borehole, a 30-foot-deep soil sample was also collected. Following collection of that sample, the bottom 5 feet of the borehole (25 feet to 30 feet) was backfilled with bentonite, so that the base of the borehole before well emplacement was 25 feet deep.

Soil samples selected for laboratory analysis were sealed within an approximately 6-inch length of the acetate sampling sleeve, capped with non-reactive plastic caps, labeled, chilled, and shipped to the analytical laboratory under chain-of-custody documentation.

Well Installations

Due to limited access inside the building, which precluded hollow-stem auger well installation, the wells were installed using the GeoProbe™ equipment. The wells were "pre-packed" GeoProbe™ wells (i.e., pre-constructed annular filter pack and bentonite seal that are assembled in the field). This technique has the advantage of generating less soil cuttings and less well development/purge water. This well installation technique was approved by the Alameda County Public Works Agency (ACPWA). The well emplacement procedure was as follows:

- 2-inch continuous core sampling rods were withdrawn after sampling.
- The pre-packed well was emplaced inside the outer casing, supplemental sand was added to fill the annular space around the pre-packed screens and to cover the top of the well screens approximately 1 foot, and the sand was wetted
- Bentonite chips were added on top of the sand and hydrated.
- Portland cement grout slurry was brought to near ground surface, and the well box was installed in concrete.

The following are key well construction specifications:

- Well screen and filter pack ("pre-packed): 15-feet-long, 2½ -inch outside diameter stainless steel mesh, enclosing ¾-inch-thick #20/40 sand, wrapped around 1-inch inside diameter (0.010-inch slotted) Schedule 40 PVC screen, with an additional 1 foot of sand on top.
- Well riser: 1-inch inside diameter Schedule 40 PVC.

- Pollution seal: 2-foot-thick layer of bentonite chips (hydrated) from 9 feet to 7 feet, overlain by Portland cement grout slurry to 1 foot deep, overlain by rapid-set concrete (from 1 foot to surface). In accordance with ACPWA requirements, the diameter of the uppermost portion of the seal (upper 1 foot) was 10 inches.
- Surface completion: Christy-type flush-mount steel box (7-inch-diameter) inside a 10-inch-diameter hole cut in the asphalt/concrete, and locking well casing caps.

Well Development

On May 31, 2005, the wells were developed (by North State Environmental of South San Francisco, California) by surging and pumping (ten casing volumes per well) to set the annular sand pack, and to reduce the potential for fine-grained native materials to infiltrate the sand pack. Approximately 10 gallons of well development purge water was generated and containerized onsite (see below). Appendix D contains the well development field records.

Well Surveying

On June 3, 2005, the horizontal coordinates and vertical elevations of the well casing tops were surveyed by a licensed California land surveyor, in accordance with California "GeoTracker" requirements. The "Geo Survey" data for this surveying event were uploaded as an Electronic Data Deliverable (EDD) to the California GeoTracker on-line database.

Investigation-Derived Waste

Waste soil from the well installations was combined with the waste soil from the two previous borehole programs (2003 and 2004) in two labeled, steel 55-gallon drums. Following all drilling, a composite sample ("Soil Drum Comp.") from the two drums was collected for laboratory analysis, so the soil could be profiled for disposal. Appendix E contains the certified analytical laboratory report and chain-of-custody record for that sample. The analytical results demonstrated that the soil is uncontaminated (and non-hazardous), and amenable for disposal at a permitted Class III or II landfill. The drummed soil was transported offsite for disposal (at D.K. Environmental in Los Angeles, California) on June 7, 2005. Appendix F contains the soil transport documentation.

Wastewater from well development and equipment decontamination rinseate was containerized in a labeled, steel 55-gallon drum. As a cost-savings measure, wastewater from future groundwater monitoring events will continue to be accumulated and stored at the site, and will be properly profiled and disposed of at a permitted non-hazardous liquids treatment facility at a later date.

3.0 MAY 2005 GROUNDWATER WELL SAMPLING

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

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

Groundwater monitoring well water level measurements, purging, and sampling activities were conducted on May 31, 2005 by North State Environmental under the supervision of SES personnel. Sampling was conducted immediately following well development (discussed in Section 3.0). Table 1 shows the well construction and groundwater elevation data. Appendix D contains the groundwater monitoring field records for the sampling event.

Table 1
Groundwater Monitoring Well Construction and Groundwater Elevation Data
488-25th Street, Oakland, California

Well	Well Depth	Screened Interval	TOC Elevation	Groundwater Elevation (5/31/05)
MW-1	25	10 to 25	25.24	15.15
MW-2	25	10 to 25	23.71	14.69
MW-3	25	10 to 25	23.86	15.06

Notes:

TOC = Top of casing.

All wells are 1-inch-diameter.

All elevations are in feet above mean sea level.

As the first task of the monitoring event, static water levels were measured using an electric water level indicator. Because the wells were sampled immediately following well development (which included purging ten casing volumes and measuring aquifer stability parameters between each

purged casing), additional purging was not conducted prior to sampling. Neither separate-phase petroleum product nor sheen was noted during well purging/sampling.

The "Geo Well" data for this event (water levels) were uploaded as an EDD to the California GeoTracker on-line database.

4.0 REGULATORY CONSIDERATIONS

REGULATORY STATUS

The lead regulatory agency for petroleum contamination cases in the City of Oakland is Alameda County Health, which is a Local Oversight Program (LOP) for the State Water Resources Control Board (covering Water Board Region 2). As such, Alameda County Health directly oversees soil and groundwater investigations/remediation on UFST sites (with or without Water Board guidance) until determining that case closure is appropriate, at which time Alameda County Health recommends case closure to the Water Board. Alameda County Health Care Services has designated the case as Fuel Leak Case No. RO002518. The site is listed in the Water Board's GeoTracker database of reported releases from petroleum UFSTs (Global ID T0600114301.

RESIDUAL CONTAMINATION REGULATORY CONSIDERATIONS

The most applicable published numerical criteria governing residual soil and groundwater contamination at this site are the Water Board's ESLs (Water Board, 2005). These are screening-level criteria used to evaluate if additional investigation and/or remediation is warranted. Criteria to be considered in using the ESLs include: contamination limited to surface soil (less than 10 feet deep) or to subsurface soil; fine-grained vs. coarse-grained soil; residential or commercial/industrial land use; and whether groundwater is or is not a known or potential drinking water source. For the detected site contaminants, the ESL values are the same for surface soil and subsurface soil.

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

- Zone A (significant drinking water resource);
- Zone B (groundwater unlikely to be used as drinking water source); and
- Zone C (shallow groundwater proposed for redesignation as Municipal Supply Beneficial Use).

The subject site falls within Zone A. The most conservative assumption for the site is that there is a potential for private drinking water wells to be impacted. However, a search of vicinity water wells identified no wells downgradient of the subject property (SES, 2004c). There is an inactive groundwater monitoring well immediately downgradient of the site; however, that well was installed to monitor a fuel release. This suggests that the less conservative ESLs of "a potential or current drinking water source is not threatened" may be appropriate when the site is considered for case closure. Until case closure is considered, this report (and future reports) will discuss residual soil and groundwater contamination in the context of the more conservative ESL criteria (for the scenario where groundwater is a potential drinking water resource).

SITE CLOSURE CRITERIA

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

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

GEOTRACKER COMPLIANCE

This site is listed in the Water Board's GeoTracker database, and all required electronic uploads have been made for previous site activities. Tasks conducted in this phase of work related to GeoTracker compliance included:

- Uploading *Field Point Names* (list of well names).
- Surveying the site wells (horizontal coordinates and vertical elevations) in conformance with GeoTracker data requirements, and uploading the *GeoXY* and *GeoZ* data sets.
- Uploading *GeoWell* (water level monitoring-related data uploaded for the initial (Q2 2005) monitoring event).
- Uploading *GeoReport* (portable data format [pdf]) electronic copy of this report.
- Uploading *GeoMap* (pdf electronic copy of a site plan showing the locations of monitoring wells.
- Uploading *EDDs* (electronic version of the analytical laboratory reports for the well installation soil samples and the groundwater sampling event).

A hard copy of this report was mailed to Alameda County Health. In accordance with California GeoTracker requirements, site reports generated after July 1, 2005 will only be uploaded to the GeoTracker online database. No hard copy reports will be mailed to regulatory agencies.

5.0 LITHOLOGY AND GROUNDWATER HYDROLOGY

This section discusses the site lithology and groundwater hydrology, based on the three borehole sampling programs, conducted in 2003 through 2005.

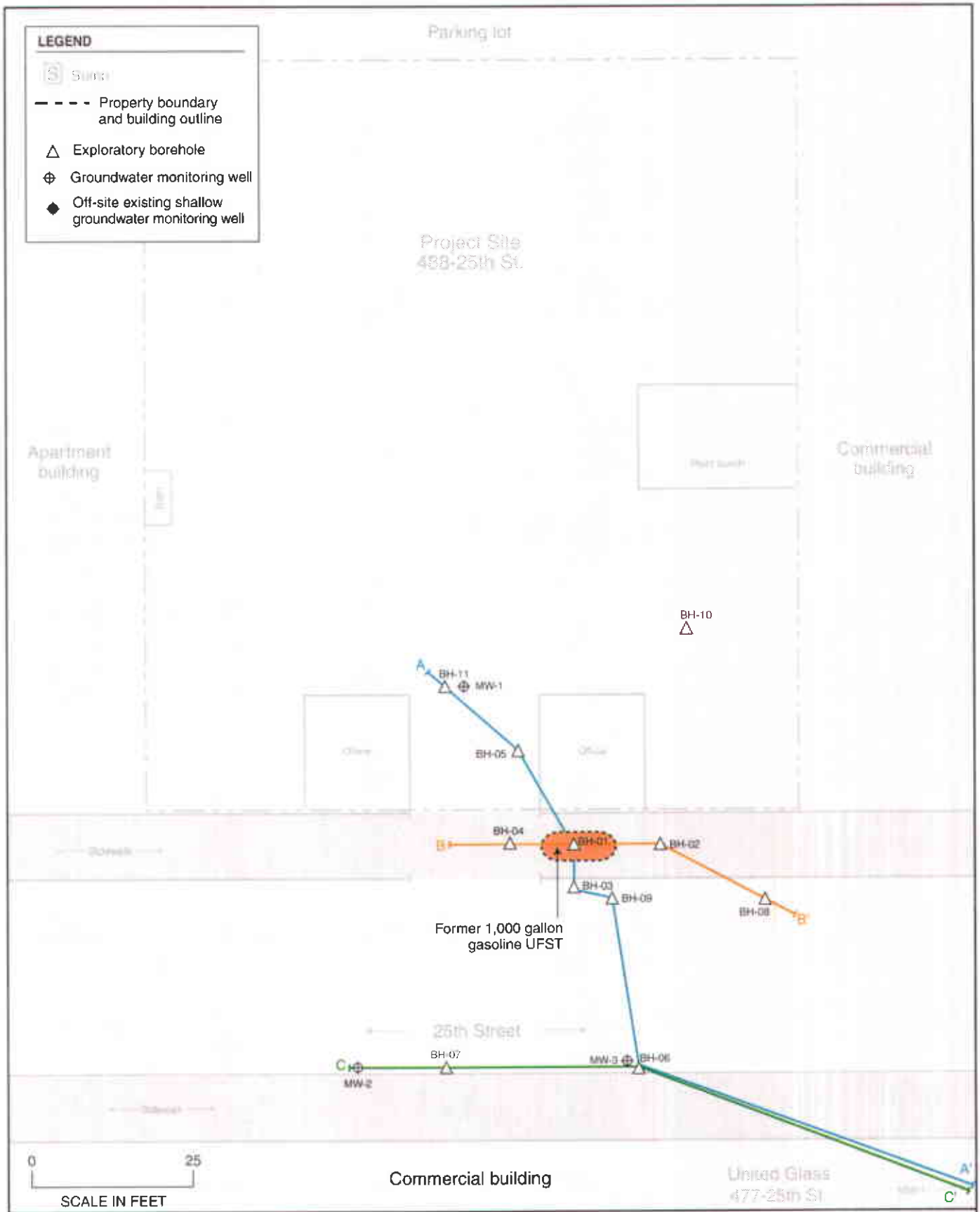
Including the 3 well installation boreholes advanced during the current investigation, a total of 14 exploratory boreholes at the subject property have been geologically logged using the visual method of the Unified Soils Classification System, and have been evaluated. One borehole (BH-01) was advanced through the former UST excavation, and the remainder were advanced through native soil. Two of the recent monitoring well boreholes (MW-1 and MW-3) were advanced immediately adjacent to previous exploratory boreholes (BH-11 and BH-06, respectively). No substantial differences were noted between the 2004 and recent boreholes at those locations, except as stated below.

The majority of site boreholes have been advanced to at least 24 feet bgs. One of the 2005 well installation boreholes was advanced to 30 feet bgs. These intervals include the upper water-bearing zone and the underlying low-permeability non-water-bearing zone (aquitard).

Borehole logs for the current investigation are included in Appendix C. Cross-section locations are shown on Figure 3. Figures 4 and 5 show three geologic cross-sections for the site—one along the longitudinal axis of the plume (approximately north-south), and two perpendicular to the plume axis (approximately east-west).

LITHOLOGY

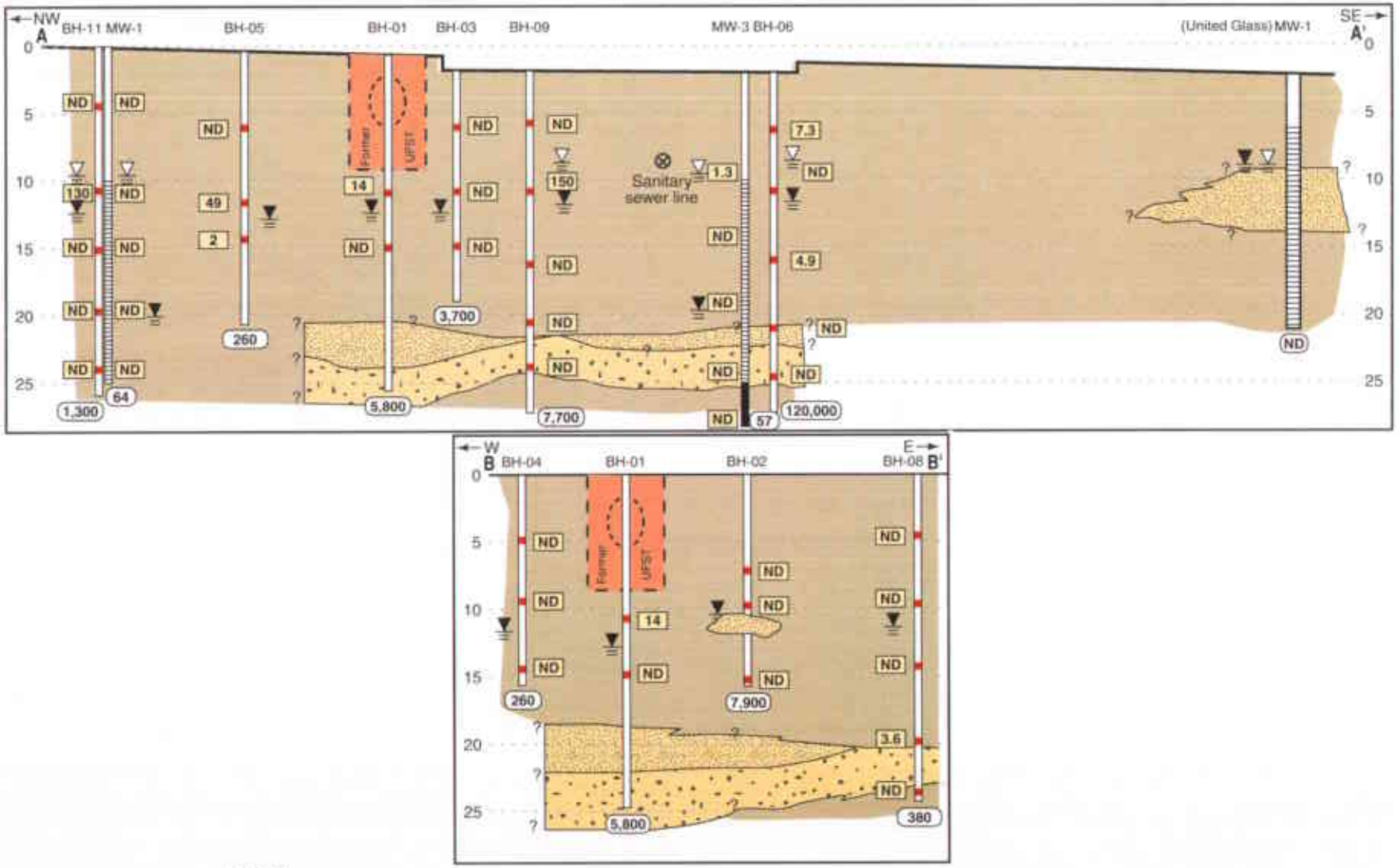
A laterally-extensive clay (occasionally gravelly) is present in all boreholes, extending from ground surface to approximately 17 to 20 feet bgs. Two of the boreholes (BH-02 and United Glass MW-1) contain a thin (1- to 3-foot-thick) sandy lens between 10 and 15 feet bgs. The clay layer is generally underlain by a sand or gravel unit, beginning at depths of 18.5 to 21.5 feet bgs. This more permeable unit varies in thickness from 2.5 feet to at least 5.5 feet. In the majority of boreholes, this unit consists of sand grading downward into gravel. A clay unit was encountered below the sand/gravel unit in most of the boreholes greater than 20 feet bgs. In several of the boreholes, the underlying clay unit was not reached, but is likely shallower than 30 feet bgs. The lithology is typical of this area of



SITE PLAN WITH CROSS-SECTION LOCATIONS

Benner Automotive **488-25th St., Oakland, CA**	By: MJC	JUNE 2005	★ Stellar Environmental Solutions, Inc. Geoscience & Engineering Consulting
	Figure 3		

2002-55-B2



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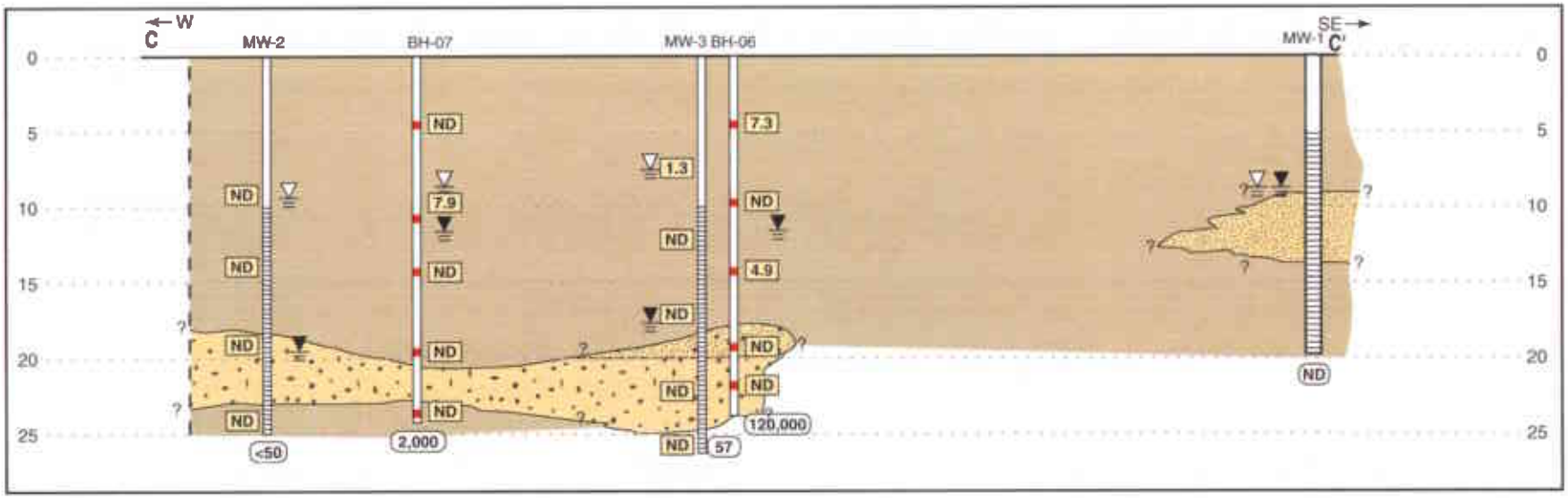
GEOLOGIC CROSS-SECTIONS A-A' & B-B'

488-25th Street, Oakland, CA

Figure 4

by: MJC | JUNE 2005

2003-55-63



LEGEND

BH-1 Exploratory Boring BH-1

14 Location of soil sample collected for laboratory analysis, and soil gasoline concentration (mg/Kg)

MW-1 Monitoring Well

Well screen interval

Silt/clay

Sand/gravel

Water level during drilling

Equilibrated water level

5,800 Groundwater gasoline concentration (µg/L)

0 10

HORIZONTAL SCALE (FEET)

Stellar Environmental Solutions, Inc.

Geoscience & Engineering Consulting

GEOLOGIC CROSS-SECTION C-C'

488-25th Street, Oakland, CA

Figure 5

by: MJC

JUNE 2005

2002-55-04

Oakland, showing lenticular lenses of more permeable sand and gravel (paleochannels) flanked by low-permeability clays and silts (overbank deposits). These deposits typically display small-scale lateral and vertical heterogeneity.

Borehole BH-01 (advanced through the former UFST excavation) encountered excavation backfill material (gravelly, clayey silt) to a depth of approximately 9 feet bgs, underlain by native soil (as described above).

GROUNDWATER HYDROLOGY

In the July 2003 borehole program, very moist to wet soil samples were encountered in site boreholes, at depths of approximately 9.5 to 12 feet bgs, with equilibrated groundwater levels in boreholes at approximately 10 feet bgs.

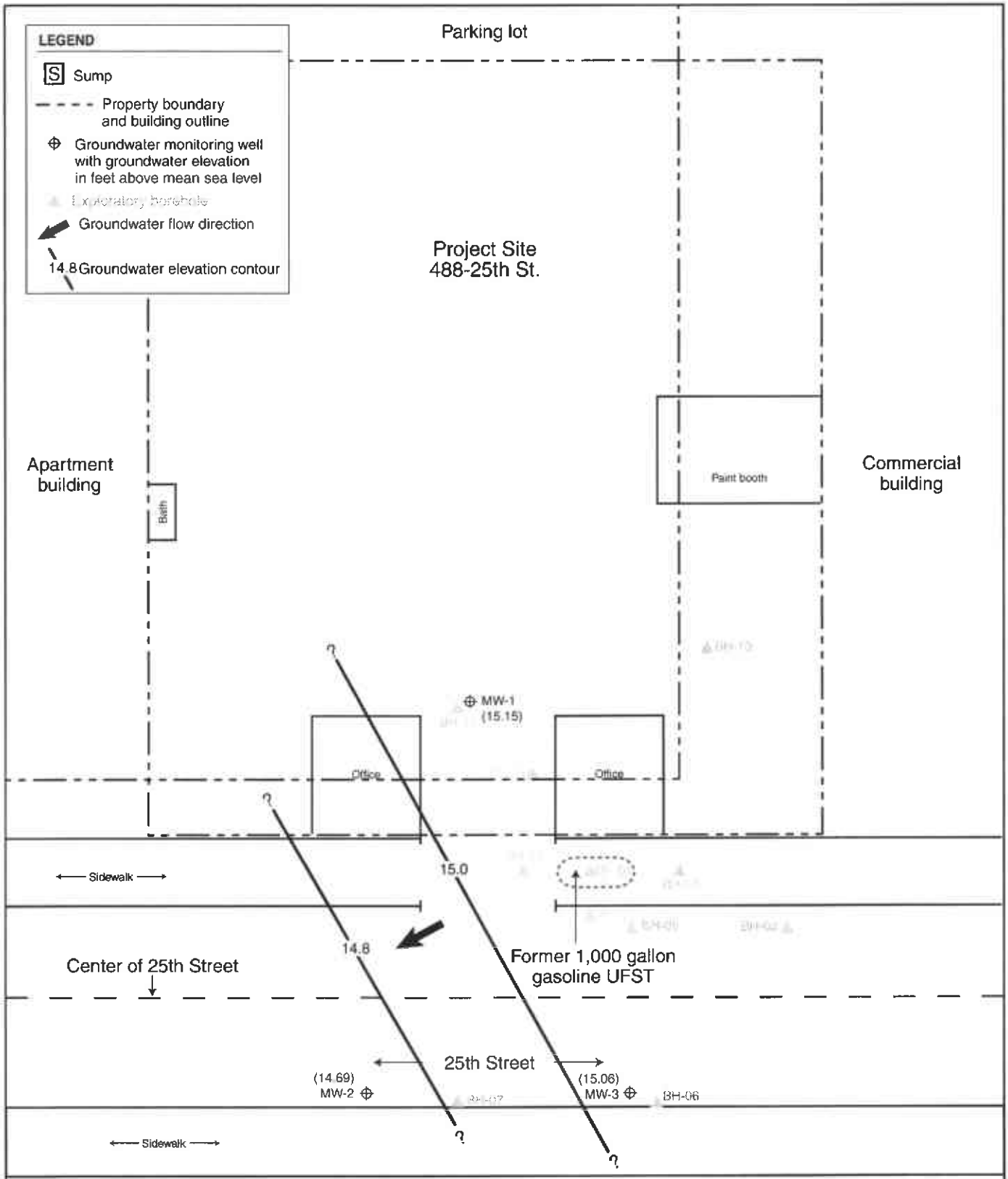
In the July 2004 program, there was no evidence of water in any boreholes above 12 feet bgs (either saturated samples or measurable water in boreholes). Water entered the boreholes after the sampling rods were advanced from 12 to 16 feet bgs, and the water quickly rose to depths between approximately 7 and 10 feet bgs. In the majority of boreholes, groundwater was first encountered in the upper clay unit rather than the underlying sand/gravel unit. Relatively dry soils were encountered below this upper water-bearing zone, and groundwater was again encountered in the fully saturated sands at approximately 20 feet bgs. The underlying clay unit showed little to no water.

In the May 2005 boreholes, there was no evidence of water in any boreholes above 20 feet bgs (either saturated samples or measurable water in boreholes). Water entered the boreholes after the sampling rods were advanced from 20 to 24 feet bgs, and the water quickly rose to depths between approximately 9 and 10 feet bgs. The underlying clay unit showed little to no moisture.

Depth to groundwater (equilibrated in wells) in the May 2005 monitoring event ranged from approximately 8.8 to 10.1 feet below grade (approximately 14.7 to 15.2 feet above man sea level). These equilibrated water levels in the wells were approximately 10 feet above first occurrence of saturated cuttings in boreholes, indicating that groundwater at the site occurs under confining or semi-confining conditions. The direction of local groundwater flow in this event was to the southwest, with a relatively flat hydraulic gradient (0.01 feet/foot). Figure 6 shows groundwater elevations and flow contours. The direction of groundwater flow in the (surveyed) 2003 piezometers was to the south-southeast.

The available data suggest that:

- Depth to first occurrence of groundwater (during drilling) has dropped approximately 10 feet between the 2003 and 2005 borehole programs, with no obvious seasonal correlation.



MAY 2005 GROUNDWATER ELEVATIONS

Benner Automotive **488-25th St., Oakland, CA**	By: MJC **Figure 6**	JUNE 2005

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- In the previous (higher groundwater) events, relatively dry soils were encountered between an upper water-bearing zone (less than 16 feet bgs) and a lower water-bearing zone (at approximately 20 feet bgs, indicating that perched water exists during higher groundwater conditions.
- In all three of the borehole programs, groundwater equilibrates at approximately 10 feet bgs, indicating semi-confining conditions.
- Groundwater flow is generally to the south-southwest.

6.0 ANALYTICAL RESULTS AND FINDINGS DISCUSSION

This section presents the findings of the well installation program, and discusses the hydrocarbon contamination in the soil and groundwater based on the analytical results.

All soil and groundwater samples in the well installation and initial groundwater sampling activities were analyzed for:

- Total volatile hydrocarbons – gasoline range (TVHg), by modified EPA Method 8015;
- BTEX, MTBE, fuel oxygenates (TAME, ETBE, DIPE, TBA, and ethanol), and lead scavengers (EDB and EDC), by EPA Method 8260.

The current investigation soil samples were analyzed by Curtis & Tompkins, Ltd (Berkeley, California). The current investigation groundwater samples were analyzed by North State Labs (South San Francisco, California). Both labs maintain current ELAP certifications for all of the analytical methods utilized in this investigation. Appendix E contains the certified analytical laboratory reports and chain-of-custody records.

Residual Soil Contamination

Table 2 summarizes the historical (UFST removal and PSA) and current (well installation) soil sampling analytical results. The only soil contaminant detected above ESLs in residual soils (including both the UFST excavation and the 2003 and 2004 borehole programs) is gasoline (at a maximum of 2,500 mg/kg directly beneath the former UST). Lesser concentrations (maximum of 150 mg/kg) were detected in several boreholes. Neither BTEX, MTBE, fuel oxygenates, nor lead scavengers have been detected above ESL criteria. The only analyte detected in the monitoring well installation soil samples was gasoline, at 1.3 mg/kg in MW-3 at approximately 10 feet.

In the May 2005 monitoring well installation boreholes, a slight petroleum odor was noted in two of the boreholes (MW-1 and MW-03) in the depth intervals of approximately 10 to 14 feet (MW-1) and 7 to 10 feet (MW-2). No contamination was detected (by lab analysis) in soil samples collected from those intervals.

These data indicate that residual soils do not contain an appreciable mass of fuel contamination.

Table 2
Historical and Current Soil Analytical Results
488 25th Street, Oakland, California [a]

Sample I.D.	Sample Depth (feet)	TVHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Lead Scavengers and Fuel Oxygenates [c]
January 2003 Base of UFST Excavation Soil Samples								
UFST Base-East	9.0	**2,500**	*<1.7* [b]	*<1.7* [b]	*<1.7* [b]	*<1.7* [b]	*<1.7* [b]	*NA*
UFST Base-West	9.0	*<1.1*	*<0.0053*	*<0.0053*	*<0.0053*	*<0.0053*	*<0.0053*	*NA*
July 2003 Exploratory Borehole Soil Samples								
BH-1-10'	10.0	**14**	*<0.0054*	*<0.0054*	*<0.0054*	*<0.0054*	*<0.022*	*NA*
BH-1-14'	14.0	*<1.1*	*<0.0053*	*<0.0053*	*<0.0053*	*<0.0053*	*<0.021*	*NA*
BH-2-6.5'	6.5	*<1.1*	*<0.0054*	*<0.0054*	*<0.0054*	*<0.0054*	*<00022*	*NA*
BH-2-9'	9.0	*<1.0*	*<0.0050*	*<0.0050*	*<0.0050*	*<0.0050*	*<0.020*	*NA*
BH-2-15'	15.0	*<1.1*	*<0.0053*	*<0.0053*	*<0.0053*	*<0.0053*	*<0.021*	*NA*
BH-3-5'	5.0	*<1.0*	*<0.0052*	*<0.0052*	*<0.0052*	*<0.0052*	*<0.021*	*NA*
BH-3-9'	9.0	*<1.1*	*<0.0054*	*<0.0054*	*<0.0054*	*<0.0054*	*<0.022*	*NA*
BH-3-13'	13.0	*<1.0*	*<0.0052*	*<0.0052*	*<0.0052*	*<0.0052*	*<0.021*	*NA*
BH-4-5'	5.0	*<1.0*	*<0.0051*	*<0.0051*	*<0.0051*	*<0.0051*	*<0.020*	*NA*
BH-4-9'	9.0	*<1.0*	*<0.0052*	*<0.0052*	*<0.0052*	*<0.0052*	*<0.021*	*NA*
BH-4-13'	13.0	*<1.1*	*<0.0055*	*<0.0055*	*<0.0055*	*<0.0055*	*<0.022*	*NA*
BH-5-6.5'	6.5	*<1.1*	*<0.0054*	*<0.0054*	*<0.0054*	*<0.0054*	*<0.022*	*NA*
BH-5-11.5'	11.5	**49**	*<0.010*	*<0.010*	*<0.010*	*<0.010*	*<0.040*	*NA*
BH-5-13'	13.0	**1.7**	*<0.0053*	*<0.0053*	*<0.0053*	*<0.0053*	*<0.021*	*NA*

Table 2 *continued*

Sample I.D.	Sample Depth (feet)	TVHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Lead Scavengers and Fuel Oxygenates [c]
July 2004 Exploratory Borehole Soil Samples								
BH-06-4.5'	4.5	**7.3**	*<0.0056*	*<0.0056*	*<0.0056*	*<0.0056*	*<0.0048*	*ND*
BH-06-9.5'	9.5	*<1.1*	*<0.0053*	*<0.0053*	*<0.0053*	*<0.0053*	*<0.0049*	*ND*
BH-06-14.5'	14.5	**4.9**	*<0.0054*	**0.0082**	*<0.0054*	*<0.0054*	*<0.0047*	*ND*
BH-06-19.5'	19.5	*<1.1*	*<0.0054*	*<0.0054*	*<0.0054*	*<0.0054*	*<0.0049*	*ND*
BH-06-22.5'	22.5	*<1.0*	*<0.0051*	*<0.0051*	*<0.0051*	*<0.0051*	*<0.0045*	*ND*
BH-07-4.5'	4.5	*<1.1*	*<0.0053*	*<0.0053*	*<0.0053*	*<0.0053*	*<0.0050*	*ND*
BH-07-10.5'	10.5	**7.9**	*<0.0054*	**0.009**	*<0.0054*	*<0.0054*	*<0.0047*	*ND*
BH-07-14.5'	14.5	*<0.98*	*<0.0049*	*<0.0049*	*<0.0049*	*<0.0049*	*<0.0045*	*ND*
BH-07-19.5'	19.5	*<0.96*	*<0.0048*	*<0.0048*	*<0.0048*	*<0.0048*	*<0.0049*	*ND*
BH-07-23.5'	23.5	*<1.0*	*<0.0052*	*<0.0052*	*<0.0052*	*<0.0052*	*<0.0046*	*ND*
BH-08-4.5'	4.5	*<1.0*	*<0.0052*	*<0.0052*	*<0.0052*	*<0.0052*	*<0.0049*	*ND*
BH-08-9.5'	9.5	*<1.1*	*<0.0053*	*<0.0053*	*<0.0053*	*<0.0053*	*<0.0047*	*ND*
BH-08-14.5'	14.5	*<0.97*	*<0.0049*	*<0.0049*	*<0.0049*	*<0.0049*	*<0.0045*	*ND*
BH-08-20'	20	**3.6**	*<0.0054*	*<0.0054*	*<0.0054*	*<0.0054*	*<0.0049*	*ND*
BH-08-23.5'	23.5	*<1.1*	*<0.0055*	*<0.0055*	*<0.0055*	*<0.0055*	*<0.0046*	*ND*
BH-09-4.5'	4.5	*<1.0*	*<0.0051*	*<0.0051*	*<0.0051*	*<0.0051*	*<0.0045*	*ND*
BH-09-11'	11	**150**	*<0.0500*	*<0.0500*	*<0.0500*	**0.120**	*<0.0049*	*ND*
BH-09-15.5'	15.5	*<0.99*	*<0.0050*	*<0.0050*	*<0.0050*	*<0.0050*	*<0.0045*	*ND*

Table 2 *continued*

Sample I.D.	Sample Depth (feet)	TVHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Lead Scavengers and Fuel Oxygenates [c]
July 2004 Exploratory Borehole Soil Samples (continued)								
BH-09-19.5'	19.5	*<0.98*	*<0.0049*	*<0.0049*	*<0.0049*	*<0.0049*	*<0.0047*	*ND*
BH-09-23.5'	23.5	*<1.0*	*<0.0051*	*<0.0051*	*<0.0051*	*<0.0051*	*<0.0049*	*ND*
BH-10-4.5'	4.5	*<1.0*	*<0.0052*	*<0.0052*	*<0.0052*	*<0.0052*	*<0.0049*	*ND*
BH-10-9.5'	9.5	*<1.1*	*<0.0055*	*<0.0055*	*<0.0055*	*<0.0055*	*<0.0047*	*ND*
BH-10-14.5'	14.5	*<1.0*	*<0.0052*	*<0.0052*	*<0.0052*	*<0.0052*	*<0.0048*	*ND*
BH-10-19.5'	19.5	*<0.99*	*<0.0050*	*<0.0050*	*<0.0050*	*<0.0050*	*<0.0045*	*ND*
BH-10-23.5'	23.5	*<1.0*	*<0.0050*	*<0.0050*	*<0.0050*	*<0.0050*	*<0.0047*	*ND*
BH-11-4.5'	4.5	*<0.97*	*<0.0049*	*<0.0049*	*<0.0049*	*<0.0049*	*<0.0049*	*ND*
BH-11-11'	11	**130**	*<0.0250*	**0.240**	*<0.0250*	*<0.0250*	*<0.0047*	*ND*
BH-11-15'	15	*<1.0*	*<0.0051*	*<0.0051*	*<0.0051*	*<0.0051*	*<0.0050*	*ND*
BH-11-19.5	19.5	*<1.0*	*<0.0052*	*<0.0052*	*<0.0052*	*<0.0052*	*<0.0048*	*ND*
BH-11-23.5'	23.5	*<1.0*	*<0.0052*	*<0.0052*	*<0.0052*	*<0.0052*	*<0.0046*	*ND*
May 2005 Well Installation Soil Samples								
MW-1-9.5'	9.5	*< 1.0*	*< 0.0049*	*< 0.0049*	*< 0.0049*	*< 0.0049*	*< 0.0049*	*ND*
MW-1-14.5'	14.5	*< 1.0*	*< 0.0046*	*< 0.0046*	*< 0.0046*	*< 0.0046*	*< 0.0046*	*ND*
MW-1-19.5'	19.5	*< 1.1*	*< 0.0045*	*< 0.0045*	*< 0.0045*	*< 0.0045*	*< 0.0045*	*ND*
MW-1-24.5'	24.5	*< 1.1*	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.0050*	*ND*
MW-2-9.5'	9.5	*< 0.93*	*< 0.0048*	*< 0.0048*	*< 0.0048*	*< 0.0048*	*< 0.0048*	*ND*

Table 2 *continued*

Sample I.D.	Sample Depth (feet)	TVHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Lead Scavengers and Fuel Oxygenates [c]
May 2005 Well Installation Soil Samples (continued)								
MW-2-14.5'	14.5	*< 1.1*	*< 0.0045*	*< 0.0045*	*< 0.0045*	*< 0.0045*	*< 0.0045*	*ND*
MW-2-19.5'	19.5	*< 1.0*	*< 0.0047*	*< 0.0047*	*< 0.0047*	*< 0.0047*	*< 0.0047*	*ND*
MW-2-24.5'	24.5	*< 1.1*	*< 0.0049*	*< 0.0049*	*< 0.0049*	*< 0.0049*	*< 0.0049*	*ND*
MW-3-9.5'	9.5	**1.3**	*< 0.0046*	*< 0.0046*	*< 0.0046*	*< 0.0046*	*< 0.0046*	*ND*
MW-3-14.5'	14.5	*< 1.0*	*< 0.0046*	*< 0.0046*	*< 0.0046*	*< 0.0046*	*< 0.0046*	*ND*
MW-3-19.5'	19.5	*< 0.93*	*< 0.0045*	*< 0.0045*	*< 0.0045*	*< 0.0045*	*< 0.0045*	*ND*
MW-3-24.5'	24.5	*< 1.1*	*< 0.0045*	*< 0.0045*	*< 0.0045*	*< 0.0045*	*< 0.0045*	*ND*
MW-3-29.5'	29.5	*< 1.0*	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.0050*	*< 0.0050*	*ND*
Soil Composite (drum profile)		*< 1.1*	*< 0.0054*	*< 0.0054*	*< 0.0054*	*< 0.0054*	*< 0.022*	*NA*
Soil ESLs		**100**	**0.044**	**2.9**	**3.3**	**1.5**	**0.023**	**Various**

Notes:

[a] All concentrations are in mg/kg.

[b] High concentrations of gasoline required sample dilution, resulting in the listed increased method reporting limit.

[c] See Appendix E for full list of analytes.

ESLs = California Water Board (San Francisco Bay Region) Environmental Screening Levels for commercial/industrial sites where groundwater is a potential drinking water resource.
TVHg = total volatile hydrocarbons – gasoline range
MTBE = methyl *tertiary*-butyl ether
NA = not analyzed for these constituents
ND = not detected (see Appendix E for reporting limits)

Residual Groundwater Contamination

Table 3 summarizes historical grab-groundwater sampling analytical results, as well as the analytical results from the May 2005 well sampling event. Figure 7 shows the groundwater analytical results for the current event.

Gasoline

Gasoline was detected in all but 1 of the 11 exploratory borehole grab-groundwater samples collected in 2003 and 2004. The maximum concentration was 120,000 microgram per liter (µg/L) (in BH-06, located across 25th Street from the subject property). All other gasoline concentrations were 7,900 µg/L or less. These data indicate that the gasoline plume extended from BH-11 (just northwest of the former UFST) to across 25th Street, and was laterally restricted to the east and west. Gasoline was not detected in the offsite (to the southeast) United Glass monitoring well in 2004.

In the May 2005 groundwater sampling event, gasoline concentrations were significantly lower than in previous samples. The maximum gasoline concentration was 64 µg/L (well MW-1), and a similar concentration (57 µg/L) was detected in well MW-3. No gasoline was detected in well MW-2.

MTBE and BTEX Compounds

In the 2003 and 2004 boreholes, the only BTEX constituents detected above ESL criteria were ethylbenzene (maximum of 70 µg/L) and xylenes (maximum of 540 µg/L). The maximum MTBE concentration was 8.2 µg/L. The maximum concentrations of ethylbenzene and xylenes were detected in downgradient borehole BH-06, and the maximum concentration of MTBE was detected in upgradient borehole BH-11. Benzene was not detected in those samples. No BTEX constituents were detected in the offsite (to the southeast) United Glass monitoring well in 2004, and MTBE was present at 1.2 µg/L.

Neither BTEX compounds nor MTBE were detected in the May 2005 groundwater monitoring well sampling.

Fuel Oxygenates and Lead Scavengers

Neither fuel oxyenates nor lead scavengers were detected in the 2004 exploratory borehole grab-groundwater samples or the May 2005 groundwater monitoring well sampling.

Table 3
Current and Historical Groundwater Analytical Results
488 25th Street, Oakland, California [a]

Sample I.D.	Sample Depth (feet)	TVHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Lead Scavengers and Fuel Oxygenates [b]
July 2003 Borehole Groundwater Samples								
BH-01-GW	~ 10-11	**5,800**	*<0.50*	*<0.50*	**7.4**	**4.5**	*<2.0*	*NA*
BH-02-GW	~ 10-11	**7,900**	*<13*	**15**	**24**	**61**	*<50*	*NA*
BH-03-GW	~ 10-11	**3,700**	*<1.0*	*<1.0*	*<1.0*	*<1.0*	*<4.0*	*NA*
BH-04-GW	~ 10-11	**260**	*<0.50*	*<0.50*	*<0.50*	*<0.50*	*<2.0*	*NA*
BH-05-GW	~ 10-11	**260**	*<0.50*	*<0.50*	*<0.50*	*<0.50*	**3.1**	*NA*
July 2004 Borehole Groundwater Samples								
BH-06-GW	~ 12-16	**120,000**	*<13*	*<13*	**70**	**540**	*<1.7*	*ND*
BH-07-GW	~ 12-16	**2,000**	*<0.50*	**3.4**	**8.1**	**14**	*<0.50*	*ND*
BH-08-GW	~ 12-16	**380**	*<0.50*	**0.77**	*<0.50*	**1.6**	*<0.50*	*ND*
BH-09-GW	~ 12-16	**7,700**	*<1.0*	*<1.0*	**21**	**39.7**	*<0.50*	*ND*
BH-10-GW	~ 12-16	*<50*	*<0.50*	*<0.50*	*<0.50*	*<0.50*	*<0.50*	*ND*
BH-11-GW	~ 12-16	**1,300**	*<0.50*	*<0.50*	0.88	**6.0**	**8.2**	*ND*
July 2004 United Glass Groundwater Monitoring Well Sample (grab sample)								
UG-MW-1	NA	*<50*	*<0.50*	*<0.50*	*<0.50*	*<0.50*	**1.2**	*ND*
May 2005 Groundwater Sampling Event								
MW-1	~20'	**64**	*<0.50*	*<0.50*	*<0.50*	*<1.0*	*<0.50*	*ND*
MW-2	~20'	< 50	*<0.50*	*<0.50*	*<0.50*	*<1.0*	*<0.50*	*ND*
MW-3	~20'	**57**	*<0.50*	*<0.50*	*<0.50*	*<1.0*	*<0.50*	*ND*
Groundwater ESLs [c]		**100**	**1.0**	**40**	**30**	**13**	**5.0**	**Various**
Drinking Water Standards [d]		**NLP**	**5.0**	**1,000**	**700**	**10,000**	**13 [e]**	**Various**

Notes:

[a] All concentrations are in µg/L.

[b] See Appendix E for full list of analytes.

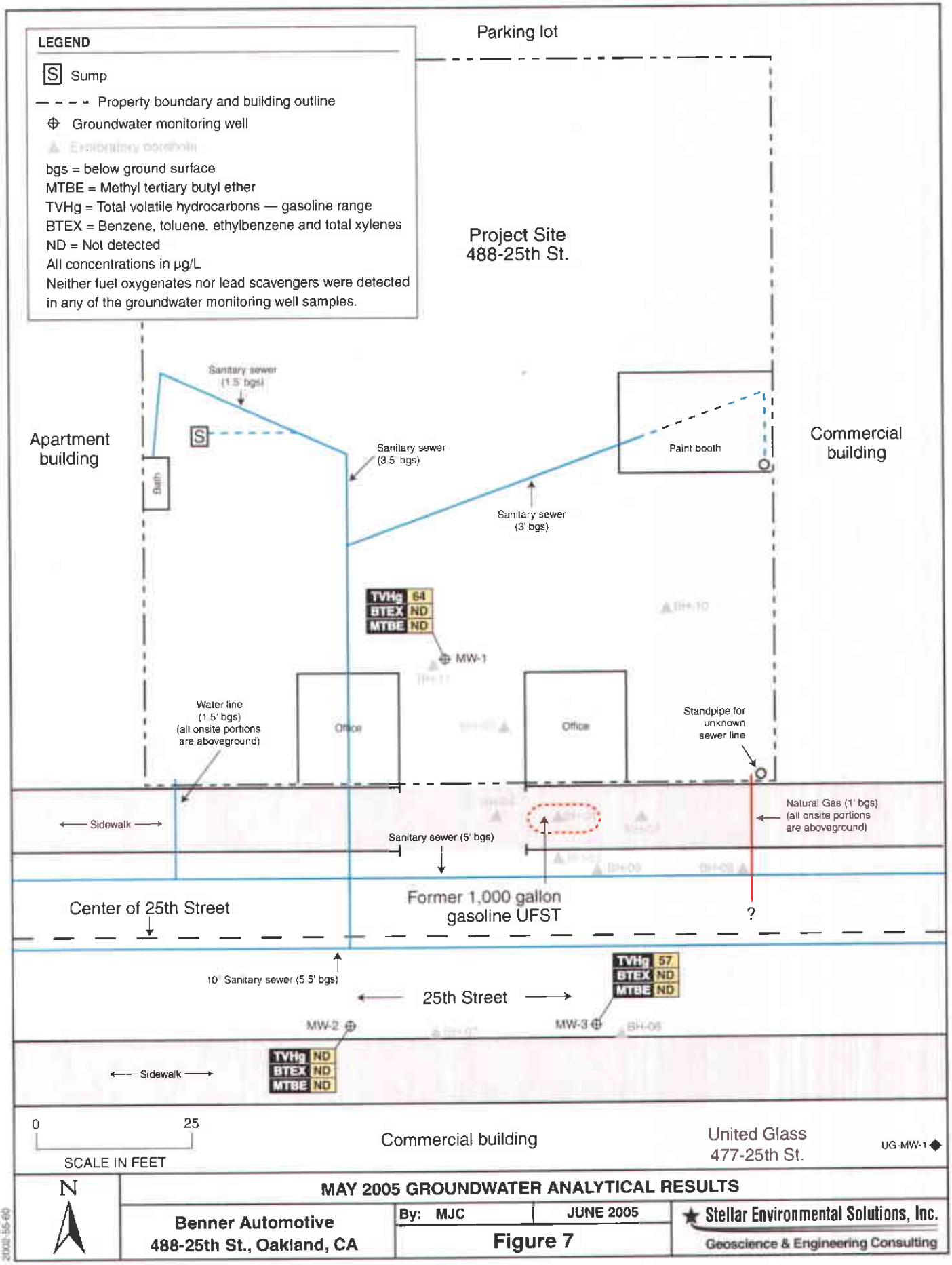
[c] ESLs = Regional Water Quality Control Board, San Francisco Bay Region Environmental Screening Levels for commercial/industrial sites where groundwater is a potential drinking water resource.

[d] Primary Maximum Contaminant Level (MCL), unless specified otherwise.

[e] State of California Public Health Goal (PHG).

TVHg = total volatile hydrocarbons – gasoline range
MTBE = methyl *tertiary*-butyl ether.

NA = not analyzed for these constituents
ND = not detected (see Appendix E for reporting limits)



MAY 2005 GROUNDWATER ANALYTICAL RESULTS

Benner Automotive **488-25th St., Oakland, CA**	**By: MJC**	**JUNE 2005**	★ **Stellar Environmental Solutions, Inc.** Geoscience & Engineering Consulting
	Figure 7		

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Summary of Residual Groundwater Contamination

Gasoline concentrations were significantly lower in the May 2005 groundwater monitoring well samples relative to the 2003 and 2004 borehole grab-groundwater samples. Further, none of the BTEX compounds or MTBE detected in the borehole samples were detected in the recent groundwater well sampling event. The significant reduction in concentrations observed in the well compared to the previous borehole grab-groundwater samples could be due to a combination of causes. Borehole grab-groundwater samples commonly exhibit greater concentrations than samples collected from constructed monitoring wells, because the grab-groundwater samples can be turbid and contain appreciable contamination that is adsorbed onto suspended solids. It is also possible that the reduced concentrations are in part the result of seasonal fluctuations in groundwater levels and concomitant "pulses" of dissolved contamination. Future groundwater monitoring should clarify the representativeness of the baseline monitoring event concentrations.

It is highly unlikely that the reduced groundwater contaminant concentrations are the result of natural attenuation (discussed below), given the relatively short (1 year) time between the 2004 and 2005 sampling events. Likewise, it is unlikely that the reduced concentrations are explained by downgradient migration of the contaminant plume.

The May 2005 groundwater monitoring well data indicate that groundwater contamination above ESL criteria likely does not extend offsite.

NATURE AND EXTENT OF GROUNDWATER CONTAMINATION

Plume Geometry

The well data indicate that gasoline is present (apparently only at concentrations below the 100 µg/L ESL) over an approximately 3,500-square foot area. The plume's longitudinal axis appears to be oriented north-northwest by south-southeast, and extends approximately 70 feet, from at least MW-1 to MW-3. The plume's eastern and western edges (crossgradient) appear to be laterally constrained, approximately 50 feet wide.

As discussed previously, local groundwater flow direction appears to be to the southwest, which is relatively consistent with the footprint of the plume.

Natural Attenuation

Numerous field and laboratory studies have concluded that the subsurface behavior of petroleum hydrocarbons is significantly impacted by their high capacity to undergo relatively rapid

biodegradation (McDonald and Kavanaugh, 1994; McAllister and Chiang, 1994; Wilson et. al., 1994; Lawrence Livermore National Laboratory, 1995).

Petroleum hydrocarbons require molecular oxygen for breakdown of the ring structure of specific constituents. Accordingly, although biodegradation of hydrocarbons can occur under anaerobic conditions, hydrocarbon biodegradation is greatest under aerobic conditions. As a result of the demonstrated degradability of petroleum hydrocarbons, Remediation by Natural Attenuation (RNA) has been a viable option for addressing many hydrocarbon plumes, replacing the need for active remediation, when source area remediation has been effective in removing a significant amount of the original mass of contamination released into the environment. Specifically, biodegradation of petroleum hydrocarbons in groundwater has a significant role in creating a stable plume, minimizing groundwater plume configuration and concentrations over time. The 1995 Lawrence Livermore National Laboratory study, which collected data on the lengths of hundreds of hydrocarbon plumes, found significant attenuation of concentration die-out within approximately 300 feet of the source. Hydrocarbon biodegradation and presence of a stable plume have subsequently become the basis for application of risk-based methodologies in support of site closure (Water Board, 1996).

Plume Stability

One groundwater monitoring event has been completed in three site wells. Future monitoring will determine the stability of the plume.

Potential for Surface Water Contamination

There are no nearby surface water bodies that could be impacted by the plume associated with this site.

Groundwater Impacts and Beneficial Uses

In general, as discussed in Section 4, impacts of groundwater contamination by petroleum products are evaluated on a case-by-case basis by the regulators, in consideration of all applicable ARARs, local geography, location of sensitive receptors, etc. The subject site falls within Zone A, where the most conservative assumption for the site is the potential for private drinking water wells to be impacted. However, the site location (with no documented or likely extractive groundwater use) suggests that the less conservative ESLs of "a potential or current drinking water source is not threatened" may be appropriate when the site is considered for case closure.

Because groundwater concentrations appear to be below ESL criteria and drinking water standards, the discussion of whether to use the more restrictive or more conservative ESL criteria is moot, and Alameda County Health and the Water Board will likely evaluate residual groundwater concentrations in the context of drinking water standards and land use.

Other Considerations

Residual soil and groundwater concentrations are below any published Water Board ESLs related to potential soil gas intrusion, and therefore no such impact is likely.

Residual soil contamination (and groundwater contamination) is no shallower than 10 feet deep, which is below any likely future excavations (e.g., utility trenching), and therefore has a low potential to pose health or safety impacts to those activities.

7.0 SUMMARY, CONCLUSIONS, OPINION, AND RECOMMENDATIONS

SUMMARY AND CONCLUSIONS

The available data support the following findings and conclusions:

- One site 1,000-gallon gasoline UFST was removed in January 2003 under regulatory oversight, along with 40 tons of obviously-contaminated backfill material. Gasoline was detected at 2,500 mg/kg in native soil 2 feet beneath the UFST (at a depth of 9 feet); BTEX and MTBE concentrations were less than approximately 2 mg/kg each. Groundwater was not encountered (excavation depth of 9 feet).
- The lead agency for UFST-related petroleum contamination sites is Alameda County Health, which has provided oversight of this case since the UFST removal report was submitted in January 2003.
- The subject property is located within the Water Board Zone A (Significant Drinking Water Source Potential) designation as described in the 1999 East Bay Plain Beneficial Use Study.
- A PSA was conducted in July 2003. Five exploratory boreholes were advanced to depths of 16 to 25 feet on three sides of the former UFST excavation (all within 10 feet of the former excavation), and one was advanced through the approximate center of the former excavation. A total of ten soil samples were collected for laboratory analysis from the unsaturated zone, at depths between 6.5 and 11.5 feet. An additional five soil samples (one from each borehole) were collected at depths below the upper water-bearing zone. One grab-groundwater sample was collected from each borehole.
- Additional site characterization was conducted in July 2004. Six exploratory boreholes were drilled and sampled in the vicinity of the former UFSTs. Thirty soil samples and six borehole grab-groundwater samples were collected for analysis. One adjacent property groundwater monitoring well was also sampled.
- Three site shallow groundwater monitoring wells were installed, developed, and surveyed in May and June 2005.
- Site lithology consists of a laterally-extensive clay unit to depths of approximately 17 feet to 20 feet, underlain by a more permeable sand/gravel unit with thicknesses between 2.5 feet

and up to 5.5 feet. In higher groundwater conditions (2003 and 2004 programs), groundwater was first encountered at the 7- to 10-foot-depth range (2003) and the 15- to 16-foot-depth range (2004), with an underlying unsaturated zone. A second fully saturated zone is encountered at 20 feet deep. In the current investigation, groundwater was first encountered at the 20-foot-deep range, suggesting that groundwater depths have fallen approximately 10 feet since 2003. The lower water-bearing zone is underlain by an unsaturated clay unit.

- Groundwater occurs under semi-confining conditions, equilibrating at depths approximately 10 feet above first occurrence (2005 program). Local groundwater flow direction is to the southwest with a relatively shallow hydraulic gradient.
- The lateral and vertical extent of soil contamination above regulatory agency screening levels is well defined by available data, and appears to be limited to an approximately 2-foot-thick zone above groundwater, in the immediate vicinity of the former UFST excavation. The data suggest that no significant mass of residual soil contamination exists to act as a long-term source of groundwater contamination; this is likely due to the age of the release and the subsequent diffusion of hydrocarbons to groundwater. No contamination above ESL criteria has been detected in the unsaturated clay unit that underlies the shallow water-bearing zone.
- Groundwater contamination in the 2005 well baseline sampling event was several orders of magnitude below concentrations in the 2003 and 2004 borehole programs. This could result from a combination of causes, including the filtration of contaminated dissolved solids by the well annular filter pack and/or the result of seasonal fluctuations in groundwater levels and concomitant "pulses" of dissolved contamination. However, it is highly unlikely that the reduced concentrations are the result of either natural attenuation or plume migration.
- Current gasoline concentrations in groundwater do not exceed the 100 µg/L Water Board ESL. Neither BTEX, MTBE, lead scavengers, nor fuel oxygenates were detected.
- The long axis of the groundwater contaminant plume is oriented approximately north-south (generally consistent with the southwesterly groundwater flow direction), with the eastern and western lateral limits well defined.
- Neither soil nor groundwater concentrations exceed ESL criteria for potential indoor air impacts.
- No vicinity water wells have been identified that could intercept site-sourced groundwater contamination, except for an inactive groundwater monitoring well (installed to monitor a fuel release) at a property across the street. This well is not considered a receptor, as it was installed specifically to monitor similar petroleum contamination.
- The only underground utilities identified at a possible groundwater depth are sanitary and storm sewer lines located approximately 150 feet west (apparently crossgradient) of the

subject property. Based on the distance of these lines from the site, it is unlikely that they are located near enough to intercept site-sourced groundwater, and to therefore act as preferential contaminant migration pathways.

- The property owner has been accepted into and has been receiving reimbursement from the State of California Underground Storage Tank Cleanup Fund (Fund) for regulatory agency-directed corrective action and investigation costs.
- All required electronic uploads for previous work have been made to the California GeoTracker on-line database system.

PROPOSED ACTIONS

- The property owner proposes to continue the quarterly groundwater monitoring well monitoring and sampling program, in accordance with the technical workplan approved by ACDEH. This will include electronic uploads of water level and groundwater contamination data for future monitoring events to the California GeoTracker system.
- Based on the absence of fuel oxygenates and lead scavengers, the property owner proposes that testing be discontinued for these contaminants in future groundwater monitoring events.
- The property owner will continue to pursue reimbursement of eligible incurred corrective action costs from the California UST Cleanup Fund.

8.0 REFERENCES

Alameda County Health Care Services Agency, Environmental Health Services (Alameda County Health), 2004. Letter requesting scope of work revisions to technical workplan for 488 25th Street, Oakland, California. March 23.

Alameda County Health, 2003a. Letter requesting technical workplan for 488 25th Street, Oakland, California. April 2.

Alameda County Health, 2003b. Letter requesting scope of work revisions to technical workplan for 488 25th Street, Oakland, California. June 26.

Alameda County Health, 2003c. Letter approving technical workplan for 488 25th Street, Oakland, California. July 8.

Alameda County Health, 2003d. Letter requesting additional site characterization activities for 488 25th Street, Oakland, California. December 17.

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

MacDonald, J.A. and M.C. Kavanaugh, 1994. Restoring Contaminated Groundwater: An Achievable Goal. Environmental Science and Technology, Vol. 28, No. 8.

McAllister, P.M. and C.Y. Chiang, 1994. A Practical Approach to Evaluating Natural Attenuation of Contaminants in Ground Water, Ground Water Monitoring and Remediation. Spring.

Regional Water Quality Control Board (Water Board), San Francisco Bay Region, 2005. Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater.

Regional Water Quality Control Board (Water Board), San Francisco Bay Region, 1999. East Bay Plain Groundwater Basin Beneficial Use Evaluation Report. June.

Stellar Environmental Solutions, Inc. (SES), 2004a. Workplan for Groundwater Characterization, Benner Automotive, 488 25th Street, Oakland, California. February 13.

SES, 2004b. Workplan Addendum for Groundwater Characterization, Benner Automotive, 488 25th Street, Oakland, California. March 26.

SES, 2004c. Additional Site Characterization Report, Benner Automotive Facility, 488 25th Street, Oakland, California. August 9.

SES, 2003a. Gasoline Underground Storage Tank Removal Report, Benner Automotive, 488 25th Street, Oakland, California. January 24.

SES, 2003b. Workplan for Site Investigation – Benner Auto Repair, Inc. Facility, 488 25th Street, Oakland, California. April 21.

SES, 2003c. Revisions to Workplan for Site Investigation – Benner Auto Repair, Inc. Facility, 488 25th Street, Oakland, California. July 2.

SES, 2003d. Preliminary Site Assessment Report – Benner Automotive, 488 25th Street, Oakland, California. July 2.

Wilson, J.T., F.M. Pfeffer, J.W. Weaver, D.H. Kampbell, R.S. Kerr, T.H. Wiedemeir, J.E. Hansen, and R.N. Miller, 1994. Intrinsic Bioremediation of JP-4 Jet Fuel, Proc. Symposium on Intrinsic Bioremediation of Groundwater, Denver Colorado. August 30-September 1.

9.0 LIMITATIONS

This report has been prepared for the exclusive use of Joseph and Loretta Benner Family Trust, Benner Automotive, their authorized representatives, and the regulatory agencies. No reliance on this report shall be made by anyone other than those for whom it was prepared.

The findings and conclusions presented in this report are based on a review of previous investigators' findings at the site, as well as site investigations conducted by SES since 2003. This report has been prepared in accordance with generally accepted methodologies and standards of practice. The SES personnel who performed this limited remedial investigation are qualified to perform such investigations and have accurately reported the information available, but cannot attest to the validity of that information. No warranty, expressed or implied, is made as to the findings, conclusions, and recommendations included in the report.

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

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST, HAYWARD CA. 94544-1395
PHONE (510) 670-6633 James Yoo
FAX (510) 782-1939 www.acfcwcd.org

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 488 - 25th Street
OAKLAND CA

CLIENT
Name Renner Auto Repair
Address 488 - 25th Street Phone 510 - 832 - 1244
City OAKLAND Zip

APPLICANT
Name Stellar Environmental Solutions
Address 2198 Sixth St. #201 Fax 510-644-3859
City Berkeley CA Phone 510 644 3123
Zip 94710

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection		General	
Water Supply		Contamination	
Monitoring	X	Well Destruction	

PROPOSED WATER SUPPLY WELL USE

New Domestic	Replacement Domestic
Municipal	Irrigation
Industrial	Other

DRILLING METHOD:

Mud Rotary	Air Rotary	Auger
Cable	Other	X DIRECT PUSH

DRILLER'S NAME EnProb Environmental Probing
DRILLER'S LICENSE NO. C-57 # 777007

WELL PROJECTS
Drill Hole Diameter 3 1/4 in. Maximum
Casing Diameter 1" in. Depth 25 ft.
Surface Seal Depth 4' ft. Owner's Well Number MW-1

GEOTECHNICAL/CONTAMINATION PROJECTS
Number of Borings ____ Maximum
Hole Diameter ____ in. Depth ____ ft.

See attached 3/18/05 technical addendum

STARTING DATE April 14, 2005
COMPLETION DATE April 14, 2005

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Bruce M. Parker RG. 6814 DATE 3/15/05
PLEASE PRINT NAME Bruce Parker

Rev.5-11-04

FOR OFFICE USE
PERMIT NUMBER WR05-0366
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

A. GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date.

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL OR CONTAMINATION
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

E. CATHODIC
Fill hole inside zone with concrete placed by tremie

F. WELL DESTRUCTION
Send a map of work site. A separate permit is required for wells deeper than 45 feet.

G. SPECIAL CONDITIONS MW#1

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

APPROVED _____ DATE 3-22-05

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-6633 James Yoo
FAX (510) 782-1939
www.acfcwcd.org

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 488 - 25th Street
Oakland CA

CLIENT
Name Designer Auto Repair
Address 488 - 25th Street Phone 510 - 832 - 1244
City Oakland Zip

APPLICANT
Name Stellar Environmental Solutions
2198 Sixth St #201 Fax 510-644-3859
Address Phone 510-644-3123
City Berkeley CA Zip 94710

TYPE OF PROJECT
Well Construction — Cathodic Protection, Water Supply, Monitoring
Geotechnical Investigation — General, Contamination, Well Destruction X

PROPOSED WATER SUPPLY WELL USE
New Domestic, Municipal, Industrial, Replacement Domestic, Irrigation, Other

DRILLING METHOD:
Mud Rotary, Cable, Air Rotary, Other, Auger X DIRECT PUSH

DRILLER'S NAME Enprob Environmental Probing
DRILLER'S LICENSE NO. C-57 # 777007

WELL PROJECTS
Drill Hole Diameter 3.4 in. Maximum
Casing Diameter 1" in. Depth 25 ft.
Surface Seal Depth 4' ft. Owner's Well Number MW-2

GEOTECHNICAL/CONTAMINATION PROJECTS
Number of Borings ____ Maximum
Hole Diameter ____ in. Depth ____ ft.

See attached 3/18/05 technical addendum

STARTING DATE April 14, 2005
COMPLETION DATE April 14, 2005

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Bruce M. Rucker RG 6814 DATE 3/18/05
PLEASE PRINT NAME Bruce Rucker

Rev.5-11-04

FOR OFFICE USE
PERMIT NUMBER W05-0367
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

A. GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date.

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL/CONTAMINATION
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

E. CATHODIC
Fill hole anode zone with concrete placed by tremie.

F. WELL DESTRUCTION
Send a map of work site. A separate permit is required for wells deeper than 45 feet.

G. SPECIAL CONDITIONS — MW#1

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

APPROVED [signature] DATE 3-22-05

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-6633 James Yoo
FAX (510) 782-1939 www.acfcwcd.org

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 488 - 25th Street
OAKLAND CA

CLIENT
Name BRENNER AUTO REPAIR
Address 488 - 25th STREET Phone 510 - 832-1244
City OAKLAND Zip

APPLICANT
Name Stellar Environmental Solutions
2198 Sumner St #201 Fax 510-644-3859
Address Phone 510-644-3123
City BERKELEY CA Zip 94710

TYPE OF PROJECT

Well Construction		Geotechnical Investigation
Cathodic Protection		General
Water Supply		Contamination
Monitoring	X	Well Destruction

PROPOSED WATER SUPPLY WELL USE

New Domestic		Replacement Domestic	
Municipal		Irrigation	
Industrial		Other	

DRILLING METHOD:

Mud Rotary		Air Rotary	Auger
Cable		Other	X DIRECT PUSH

DRILLER'S NAME Environmental Probing
DRILLER'S LICENSE NO. C-57 # 771007

WELL PROJECTS
Drill Hole Diameter 3 1/4 in. Maximum
Casing Diameter 1" in. Depth 25 ft
Surface Seal Depth 9' ft. Owner's Well Number MW-3

GEOTECHNICAL/CONTAMINATION PROJECTS
Number of Borings _____ Maximum
Hole Diameter _____ in. Depth _____ ft

STARTING DATE April 14, 2005
COMPLETION DATE April 14, 2005

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE Bruce M. Rubin RG 6814 DATE 3/18/05
PLEASE PRINT NAME Bruce Rubin REP

Rev. 5-11-04

FOR OFFICE USE
PERMIT NUMBER W05-0368
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

A. **GENERAL**
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date.

B. **WATER SUPPLY WELLS**
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. **GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS**
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the *maximum depth practicable* or 20 feet.

D. **GEOTECHNICAL/CONTAMINATION**
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

E. **CATHODIC**
Fill hole anode zone with concrete placed by tremie.

F. **WELL DESTRUCTION**
Send a map of work site. A separate permit is required for wells deeper than 45 feet.

G. **SPECIAL CONDITIONS** – MW#1

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

See attached 3/18/05 Technical addendum

APPROVED _____ DATE 7-7-05

CITY OF OAKLAND
Office of Planning and Building

EXCAVATION PERMIT

TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

CIVIL ENGINEERING

Permit valid for 90 days from date of issuance.

PERMIT NUMBER	SITE ADDRESS/LOCATION
X 0 5 0 0 5 1 8	488 25th Street Oakland
APPROX. START DATE: May 25 2005 / APPROX. END DATE: MAY 25 2005	24-HOUR EMERGENCY PHONE NUMBER (Permit not valid without 24-Hour number): (510) 644-3123
CONTRACTOR'S LICENSE # AND CLASS: 705927 (C-57)	CITY BUSINESS TAX #: 1247727

ATTENTION:

1- State law requires that the contractor/owner call Underground Service Alert (USA) two working days before excavating. This permit is not valid unless applicant has secured an inquiry identification number issued by USA. The USA telephone number is 1-800-642-2444. Underground Service Alert (USA) # 180499

2- 48 hours prior to starting work, you MUST CALL (510) 238-3651 to schedule an inspection.

3- 48 hours prior to re-paving, a compaction certificate is required (waived for approved slurry backfill).

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 3 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 an owner of the property, or my employees with wages as 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 sale 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 on 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 projects with a contractor(s) licensed 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. 3700, Labor Code).

Policy # _____ Company Name _____

☐ I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Worker's Compensation Laws 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 the 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 3 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.

Signature of Permittee ☒ Agent for ☐ Contractor ☐ Owner — Date 5/6/05

DATE STREET LAST RESURFACED	SPECIAL PAVING DETAIL REQUIRED? ☐ YES ☒ NO	HOLIDAY RESTRICTION? (NOV 1 - JAN 1) ☐ YES ☒ NO	LIMITED OPERATION AREA? (7AM-9AM & 4PM-6PM) ☐ YES ☒ NO
ISSUED BY		DATE ISSUED	

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

Subject: Direct push drill rig at location MW-1.	
Site: Benner Automotive, 488 25th Street, Oakland, California	
Date Taken: May 25, 2005	Project No.: SES 2002-55
Photographer: Joe Dinan	Photo No.: 01

Subject: Installing pre-packed monitoring well at MW-1.	
Site: Benner Automotive, 488 25th Street, Oakland, California	
Date Taken: May 25, 2005	Project No.: SES 2002-55
Photographer: Joe Dinan	Photo No.: 02

Subject: Emplacing pollution seal at MW-1.	
Site: Benner Automotive, 488 25th Street, Oakland, California	
Date Taken: May 25, 2005	Project No.: SES 2002-55
Photographer: Joe Dinan	Photo No.: 03

Subject: Concrete coring at MW-2.	
Site: Benner Automotive, 488 25th Street, Oakland, California	
Date Taken: May 25, 2005	Project No.: SES 2002-55
Photographer: Joe Dinan	Photo No.: 04

Subject: Setting well box and surface completion at MW-2.	
Site: Benner Automotive, 488 25th Street, Oakland, California	
Date Taken: May 25, 2005	Project No.: SES 2002-55
Photographer: Joe Dinan	Photo No.: 05

Subject: Direct push drill rig at location MW-3.	
Site: Benner Automotive, 488 25th Street, Oakland, California	
Date Taken: May 25, 2005	Project No.: SES 2002-55
Photographer: Joe Dinan	Photo No.: 06

STELLAR
ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

Soil Boring and Well Construction Log

BORING NUMBER MW-1 Page 1 of 3

PROJECT Benner Auto Repair
OWNER Benner Family Trust
LOCATION 488-25th Street
PROJECT NUMBER 2002-55
TOTAL DEPTH 25'
BOREHOLE DIA. 3.25-inch
SURFACE ELEV. Unknown
WATER FIRST ENCOUNTERED 20'
DRILLING COMPANY Vironex, Inc.
DRILLING METHOD Geo Probe (direct push)
DRILLER Kurt
GEOLOGIST Joe Dinan
DATE DRILLED 5/25/05

DEPTH (feet)	GRAPHIC LOG	SAMPLE INTERVAL/ RECOVERY	DESCRIPTION/SOIL CLASSIFICATION	REMARKS	WELL CONSTRUCTION MW-1
0			Concrete pad	Continuous core sampling	
1			Black silty to sandy clay (CL), stiff, sl. friable, dry	100% recovery of core	
2					
3					
4					
5					
6					
7					
8					
9					
10	MW-1-9.5'				

2002-55-50

Well Construction Legend: 2" PVC screen (0.010-in. slots); Hydrated bentonite pellets; #20/40 Sand; Portland cement & water grout; Groundwater encountered

STELLAR
ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

Soil Boring and Well Construction Log

BORING NUMBER MW-1 Page 2 of 3

PROJECT Benner Auto Repair
OWNER Benner Family Trust
LOCATION 488-25th Street
PROJECT NUMBER 2002-55
TOTAL DEPTH 25'
BOREHOLE DIA. 3.25-inch
SURFACE ELEV. Unknown
WATER FIRST ENCOUNTERED 20'
DRILLING COMPANY Vironex, Inc.
DRILLING METHOD Geo Probe (direct push)
DRILLER Kurt
GEOLOGIST Joe Dinan
DATE DRILLED 5/25/05

DEPTH (feet)	GRAPHIC LOG	SAMPLE INTERVAL/ RECOVERY	DESCRIPTION/SOIL CLASSIFICATION	REMARKS	WELL CONSTRUCTION MW-1
10			10' Color change to blue-grey, mod. stiff, cohesive, petroleum odor begins		
11					
12					
13					
14			14' Petroleum odor ends		
15	MW-1-14.5'				
16			16' Becomes sandy, silty clay, soft, cohesive, sl. moist		
17			17' Gradation to silty clay, mod. stiff, cohesive		
18			18' Color change to brown, becomes sandy, stiff, cohesive, sl. moist		
19					
20	MW-1-19.5'				

2002-55-51

Well Construction Legend: 2" PVC screen (0.010-in. slots); Hydrated bentonite pellets; #20/40 Sand; Portland cement & water grout; Groundwater encountered

STELLAR
ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

Soil Boring and Well Construction Log

BORING NUMBER MW-1 Page 3 of 3

PROJECT Benner Auto Repair
OWNER Benner Family Trust
LOCATION 488-25th Street
PROJECT NUMBER 2002-55
TOTAL DEPTH 25'
BOREHOLE DIA. 3.25-inch
SURFACE ELEV. Unknown
WATER FIRST ENCOUNTERED 20'
DRILLING COMPANY Vironex, Inc.
DRILLING METHOD Geo Probe (direct push)
DRILLER Kurt
GEOLOGIST Joe Dinan
DATE DRILLED 5/25/05

DEPTH (feet)	GRAPHIC LOG	SAMPLE INTERVAL/ RECOVERY	DESCRIPTION/SOIL CLASSIFICATION	REMARKS	WELL CONSTRUCTION MW-1
20			20' Saturated brown, sandy clay, cohesive	No water in borehole until 20'. Water level rose to ~11' bgs within 2 hours.	
21					
22					
23			23' Color change to blue-grey, stiff, cohesive, sl. moist		
24					
25	MW-1-24.5'		Bottom of borehole = 25'		Bottom of Borehole
26					
27					
28					
29					
30					

2002-55-52

Well Construction Legend: 2" PVC screen (0.010-in. slots); Hydrated bentonite pellets; #20/40 Sand; Portland cement & water grout; Groundwater encountered

STELLAR
ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

Soil Boring and Well Construction Log

BORING NUMBER MW-2 Page 1 of 3

PROJECT Benner Auto Repair
OWNER Benner Family Trust
LOCATION 488-25th Street
PROJECT NUMBER 2002-55
TOTAL DEPTH 25'
BOREHOLE DIA. 3.25-inch
SURFACE ELEV. Unknown
WATER FIRST ENCOUNTERED 20'
DRILLING COMPANY Vironex, Inc.
DRILLING METHOD Geo Probe (direct push)
DRILLER Kurt
GEOLOGIST Joe Dinan
DATE DRILLED 5/25/05

DEPTH (feet)	GRAPHIC LOG	SAMPLE INTERVAL/ RECOVERY	DESCRIPTION/SOIL CLASSIFICATION	REMARKS	WELL CONSTRUCTION MW-2
0			Asphalt then concrete	Continuous core sampling	
1			Black silty clay (CL), mod. stiff, sl. moist, cohesive		
4			4' Color change to brown, stiff		
7			7' Color change to blue-grey, sandy silty clay, stiff, friable, minor petroleum odor		
8			8.5' Soft, moist, sl. friable		
10	MW-2-9.5'		10' Brown with grey mottling, sl. moist, cohesive		

2002-55-53

Well Construction Legend: 2" PVC screen (0.010-in. slots); Hydrated bentonite pellets; #20/40 Sand; Portland cement & water grout; Groundwater encountered

STELLAR
ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

Soil Boring and Well Construction Log

BORING NUMBER MW-2 Page 2 of 3

PROJECT Benner Auto Repair
OWNER Benner Family Trust
LOCATION 488-25th Street
PROJECT NUMBER 2002-55
TOTAL DEPTH 25'
BOREHOLE DIA. 3.25-inch
SURFACE ELEV. Unknown
WATER FIRST ENCOUNTERED 20'
DRILLING COMPANY Vironex, Inc.
DRILLING METHOD Geo Probe (direct push)
DRILLER Kurt
GEOLOGIST Joe Dinan
DATE DRILLED 5/25/05

DEPTH (feet)	GRAPHIC LOG	SAMPLE INTERVAL/ RECOVERY	DESCRIPTION/SOIL CLASSIFICATION	REMARKS	WELL CONSTRUCTION MW-2
10					
11					
12					
13					
14					
15	MW-2-14.5'				
16					
17					
18					
19			Brown clayey sand (SC), minor gravel, sand is well-sorted (fine-graind), moist, friable		
20	MW-2-19.5'				

2002-55-54

Well Construction Legend: 2" PVC screen (0.010-in. slots); Hydrated bentonite pellets; #20/40 Sand; Portland cement & water grout; Groundwater encountered

STELLAR
ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

Soil Boring and Well Construction Log

BORING NUMBER MW-2 Page 3 of 3

PROJECT Benner Auto Repair
OWNER Benner Family Trust
LOCATION 488-25th Street
PROJECT NUMBER 2002-55
TOTAL DEPTH 25'
BOREHOLE DIA. 3.25-inch
SURFACE ELEV. Unknown
WATER FIRST ENCOUNTERED 20'
DRILLING COMPANY Vironex, Inc.
DRILLING METHOD Geo Probe (direct push)
DRILLER Kurt
GEOLOGIST Joe Dinan
DATE DRILLED 5/25/05

DEPTH (feet)	GRAPHIC LOG	SAMPLE INTERVAL/ RECOVERY	DESCRIPTION/SOIL CLASSIFICATION	REMARKS	WELL CONSTRUCTION MW-2
20			20' Saturated, soft	No water in borehole until 20'. Water level rose to ~9' bgs within 3 hours.	
21					
22			22' Color change to blue-grey, mod. stiff		
23					
24			Grey silty clay (CL), stiff, cohesive, sl. moist		
	MW-2-24.5'				
25			Bottom of borehole = 25'		Bottom of Borehole
26					
27					
28					
29					
30					

2002-55-55

Well Construction Legend: 2" PVC screen (0.010-in. slots); Hydrated bentonite pellets; #20/40 Sand; Portland cement & water grout; Groundwater encountered

STELLAR
ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

Soil Boring and Well Construction Log

BORING NUMBER MW-3 Page 1 of 3

PROJECT Benner Auto Repair
OWNER Benner Family Trust
LOCATION 488-25th Street
PROJECT NUMBER 2002-55
TOTAL DEPTH 30'
BOREHOLE DIA. 3.25-inch
SURFACE ELEV. Unknown
WATER FIRST ENCOUNTERED 20'
DRILLING COMPANY Vironex, Inc.
DRILLING METHOD Geo Probe (direct push)
DRILLER Kurt
GEOLOGIST Joe Dinan
DATE DRILLED 5/25/05

DEPTH (feet)	GRAPHIC LOG	SAMPLE INTERVAL/ RECOVERY	DESCRIPTION/SOIL CLASSIFICATION	REMARKS	WELL CONSTRUCTION MW-3
0			Asphalt then concrete	Continuous core sampling	
1			No recovery from 0.5'–4'		
2					
3					
4			4' Black silty clay (CL), stiff, cohesive, mod. friable, sl. moist, occ. gravel		
5			5' Blue-grey mottling		
6					
7					
8					
9			9' Petroleum odor		
10	MW-3-9.5'				

2002-55-56

Well Construction Legend: 2" PVC screen (0.010-in. slots); Hydrated bentonite pellets; #20/40 Sand; Portland cement & water grout; Groundwater encountered

STELLAR
ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

Soil Boring and Well Construction Log

BORING NUMBER MW-3 Page 2 of 3

PROJECT Benner Auto Repair
OWNER Benner Family Trust
LOCATION 488-25th Street
PROJECT NUMBER 2002-55
TOTAL DEPTH 30'
BOREHOLE DIA. 3.25-inch
SURFACE ELEV. Unknown
WATER FIRST ENCOUNTERED 20'
DRILLING COMPANY Vironex, Inc.
DRILLING METHOD Geo Probe (direct push)
DRILLER Kurt
GEOLOGIST Joe Dinan
DATE DRILLED 5/25/05

DEPTH (feet)	GRAPHIC LOG	SAMPLE INTERVAL/ RECOVERY	DESCRIPTION/SOIL CLASSIFICATION	REMARKS	WELL CONSTRUCTION MW-3
10			10' Becomes blue-grey sandy clay, soft, cohesive, sl. moist		
11					
12					
13			13' Color change to brown, silty clay, blue-grey, mottling, mod. stiff, sl. moist		
14			14' Petroleum odor absent		
15	MW-3-14.5'				
16					
17			17' Small gravel (<10%) angular		
18			Brown sandy clay (CL), well sorted, friable, v. moist but not saturated		
19					
20	MW-3-19.5'				

2002-55-57

Well Construction Legend: 2" PVC screen (0.010-in. slots); Hydrated bentonite pellets; #20/40 Sand; Portland cement & water grout; Groundwater encountered

STELLAR
ENVIRONMENTAL SOLUTIONS, INC
GEOSCIENCE & ENGINEERING CONSULTING

Soil Boring and Well Construction Log

BORING NUMBER MW-3 Page 3 of 3

PROJECT Benner Auto Repair
OWNER Benner Family Trust
LOCATION 488-25th Street
PROJECT NUMBER 2002-55
TOTAL DEPTH 30'
BOREHOLE DIA. 3.25-inch
SURFACE ELEV. Unknown
WATER FIRST ENCOUNTERED 20'
DRILLING COMPANY Vironex, Inc.
DRILLING METHOD Geo Probe (direct push)
DRILLER Kurt
GEOLOGIST Joe Dinan
DATE DRILLED 5/25/05

DEPTH (feet)	GRAPHIC LOG	SAMPLE INTERVAL/ RECOVERY	DESCRIPTION/SOIL CLASSIFICATION	REMARKS	WELL CONSTRUCTION MW-3
20				No water in borehole until 20'. Water level rose to ~8.7' bgs within 2 hours.	
21			Brown gravelly clayey sand (SC), soft, cohesive, saturated,		
22			20.5' Becomes moist		
23					
24		MW-3-24.5'			
25			Dark brown sandy clay (CL), moist, cohesive, mod. stiff, minor gravel		
26					
27					
28			28' Becomes v. stiff, sl. moist		
29		MW-3-29.5'			
30			Bottom of borehole = 30'		Bottom of Borehole

2002-55-58

Well Construction Legend: 2" PVC screen (0.010-in. slots); Hydrated bentonite pellets; #20/40 Sand; Portland cement & water grout; Groundwater encountered

NORTH STATE LABS

FLUID-LEVEL MONITORING DATA

Project No: _____ Date: 5-31-05

Project/Site Location: 488 25TH ST., OAKLAND, CA

Technician: SCOTT CASSADY Method: ELECTRONIC

Well	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Total Well Depth (feet)	Comments:
MW-1	10.09			24.66	1240
MW-2	9.02			24.35	1235
MW-3	8.80			24.87	1250

Measurements referenced to top of well casing. NORTH

NORTH STATE LABS

WELL PURGING/SAMPLING DATA

Project Number: _____ Date: 5-31-05

Project / Site Location: BENNER AUTOMOTIVE
488 25TH ST.
OAKLAND, CA

Sampler/Technician: SC

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

Well No. MW-1

A. Total Well Depth	24.66
B. Depth To Water	10.09
C. Water Height (A-B)	14.57
D. Well Casing Diameter	0.75
E. Casing Volume	0.02
F. Single Case Volume (CxE)	0.29
G. Case Volume(s)(CxEx)	2.9
H. 80% Recharge Level	10.38

Purge Event	
Start Time:	1420
Finish Time:	1500
Post Purge Measurement	
Depth to Water	18.68
Time Measured:	1503
Recharge/Sample Time	
Depth to Water:	10.37
Time Measured:	1615

Well Fluid Parameters:				
Gals.	2.0	2.3	2.6	2.9
pH	6.78	6.98	7.03	7.09
T (°C)	23.1	20.8	20.8	20.6
Cond.	815	792	769	783
DO mg/L				
DO %				
Turbidity				
ORP				

Summary Data:
Total Gallons Purged: 2.9
Purge device: ISCO 3700
Sampling Device: DISP. BAILER
Sample Collection Time: 1615
Sample Appearance/Odor: CLEAR / N/A

Well No. MW-2

A. Total Well Depth	24.35
B. Depth To Water	9.02
C. Water Height (A-B)	15.33
D. Well Casing Diameter	0.75
E. Casing Volume	0.02
F. Single Case Volume (CxE)	0.31
G. Case Volume(s)(CxEx)	3.1
H. 80% Recharge Level	9.33

Purge Event	
Start Time:	1310
Finish Time:	1400
Post Purge Measurement	
Depth to Water	18.21
Time Measured:	1405
Recharge/Sample Time	
Depth to Water:	9.30
Time Measured:	1555

Well Fluid Parameters:				
Gals.	2.1	2.5	2.8	3.1
pH	6.68	6.74	6.79	6.78
T (°C)	23.2	20.4	20.1	20.5
Cond.	837	764	718	615
DO mg/L				
DO %				
Turbidity				
ORP				

Summary Data:
Total Gallons Purged: 3.1
Purge device: ISCO 3700
Sampling Device: DISP. BAILER
Sample Collection Time: 1555
Sample Appearance/Odor: CLEAR / N/A

NORTH STATE LABS

WELL PURGING/SAMPLING DATA

Project Number: _____ Date: 5-31-05

Project / Site Location: BENNER AUTOMOTIVE
488 25TH ST.
OAKLAND CA

Sampler/Technician:

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

Well No. MW-3	
A. Total Well Depth	24.87
B. Depth To Water	8.80
C. Water Height (A-B)	16.07
D. Well Casing Diameter	0.75
E. Casing Volume	0.02
F. Single Case Volume (CxE)	0.32
G. Case Volume(s)(CxEx)	3.2
H. 80% Recharge Level	9.12

Purge Event	
Start Time:	1510
Finish Time:	1540
Post Purge Measurement	
Depth to Water	10.15
Time Measured:	1545
Recharge/Sample Time	
Depth to Water:	9.05
Time Measured:	1605

Well Fluid Parameters:				
Gals.	2.3	2.6	2.9	3.2
pH	6.68	6.63	6.65	6.65
T(°C)	22.5	20.4	20.2	20.4
Cond.	458	409	404	399
DO mg/L				
DO %				
Turbidity				
ORP				

Summary Data:	
Total Gallons Purged:	3.2
Purge device:	ISCO 3700
Sampling Device:	DISP. BAILER
Sample Collection Time:	1605
Sample Appearance/Odor:	BROWNISH / GAS

Well No. _____	
A. Total Well Depth	
B. Depth To Water	
C. Water Height (A-B)	
D. Well Casing Diameter	
E. Casing Volume	
F. Single Case Volume (CxE)	
G. Case Volume(s)(CxEx)	
H. 80% Recharge Level	

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

Well Fluid Parameters:				
Gals.				
pH				
T(°C)				
Cond.				
DO mg/L				
DO %				
Turbidity				
ORP				

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

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

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

Prepared for:

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

Date: 01-JUN-05
Lab Job Number: 179661
Project ID: 2002-55
Location: Benner Automotive

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

Reviewed by: _____
Project Manager

Reviewed by: _____
Operations Manager

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**179661**
Client:	**Stellar Environmental Solutions**
Project:	**2002-55**
Location:	**Benner Automotive**
Request Date:	**05/25/05**
Samples Received:	**05/25/05**

This hardcopy data package contains sample and QC results for fourteen soil samples, requested for the above referenced project on 05/25/05. The samples were received cold and intact.

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

Volatile Organics by GC/MS (EPA 8260B):
Low response was observed for tert-butyl alcohol (TBA) in the CCV analyzed 05/31/05 18:00; this analyte met minimum response criteria, and affected data was qualified with "b". High surrogate recoveries were observed for 1,2-dichloroethane-d4 in MW-2-9.5' (lab # 179661-001) and MW-1-9.5' (lab # 179661-005); no target analytes were detected in these samples. No other analytical problems were encountered.

Chain of Custody Record

Lab job no. 179661

Date

Page 1 of 2

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

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

Project Owner Benner Auto Repair
Site Address 488-25th Street
Oakland, California

Project Name Benner Auto Repair
Project Number 2002-55

	Field Sample Number	Location/ Depth	Date	Time	Sample Type	Type/Size of Container	Preservation: Cooler	Preservation: Chemical	Filtered	No. of Containers	TVHg	8260 (a)	Remarks
-1	MW-2-9.5'	9.5'	05/25	905	soil	acetate sleeve	yes	none	No	1	X	X	
-2	MW-2-14.5'	14.5'	05/25	915	soil	acetate sleeve	yes	none		1	X	X	
-3	MW-2-19.5'	19.5'	05/25	918	soil	acetate sleeve	yes	none		1	X	X	
-4	MW-2-24.5'	24.5'	05/25	920	soil	acetate sleeve	yes	none		1	X	X	
-5	MW-1-9.5'	9.5'	05/25	1010	soil	acetate sleeve	yes	none		1	X	X	
-6	MW-1-14.5'	14.5'	05/25	1020	soil	acetate sleeve	yes	none		1	X	X	
-7	MW-1-19.5'	19.5'	05/25	1030	soil	acetate sleeve	yes	none		1	X	X	
-8	MW-1-24.5'	24.5'	05/25	1040	soil	acetate sleeve	yes	none		1	X	X	
-9	MW-3-9.5'	9.5'	05/25	1120	soil	acetate sleeve	yes	none		1	X	X	
-10	MW-3-14.5'	14.5'	05/25	1130	soil	acetate sleeve	yes	none		1	X	X	
-11	MW-3-19.5'	19.5'	05/25	1140	soil	acetate sleeve	yes	none		1	X	X	
-12	MW-3-24.5'	24.5'	05/25	1150	soil	acetate sleeve	yes	none		1	X	X	

Relinquished by:	Date	Received by:	Date	Relinquished by:	Date	Received by:	Date
Signature	5/25	Signature	5/25/05	Signature		Signature	
Printed Joe Dinan	Time	Printed Lavanna Curtis	Time	Printed	Time	Printed	Time
Company Stellar Environmental	1357	Company C+T	2:30	Company		Company	

Turnaround Time: 5 Day TAT

Comments: (a) BTEX, MTBE, EDB, EDC, TAME, ETBE, DIPE, TBA, ethanol

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

Received: Cooler ☐ Cold ☐ Ambient ☑ Intact

2000-00-01

★ Stellar Environmental Solutions

2198 Sixth Street #201, Berkeley, CA 94710

Chain of Custody Record

Lab job no. 179661

Date ______

Page 2 of 2

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

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

Project Owner Benner Auto Repair
Site Address 488-25th Street
Oakland, California

Project Manager Bruce Rucker
Telephone No. (510) 644-3123
Fax No. (510) 644-3859

Project Name Benner Auto Repair
Project Number 2002-55

Samplers: *(Signature)* [signature]

Analysis Required

	Field Sample Number	Location/ Depth	Date	Time	Sample Type	Type/Size of Container	Preservation: Cooler	Preservation: Chemical	Filtered	No. of Containers	TVHg	8260 (a)	TVHg + BTEX + MTBE								Remarks
-13	MW-3-29.5'	29.5'	05/25	1200	soil	acetate sleeve	yes	none	No	1	X	X									
-14	Soil Drum Comp	—	↓	1245	↓	16oz Glass Jar	↓	↓	↓	1			X								

Relinquished by:	Date	Received by:	Date	Relinquished by:	Date	Received by:	Date
Signature [signature]	5/25	Signature [signature]	5/25/05	Signature		Signature	
Printed Joe Dinan	Time 1357	Printed Lavanna Corti	Time 2100	Printed	Time	Printed	Time
Company Stellar Environmental		Company C+T		Company		Company	

Turnaround Time: 5 Day TAT

Comments: (a) BTEX, MTBE, EDB, EDC, TAME, ETBE, DIPE, TBA, ethanol

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

☐ Ambient ☐ On Ice ☐ Intact

2000-00-01

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	179661	Location:	Benner Automotive
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2002-55		
Matrix:	Soil	Sampled:	05/25/05
Basis:	as received	Received:	05/25/05
Diln Fac:	1.000	Analyzed:	05/26/05
Batch#:	102387		

Field ID: MW-2-9.5' Units: mg/Kg
Type: SAMPLE Analysis: EPA 8015B
Lab ID: 179661-001

Analyte	Result	RL
Gasoline C7-C12	ND	0.93

Surrogate	%REC	Limits
Trifluorotoluene (FID)	100	60-138
Bromofluorobenzene (FID)	108	66-148

Field ID: MW-2-14.5' Units: mg/Kg
Type: SAMPLE Analysis: EPA 8015B
Lab ID: 179661-002

Analyte	Result	RL
Gasoline C7-C12	ND	1.1

Surrogate	%REC	Limits
Trifluorotoluene (FID)	105	60-138
Bromofluorobenzene (FID)	110	66-148

Field ID: MW-2-19.5' Units: mg/Kg
Type: SAMPLE Analysis: EPA 8015B
Lab ID: 179661-003

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Trifluorotoluene (FID)	100	60-138
Bromofluorobenzene (FID)	104	66-148

Field ID: MW-2-24.5' Units: mg/Kg
Type: SAMPLE Analysis: EPA 8015B
Lab ID: 179661-004

Analyte	Result	RL
Gasoline C7-C12	ND	1.1

Surrogate	%REC	Limits
Trifluorotoluene (FID)	104	60-138
Bromofluorobenzene (FID)	105	66-148

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	179661	Location:	Benner Automotive
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2002-55		
Matrix:	Soil	Sampled:	05/25/05
Basis:	as received	Received:	05/25/05
Diln Fac:	1.000	Analyzed:	05/26/05
Batch#:	102387		

Field ID: MW-1-9.5' Units: mg/Kg
Type: SAMPLE Analysis: EPA 8015B
Lab ID: 179661-005

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Trifluorotoluene (FID)	105	60-138
Bromofluorobenzene (FID)	106	66-148

Field ID: MW-1-14.5' Units: mg/Kg
Type: SAMPLE Analysis: EPA 8015B
Lab ID: 179661-006

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Trifluorotoluene (FID)	101	60-138
Bromofluorobenzene (FID)	105	66-148

Field ID: MW-1-19.5' Units: mg/Kg
Type: SAMPLE Analysis: EPA 8015B
Lab ID: 179661-007

Analyte	Result	RL
Gasoline C7-C12	ND	1.1

Surrogate	%REC	Limits
Trifluorotoluene (FID)	102	60-138
Bromofluorobenzene (FID)	106	66-148

Field ID: MW-1-24.5' Units: mg/Kg
Type: SAMPLE Analysis: EPA 8015B
Lab ID: 179661-008

Analyte	Result	RL
Gasoline C7-C12	ND	1.1

Surrogate	%REC	Limits
Trifluorotoluene (FID)	100	60-138
Bromofluorobenzene (FID)	104	66-148

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	179661	Location:	Benner Automotive
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2002-55		
Matrix:	Soil	Sampled:	05/25/05
Basis:	as received	Received:	05/25/05
Diln Fac:	1.000	Analyzed:	05/26/05
Batch#:	102387		

Field ID: MW-3-9.5' Units: mg/Kg
Type: SAMPLE Analysis: EPA 8015B
Lab ID: 179661-009

Analyte	Result	RL
Gasoline C7-C12	1.3	1.0

Surrogate	%REC	Limits
Trifluorotoluene (FID)	122	60-138
Bromofluorobenzene (FID)	115	66-148

Field ID: MW-3-14.5' Units: mg/Kg
Type: SAMPLE Analysis: EPA 8015B
Lab ID: 179661-010

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Trifluorotoluene (FID)	100	60-138
Bromofluorobenzene (FID)	105	66-148

Field ID: MW-3-19.5' Units: mg/Kg
Type: SAMPLE Analysis: EPA 8015B
Lab ID: 179661-011

Analyte	Result	RL
Gasoline C7-C12	ND	0.93

Surrogate	%REC	Limits
Trifluorotoluene (FID)	103	60-138
Bromofluorobenzene (FID)	108	66-148

Field ID: MW-3-24.5' Units: mg/Kg
Type: SAMPLE Analysis: EPA 8015B
Lab ID: 179661-012

Analyte	Result	RL
Gasoline C7-C12	ND	1.1

Surrogate	%REC	Limits
Trifluorotoluene (FID)	106	60-138
Bromofluorobenzene (FID)	108	66-148

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	179661	Location:	Benner Automotive
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2002-55		
Matrix:	Soil	Sampled:	05/25/05
Basis:	as received	Received:	05/25/05
Diln Fac:	1.000	Analyzed:	05/26/05
Batch#:	102387		

Field ID: MW-3-29.5' Units: mg/Kg
Type: SAMPLE Analysis: EPA 8015B
Lab ID: 179661-013

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Trifluorotoluene (FID)	103	60-138
Bromofluorobenzene (FID)	110	66-148

Field ID: SOIL DRUM COMP Lab ID: 179661-014
Type: SAMPLE

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

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	102	60-138	EPA 8015B
Bromofluorobenzene (FID)	111	66-148	EPA 8015B
Trifluorotoluene (PID)	75	62-126	EPA 8021B
Bromofluorobenzene (PID)	81	72-133	EPA 8021B

Type: BLANK Lab ID: QC295160

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

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	104	60-138	EPA 8015B
Bromofluorobenzene (FID)	108	66-148	EPA 8015B
Trifluorotoluene (PID)	77	62-126	EPA 8021B
Bromofluorobenzene (PID)	82	72-133	EPA 8021B

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	179661	Location:	Benner Automotive
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2002-55	Analysis:	EPA 8021B
Type:	LCS	Basis:	as received
Lab ID:	QC295161	Diln Fac:	1.000
Matrix:	Soil	Batch#:	102387
Units:	ug/Kg	Analyzed:	05/26/05

Analyte	Spiked	Result	%REC	Limits
MTBE	100.0	101.7	102	70-137
Benzene	100.0	99.87	100	80-120
Toluene	100.0	97.70	98	80-120
Ethylbenzene	100.0	95.51	96	80-120
m,p-Xylenes	100.0	87.83	88	80-120
o-Xylene	100.0	92.76	93	80-120

Surrogate	%REC	Limits
Trifluorotoluene (PID)	76	62-126
Bromofluorobenzene (PID)	83	72-133

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	179661	Location:	Benner Automotive
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2002-55	Analysis:	EPA 8015B
Type:	LCS	Basis:	as received
Lab ID:	QC295162	Diln Fac:	1.000
Matrix:	Soil	Batch#:	102387
Units:	mg/Kg	Analyzed:	05/26/05

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	10.00	9.845	98	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	130	60-138
Bromofluorobenzene (FID)	123	66-148

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	179661	Location:	Benner Automotive
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2002-55	Analysis:	EPA 8015B
Field ID:	SOIL DRUM COMP	Diln Fac:	1.000
MSS Lab ID:	179661-014	Batch#:	102387
Matrix:	Soil	Sampled:	05/25/05
Units:	mg/Kg	Received:	05/25/05
Basis:	as received	Analyzed:	05/26/05

Type: MS Lab ID: QC295163

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	<0.1197	10.00	8.647	86	43-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	116	60-138
Bromofluorobenzene (FID)	114	66-148

Type: MSD Lab ID: QC295164

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.00	9.517	95	43-120	10	27

Surrogate	%REC	Limits
Trifluorotoluene (FID)	121	60-138
Bromofluorobenzene (FID)	117	66-148

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

BTXE & Oxygenates

Lab #:	179661	Location:	Benner Automotive
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2002-55	Analysis:	EPA 8260B
Field ID:	MW-2-9.5'	Diln Fac:	0.9615
Lab ID:	179661-001	Batch#:	102431
Matrix:	Soil	Sampled:	05/25/05
Units:	ug/Kg	Received:	05/25/05
Basis:	as received	Analyzed:	05/27/05

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	96
MTBE	ND	4.8
Isopropyl Ether (DIPE)	ND	4.8
Ethyl tert-Butyl Ether (ETBE)	ND	4.8
1,2-Dichloroethane	ND	4.8
Benzene	ND	4.8
Methyl tert-Amyl Ether (TAME)	ND	4.8
Toluene	ND	4.8
1,2-Dibromoethane	ND	4.8
Ethylbenzene	ND	4.8
m,p-Xylenes	ND	4.8
o-Xylene	ND	4.8
Ethanol	ND	960

Surrogate	%REC	Limits
Dibromofluoromethane	114	78-120
1,2-Dichloroethane-d4	122 *	80-120
Toluene-d8	100	80-120
Bromofluorobenzene	95	80-120

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

BTXE & Oxygenates

Lab #:	179661	Location:	Benner Automotive
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2002-55	Analysis:	EPA 8260B
Field ID:	MW-2-14.5'	Diln Fac:	0.9091
Lab ID:	179661-002	Batch#:	102431
Matrix:	Soil	Sampled:	05/25/05
Units:	ug/Kg	Received:	05/25/05
Basis:	as received	Analyzed:	05/27/05

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	91
MTBE	ND	4.5
Isopropyl Ether (DIPE)	ND	4.5
Ethyl tert-Butyl Ether (ETBE)	ND	4.5
1,2-Dichloroethane	ND	4.5
Benzene	ND	4.5
Methyl tert-Amyl Ether (TAME)	ND	4.5
Toluene	ND	4.5
1,2-Dibromoethane	ND	4.5
Ethylbenzene	ND	4.5
m,p-Xylenes	ND	4.5
o-Xylene	ND	4.5
Ethanol	ND	910

Surrogate	%REC	Limits
Dibromofluoromethane	108	78-120
1,2-Dichloroethane-d4	117	80-120
Toluene-d8	99	80-120
Bromofluorobenzene	96	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

BTXE & Oxygenates

Lab #:	179661	Location:	Benner Automotive
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2002-55	Analysis:	EPA 8260B
Field ID:	MW-2-19.5'	Diln Fac:	0.9434
Lab ID:	179661-003	Batch#:	102431
Matrix:	Soil	Sampled:	05/25/05
Units:	ug/Kg	Received:	05/25/05
Basis:	as received	Analyzed:	05/28/05

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	94
MTBE	ND	4.7
Isopropyl Ether (DIPE)	ND	4.7
Ethyl tert-Butyl Ether (ETBE)	ND	4.7
1,2-Dichloroethane	ND	4.7
Benzene	ND	4.7
Methyl tert-Amyl Ether (TAME)	ND	4.7
Toluene	ND	4.7
1,2-Dibromoethane	ND	4.7
Ethylbenzene	ND	4.7
m,p-Xylenes	ND	4.7
o-Xylene	ND	4.7
Ethanol	ND	940

Surrogate	%REC	Limits
Dibromofluoromethane	110	78-120
1,2-Dichloroethane-d4	120	80-120
Toluene-d8	99	80-120
Bromofluorobenzene	98	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

BTXE & Oxygenates

Lab #:	179661	Location:	Benner Automotive
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2002-55	Analysis:	EPA 8260B
Field ID:	MW-2-24.5'	Diln Fac:	0.9804
Lab ID:	179661-004	Batch#:	102431
Matrix:	Soil	Sampled:	05/25/05
Units:	ug/Kg	Received:	05/25/05
Basis:	as received	Analyzed:	05/28/05

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	98
MTBE	ND	4.9
Isopropyl Ether (DIPE)	ND	4.9
Ethyl tert-Butyl Ether (ETBE)	ND	4.9
1,2-Dichloroethane	ND	4.9
Benzene	ND	4.9
Methyl tert-Amyl Ether (TAME)	ND	4.9
Toluene	ND	4.9
1,2-Dibromoethane	ND	4.9
Ethylbenzene	ND	4.9
m,p-Xylenes	ND	4.9
o-Xylene	ND	4.9
Ethanol	ND	980

Surrogate	%REC	Limits
Dibromofluoromethane	111	78-120
1,2-Dichloroethane-d4	120	80-120
Toluene-d8	97	80-120
Bromofluorobenzene	98	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

BTXE & Oxygenates

Lab #:	179661	Location:	Benner Automotive
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2002-55	Analysis:	EPA 8260B
Field ID:	MW-1-9.5'	Diln Fac:	0.9804
Lab ID:	179661-005	Batch#:	102431
Matrix:	Soil	Sampled:	05/25/05
Units:	ug/Kg	Received:	05/25/05
Basis:	as received	Analyzed:	05/28/05

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	98
MTBE	ND	4.9
Isopropyl Ether (DIPE)	ND	4.9
Ethyl tert-Butyl Ether (ETBE)	ND	4.9
1,2-Dichloroethane	ND	4.9
Benzene	ND	4.9
Methyl tert-Amyl Ether (TAME)	ND	4.9
Toluene	ND	4.9
1,2-Dibromoethane	ND	4.9
Ethylbenzene	ND	4.9
m,p-Xylenes	ND	4.9
o-Xylene	ND	4.9
Ethanol	ND	980

Surrogate	%REC	Limits
Dibromofluoromethane	110	78-120
1,2-Dichloroethane-d4	126 *	80-120
Toluene-d8	101	80-120
Bromofluorobenzene	94	80-120

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

BTXE & Oxygenates

Lab #:	179661	Location:	Benner Automotive
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2002-55	Analysis:	EPA 8260B
Field ID:	MW-1-14.5'	Diln Fac:	0.9259
Lab ID:	179661-006	Batch#:	102431
Matrix:	Soil	Sampled:	05/25/05
Units:	ug/Kg	Received:	05/25/05
Basis:	as received	Analyzed:	05/28/05

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

Surrogate	%REC	Limits
Dibromofluoromethane	109	78-120
1,2-Dichloroethane-d4	120	80-120
Toluene-d8	97	80-120
Bromofluorobenzene	97	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

BTXE & Oxygenates

Lab #:	179661	Location:	Benner Automotive
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2002-55	Analysis:	EPA 8260B
Field ID:	MW-1-19.5'	Diln Fac:	0.9091
Lab ID:	179661-007	Batch#:	102482
Matrix:	Soil	Sampled:	05/25/05
Units:	ug/Kg	Received:	05/25/05
Basis:	as received	Analyzed:	05/31/05

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	91
MTBE	ND	4.5
Isopropyl Ether (DIPE)	ND	4.5
Ethyl tert-Butyl Ether (ETBE)	ND	4.5
1,2-Dichloroethane	ND	4.5
Benzene	ND	4.5
Methyl tert-Amyl Ether (TAME)	ND	4.5
Toluene	ND	4.5
1,2-Dibromoethane	ND	4.5
Ethylbenzene	ND	4.5
m,p-Xylenes	ND	4.5
o-Xylene	ND	4.5
Ethanol	ND	910

Surrogate	%REC	Limits
Dibromofluoromethane	96	78-120
1,2-Dichloroethane-d4	103	80-120
Toluene-d8	96	80-120
Bromofluorobenzene	97	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

BTXE & Oxygenates

Lab #:	179661	Location:	Benner Automotive
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2002-55	Analysis:	EPA 8260B
Field ID:	MW-1-24.5'	Diln Fac:	1.000
Lab ID:	179661-008	Batch#:	102482
Matrix:	Soil	Sampled:	05/25/05
Units:	ug/Kg	Received:	05/25/05
Basis:	as received	Analyzed:	05/31/05

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
Toluene	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Ethanol	ND	1,000

Surrogate	%REC	Limits
Dibromofluoromethane	97	78-120
1,2-Dichloroethane-d4	105	80-120
Toluene-d8	97	80-120
Bromofluorobenzene	98	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

BTXE & Oxygenates

Lab #:	179661	Location:	Benner Automotive
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2002-55	Analysis:	EPA 8260B
Field ID:	MW-3-9.5'	Diln Fac:	0.9259
Lab ID:	179661-009	Batch#:	102482
Matrix:	Soil	Sampled:	05/25/05
Units:	ug/Kg	Received:	05/25/05
Basis:	as received	Analyzed:	06/01/05

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

Surrogate	%REC	Limits
Dibromofluoromethane	101	78-120
1,2-Dichloroethane-d4	110	80-120
Toluene-d8	98	80-120
Bromofluorobenzene	95	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

BTXE & Oxygenates

Lab #:	179661	Location:	Benner Automotive
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2002-55	Analysis:	EPA 8260B
Field ID:	MW-3-14.5'	Diln Fac:	0.9259
Lab ID:	179661-010	Batch#:	102482
Matrix:	Soil	Sampled:	05/25/05
Units:	ug/Kg	Received:	05/25/05
Basis:	as received	Analyzed:	06/01/05

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

Surrogate	%REC	Limits
Dibromofluoromethane	99	78-120
1,2-Dichloroethane-d4	108	80-120
Toluene-d8	98	80-120
Bromofluorobenzene	98	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

BTXE & Oxygenates

Lab #:	179661	Location:	Benner Automotive
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2002-55	Analysis:	EPA 8260B
Field ID:	MW-3-19.5'	Diln Fac:	0.9091
Lab ID:	179661-011	Batch#:	102482
Matrix:	Soil	Sampled:	05/25/05
Units:	ug/Kg	Received:	05/25/05
Basis:	as received	Analyzed:	06/01/05

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	91
MTBE	ND	4.5
Isopropyl Ether (DIPE)	ND	4.5
Ethyl tert-Butyl Ether (ETBE)	ND	4.5
1,2-Dichloroethane	ND	4.5
Benzene	ND	4.5
Methyl tert-Amyl Ether (TAME)	ND	4.5
Toluene	ND	4.5
1,2-Dibromoethane	ND	4.5
Ethylbenzene	ND	4.5
m,p-Xylenes	ND	4.5
o-Xylene	ND	4.5
Ethanol	ND	910

Surrogate	%REC	Limits
Dibromofluoromethane	99	78-120
1,2-Dichloroethane-d4	106	80-120
Toluene-d8	96	80-120
Bromofluorobenzene	99	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

BTXE & Oxygenates

Lab #:	179661	Location:	Benner Automotive
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2002-55	Analysis:	EPA 8260B
Field ID:	MW-3-24.5'	Diln Fac:	0.8929
Lab ID:	179661-012	Batch#:	102482
Matrix:	Soil	Sampled:	05/25/05
Units:	ug/Kg	Received:	05/25/05
Basis:	as received	Analyzed:	06/01/05

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	89
MTBE	ND	4.5
Isopropyl Ether (DIPE)	ND	4.5
Ethyl tert-Butyl Ether (ETBE)	ND	4.5
1,2-Dichloroethane	ND	4.5
Benzene	ND	4.5
Methyl tert-Amyl Ether (TAME)	ND	4.5
Toluene	ND	4.5
1,2-Dibromoethane	ND	4.5
Ethylbenzene	ND	4.5
m,p-Xylenes	ND	4.5
o-Xylene	ND	4.5
Ethanol	ND	890

Surrogate	%REC	Limits
Dibromofluoromethane	101	78-120
1,2-Dichloroethane-d4	110	80-120
Toluene-d8	96	80-120
Bromofluorobenzene	99	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

BTXE & Oxygenates

Lab #:	179661	Location:	Benner Automotive
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2002-55	Analysis:	EPA 8260B
Field ID:	MW-3-29.5'	Diln Fac:	1.000
Lab ID:	179661-013	Batch#:	102482
Matrix:	Soil	Sampled:	05/25/05
Units:	ug/Kg	Received:	05/25/05
Basis:	as received	Analyzed:	06/01/05

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
Toluene	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Ethanol	ND	1,000

Surrogate	%REC	Limits
Dibromofluoromethane	92	78-120
1,2-Dichloroethane-d4	110	80-120
Toluene-d8	96	80-120
Bromofluorobenzene	98	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

BTXE & Oxygenates

Lab #:	179661	Location:	Benner Automotive
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2002-55	Analysis:	EPA 8260B
Type:	LCS	Basis:	as received
Lab ID:	QC295342	Diln Fac:	1.000
Matrix:	Soil	Batch#:	102431
Units:	ug/Kg	Analyzed:	05/27/05

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	120.6	97	65-136
MTBE	25.00	27.66	111	76-128
Isopropyl Ether (DIPE)	25.00	24.14	97	75-122
Ethyl tert-Butyl Ether (ETBE)	25.00	28.89	116	75-120
1,2-Dichloroethane	25.00	24.59	98	75-120
Benzene	25.00	24.38	98	80-120
Methyl tert-Amyl Ether (TAME)	25.00	29.75	119	75-120
Toluene	25.00	24.58	98	80-120
1,2-Dibromoethane	25.00	25.60	102	80-120
Ethylbenzene	25.00	24.79	99	80-120
m,p-Xylenes	50.00	49.20	98	80-120
o-Xylene	25.00	24.37	97	79-120

Surrogate	%REC	Limits
Dibromofluoromethane	97	78-120
1,2-Dichloroethane-d4	96	80-120
Toluene-d8	95	80-120
Bromofluorobenzene	88	80-120

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Batch QC Report

BTXE & Oxygenates

Lab #:	179661	Location:	Benner Automotive
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2002-55	Analysis:	EPA 8260B
Type:	BLANK	Basis:	as received
Lab ID:	QC295343	Diln Fac:	1.000
Matrix:	Soil	Batch#:	102431
Units:	ug/Kg	Analyzed:	05/27/05

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
Toluene	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Ethanol	ND	1,000

Surrogate	%REC	Limits
Dibromofluoromethane	96	78-120
1,2-Dichloroethane-d4	98	80-120
Toluene-d8	96	80-120
Bromofluorobenzene	97	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

BTXE & Oxygenates

Lab #:	179661	Location:	Benner Automotive
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2002-55	Analysis:	EPA 8260B
Type:	BLANK	Basis:	as received
Lab ID:	QC295344	Diln Fac:	1.000
Matrix:	Soil	Batch#:	102431
Units:	ug/Kg	Analyzed:	05/27/05

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
Toluene	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Ethanol	ND	1,000

Surrogate	%REC	Limits
Dibromofluoromethane	99	78-120
1,2-Dichloroethane-d4	96	80-120
Toluene-d8	96	80-120
Bromofluorobenzene	93	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

BTXE & Oxygenates

Lab #:	179661	Location:	Benner Automotive
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2002-55	Analysis:	EPA 8260B
Type:	LCS	Basis:	as received
Lab ID:	QC295565	Diln Fac:	1.000
Matrix:	Soil	Batch#:	102482
Units:	ug/Kg	Analyzed:	05/31/05

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	123.1 b	98	65-136
MTBE	25.00	25.27	101	76-128
Isopropyl Ether (DIPE)	25.00	23.31	93	75-122
Ethyl tert-Butyl Ether (ETBE)	25.00	27.13	109	75-120
1,2-Dichloroethane	25.00	25.31	101	75-120
Benzene	25.00	28.08	112	80-120
Methyl tert-Amyl Ether (TAME)	25.00	28.66	115	75-120
Toluene	25.00	27.28	109	80-120
1,2-Dibromoethane	25.00	26.88	108	80-120
Ethylbenzene	25.00	28.49	114	80-120
m,p-Xylenes	50.00	56.26	113	80-120
o-Xylene	25.00	27.57	110	79-120

Surrogate	%REC	Limits
Dibromofluoromethane	90	78-120
1,2-Dichloroethane-d4	91	80-120
Toluene-d8	95	80-120
Bromofluorobenzene	87	80-120

b= See narrative

Curtis & Tompkins, Ltd.

Batch QC Report

BTXE & Oxygenates

Lab #:	179661	Location:	Benner Automotive
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2002-55	Analysis:	EPA 8260B
Type:	BLANK	Basis:	as received
Lab ID:	QC295566	Diln Fac:	1.000
Matrix:	Soil	Batch#:	102482
Units:	ug/Kg	Analyzed:	05/31/05

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
Toluene	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Ethanol	ND	1,000

Surrogate	%REC	Limits
Dibromofluoromethane	92	78-120
1,2-Dichloroethane-d4	96	80-120
Toluene-d8	96	80-120
Bromofluorobenzene	94	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

BTXE & Oxygenates

Lab #:	179661	Location:	Benner Automotive
Client:	Stellar Environmental Solutions	Prep:	EPA 5030B
Project#:	2002-55	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	102482
MSS Lab ID:	179656-019	Sampled:	05/25/05
Matrix:	Soil	Received:	05/25/05
Units:	ug/Kg	Analyzed:	05/31/05
Basis:	as received		

Type: MS
Lab ID: QC295641
Diln Fac: 0.8475

Analyte	MSS Result	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	<11.22	105.9	100.9 b	95	51-131
MTBE	<0.7226	21.19	20.79	98	69-122
Isopropyl Ether (DIPE)	<0.9122	21.19	19.77	93	72-120
Ethyl tert-Butyl Ether (ETBE)	<0.7433	21.19	22.82	108	74-120
1,2-Dichloroethane	<0.7068	21.19	19.09	90	64-120
Benzene	<1.053	21.19	20.36	96	70-120
Methyl tert-Amyl Ether (TAME)	<0.6970	21.19	22.77	107	76-120
Toluene	4.927	21.19	22.45	83	64-120
1,2-Dibromoethane	<0.7813	21.19	19.28	91	64-120
Ethylbenzene	<1.055	21.19	20.18	95	61-120
m,p-Xylenes	<2.061	42.37	39.12	92	59-120
o-Xylene	<0.9841	21.19	18.98	90	58-120

Surrogate	%REC	Limits
Dibromofluoromethane	96	78-120
1,2-Dichloroethane-d4	101	80-120
Toluene-d8	96	80-120
Bromofluorobenzene	92	80-120

Type: MSD
Lab ID: QC295642
Diln Fac: 0.8197

Analyte	Spiked	Result	%REC	Limits	RPD	Li
tert-Butyl Alcohol (TBA)	102.5	98.34 b	96	51-131	1	33
MTBE	20.49	20.78	101	69-122	3	20
Isopropyl Ether (DIPE)	20.49	19.73	96	72-120	3	2
Ethyl tert-Butyl Ether (ETBE)	20.49	22.78	111	74-120	3	2
1,2-Dichloroethane	20.49	19.19	94	64-120	4	20
Benzene	20.49	19.50	95	70-120	1	20
Methyl tert-Amyl Ether (TAME)	20.49	22.47	110	76-120	2	2
Toluene	20.49	21.80	82	64-120	0	2
1,2-Dibromoethane	20.49	19.01	93	64-120	2	2
Ethylbenzene	20.49	19.40	95	61-120	1	20
m,p-Xylenes	40.98	37.13	91	59-120	2	2
o-Xylene	20.49	18.08	88	58-120	2	2

Surrogate	%REC	Limits
Dibromofluoromethane	97	78-120
1,2-Dichloroethane-d4	102	80-120
Toluene-d8	97	80-120
Bromofluorobenzene	91	80-120

b= See narrative
RPD= Relative Percent Difference

Chain of Custody Record

05-0810

Lab Job no. _____

Date 5-31-05

Page 1 of 1

Laboratory NORTH STATE ENVIRONMENTAL
Address 815 DUBUQUE AVE.
SOUTH SAN FRANCISCO, CA 94080
(650) 266-4563
Project Owner BENNER AUTOMOTIVE
Site Address 488 - 25TH ST.
OAKLAND, CA
Project Name BENNER AUTOMOTIVE
Project Number _____

Method of Shipment HAND DELIVERY
Shipment No. _____
Airbill No. _____
Cooler No. _____
Project Manager JOE DINAN
Telephone No. (510) 644-3123
Fax No. (510) 644-3859
Samplers: (Signature) Scott Cassady

* QC/EDF REPORT REQD.

	Field Sample Number	Location/ Depth	Date	Time	Sample Type	Type/Size of Container	Preservation: Cooler	Preservation: Chemical	Filtered	No. of Containers	Analysis Required: TVHg BY EPA 8015	Analysis Required: BTEX BY EPA 8260	Analysis Required: FWEL OXYGENATES BY EPA 8260	Remarks
1	MW-1	–	5-31-05	1615	GW_{H_2O}	4 VOA's	YES	HCL	NO		X	X	X	
2	MW-2	–	↓	1555	↓	↓	↓	↓	↓		X	X	X	
3	MW-3	–	↓	1545	↓	↓	↓	↓	↓		X	X	X	

Relinquished by:	Date	Received by:	Date	Relinquished by:	Date	Received by:	Date
Signature Scott Cassady	5-31-05	Signature	5-31-05	Signature		Signature	
Printed SCOTT CASSADY	Time 1715	Printed ERIC KIM	Time 1715	Printed	Time	Printed	Time
Company N.S.E.		Company 1715 NS labs		Company		Company	

Turnaround Time: STD TAT
Comments: GLOBAL ID: T0600114301
FIELD POINT ID's - MW-1, MW-2, MW-3

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

2000-00-01

North State Labs

CA ELAP # 1753

815 Dubuque Avenue • South San Francisco, CA 94080 • (650) 266-4563 • FAX (650) 266-4560

SAMPLE RECEIPT CHECKLIST

Client Name: Stellar Ref/Job No: 050810 Date: 5.31.05

Checked By: EK

Matrix: Soil: Water: X Other:

If Received via Shipment (If dropped off in person this section does not apply):

Carrier Name:

Shipping Container/Cooler In Good Condition?	Y	N	
Custody Seals Intact on Shipping Container?	Y	N	N/A
No. of coolers: Temperature of Cooler:			In Range?: Y N
Custody Seals intact on sample containers?	(Y)	N	N/A
Chain of Custody present?	(Y)	N	
Chain of Custody Signatures & Date/Time correct?	(Y)	N	
Chain of custody agrees with sample labels?	(Y)	N	
Samples in proper containers?	(Y)	N	
Sample containers Intact?	(Y)	N	
Sufficient sample volume for indicated tests?	(Y)	N	
All Samples received within holding times?	(Y)	N	
Temperature Blank present? Record Temp if present.	Y	(N)	Temp:
For water samples- VOAS have zero headspace?	(Y)	N	N/A
Samples received in bottles with proper preservative?	(Y)	N	N/A

pH adjusted - Preservative used: HNO3:___ HCl:___ H2SO4:___ NaOH:___ ZnOAc:___

Supplier: Lot:

For water samples for the analysis of total recoverable metals not digested - pH <2? See attached sheet

Corrective Action Record:

Client Contacted:_____ Date Contacted:_____ Person Contacted:_____

Contacted by:_____ Regarding:_____

Comments:_____

Corrective Action:_____

North State Labs
CA ELAP # 1753
815 Dubuque Avenue • South San Francisco, CA 94080 • **(650) 266-4563** • FAX (650) 266-4560

Case Narrative

Client: Stellar Environmental Solutions
Project: 488-25TH ST OAKLAND
Lab No: 05-0810
Date Received: 05/31/05 Date reported: 06/07/05

Three water samples were analyzed for gasoline by method 8015B, BTEX and fuel oxygenates by GC/MS method 8260B. All results for QC/QA samples were within acceptance limits. No errors occurred during analysis.

Erin Cunniffe
Laboratory Director

North State Labs
CA ELAP# 17
815 Dubuque Avenue • South San Francisco, CA 94080 • **(650) 266-4563** • FAX (650) 266-4560

C E R T I F I C A T E O F A N A L Y S I S

Lab Number: 05-0810
Client: Stellar Env. Solutions
Project: 488-25TH ST OAKLAND

Date Reported: 06/07/2005

Gasoline Range Hydrocarbons by Method 8015B

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 05-0810-01 Client ID: MW-1				05/31/2005	W
Gasoline Range Organics	SW8020F	64	UG/L		06/03/2005
Sample: 05-0810-02 Client ID: MW-2				05/31/2005	W
Gasoline Range Organics	SW8020F	ND<50	UG/L		06/03/2005
Sample: 05-0810-03 Client ID: MW-3				05/31/2005	W
Gasoline Range Organics	SW8020F	57	UG/L		06/03/2005

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C E R T I F I C A T E O F A N A L Y S I S

Quality Control/Quality Assurance

Lab Number: 05-0810
Client: Stellar Env. Solutions
Project: 488-25TH ST OAKLAND

Date Reported: 06/07/2005

Gasoline Range Hydrocarbons by Method 8015B

Analyte	Method	Reporting Limit	Unit	Blank	MS/MSD Recovery	RPD
Gasoline Range Organics	SW8020F	50	UG/L	ND	100/104	4

ELAP Certificate NO:1753
Reviewed and Approved

Erin Cunniffe, Laboratory Director

North State Labs
CA ELAP# 17
815 Dubuque Avenue • South San Francisco, CA 94080 • **(650) 266-4563** • FAX (650) 266-4560

C E R T I F I C A T E O F A N A L Y S I S

Job Number: 05-0810
Client : Stellar Env. Solutions
Project : 488-25TH ST OAKLAND

Date Sampled : 05/31/2005
Date Analyzed: 06/06/2005
Date Reported: 06/07/2005

Volatile Organics by GC/MS Method 8260B

Laboratory Number	05-0810-01	05-0810-02	05-0810-03
Client ID	MW-1	MW-2	MW-3
Matrix	W	W	W
Analyte	UG/L	UG/L	UG/L
Methyl-tert-butyl ether	ND<0.5	ND<0.5	ND<0.5
Ethyl tert-butyl ether	ND<1	ND<1	ND<1
tert-Amyl methyl ether	ND<1	ND<1	ND<1
Di-isopropyl ether (DIPE)	ND<0.5	ND<0.5	ND<0.5
tert-Butyl alcohol	ND<10	ND<10	ND<10
1,2-Dichloroethane	ND<1	ND<1	ND<1
1,2-Dibromoethane	ND<1	ND<1	ND<1
Ethanol	ND<50	ND<50	ND<50
Benzene	ND<0.5	ND<0.5	ND<0.5
Toluene	ND<0.5	ND<0.5	ND<0.5
Ethylbenzene	ND<0.5	ND<0.5	ND<0.5
Xylene, Isomers m & p	ND<1	ND<1	ND<1
o-xylene	ND<0.5	ND<0.5	ND<0.5
SUR-Dibromofluoromethane	97	101	100
SUR-Toluene-d8	97	85	96
SUR-4-Bromofluorobenzene	95	91	96
SUR-1,2-Dichloroethane-d4	101	105	107

Comments:

North State Labs
CA ELAP # 1753
815 Dubuque Avenue • South San Francisco, CA 94080 • **(650) 266-4563** • FAX (650) 266-4560

C E R T I F I C A T E O F A N A L Y S I S

Job Number: 05-0810
Client : Stellar Env. Solutions
Project : 488-25TH ST OAKLAND

Date Sampled : 05/31/2005
Date Analyzed: 06/06/2005
Date Reported: 06/07/2005

Volatile Organics by GC/MS Method 8260B
Quality Control/Quality Assurance Summary

Laboratory Number	05-0810	MS/MSD	RPD	Recovery	RPD
Client ID	Blank	Recovery		Limit	Limit
Matrix	W	W			
Analyte	Results UG/L	%Recoveries			
Ethanol	ND<50				
Methyl-tert-butyl ether	ND<0.5				
Di-isopropyl ether (DIPE)	ND<0.5				
tert-butyl Alcohol	ND<10				
Ethyl tert-butyl ether	ND<1				
tert-Amyl methyl ether	ND<1				
1,2-Dichloroethane	ND<1				
1,2-Dibromoethane	ND<1				
Benzene	ND<0.5	89/91	2	70-130	30
Ethylbenzene	ND<0.5				
Toluene	ND<0.5	88/91	3	70-130	30
o-xylene	ND<0.5				
Xylene, Isomers m & p	ND<1				
1,1-Dichloroethene	ND<0.5	116/116	0	70-130	30
Trichloroethene	ND<0.5	98/100	2	70-130	30
Chlorobenzene	ND<1	100/100	0	70-130	30
SUR-Dibromofluoromethane	98	96/96	0	85-115	30
SUR-Toluene-d8	87	89/89	0	85-115	30
SUR-4-Bromofluorobenzene	95	96/98	2	85-115	30
SUR-1,2-Dichloroethane-d4	92	101/101	0	85-115	30

Reviewed and Approved

Erin Cunniffe
Laboratory Director

NON-HAZARDOUS WASTE MANIFEST

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

NON-HAZARDOUS WASTE MANIFEST

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

Manifest Document No.: N750269

2. Page 1 of

3. Generator's Name and Mailing Address
BENNER AUTO REPAIR
488 25TH STREET, OAKLAND, CA 94612
SITE = SAME

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

5. Transporter 1 Company Name: NORTH STATE ENVIRONMENTAL
6. US EPA ID Number:

A. State Transporter's ID
B. Transporter 1 Phone

7. Transporter 2 Company Name
8. US EPA ID Number

C. State Transporter's ID
D. Transporter 2 Phone

9. Designated Facility Name and Site Address
D.K. ENVIRONMENTAL
3650 EAST 26TH STREET, LOS ANGELES, CA 90223
10. US EPA ID Number

E. State Facility's ID

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

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS WASTE, SOLID (SOIL)	02	DM	00600	P
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above
A. 350606-06

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
(9) 55

GENERATOR

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

Printed/Typed Name: Don Spencer | Signature | Date: Month 06 Day 07 Year 05

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: STEVE MATTUCCI | Signature | Date: Month 06 Day 07 Year 05

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: ~~Don Spencer~~ DS | Signature | Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

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

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

NON-HAZARDOUS WASTE