RO 2518

THIRD QUARTER 2005 GROUNDWATER MONITORING REPORT

BENNER AUTO REPAIR
488 25TH STREET
OAKLAND, CALIFORNIA

Prepared for

JOSEPH & LORETTA BENNER FAMILY TRUST
OAKLAND, CALIFORNIA

September 2005

STELLAR
ENVIRONMENTAL SOLUTIONS, INC.
GEOSCIENCE & ENGINEERING CONSULTING

RO2518

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: **SEPTEMBER 19, 2005**

ATTENTION: **MR. DON HWANG**

FILE: **2002-55**

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

Alameda County
SEP 21 2005
Environmental Health

WE ARE SENDING:

☒ HEREWITH ☐ UNDER SEPARATE COVER

☒ VIA MAIL ☐ VIA

THE FOLLOWING: "Third Quarter 2005 Groundwater Monitoring Report" (DATED 9/15/05)

☐ AS REQUESTED ☐ FOR YOUR APPROVAL

☐ FOR REVIEW ☒ FOR YOUR USE

☐ FOR SIGNATURE ☒ FOR YOUR FILES

COPIES TO: **MR. MIKE BENNER**
(PROPERTY OWNER)

BY: **Bruce Rucker**

STELLAR
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September 15, 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: Third Quarter 2005 Groundwater Monitoring Report
Benner Automotive – 488 25th Street, Oakland, California
Alameda County Health Case No. RO002518
California GeoTracker Global ID T0600114301

Dear Mr. Hwang:

Enclosed is the Stellar Environmental Solutions, Inc. (SES) report presenting the findings of the Third Quarter 2005 groundwater monitoring event (the second site groundwater monitoring event since wells were installed in May 2005). This report was uploaded to the State Water Resources Control Board's GeoTracker system.

If you have any questions regarding this report, please contact us at (510) 644-3123.

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

Alameda County
SEP 21 2005
Environmental Health

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

THIRD QUARTER 2005 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:

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2198 SIXTH STREET
BERKELEY, CALIFORNIA 94710

September 15, 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 Benner Family Trust (as property owner) to conduct groundwater monitoring 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, a Preliminary Site Assessment (PSA) in July 2003, additional site characterization (borehole drilling and sampling) in July 2004, and groundwater monitoring well installation and sampling activities in May 2005. 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.

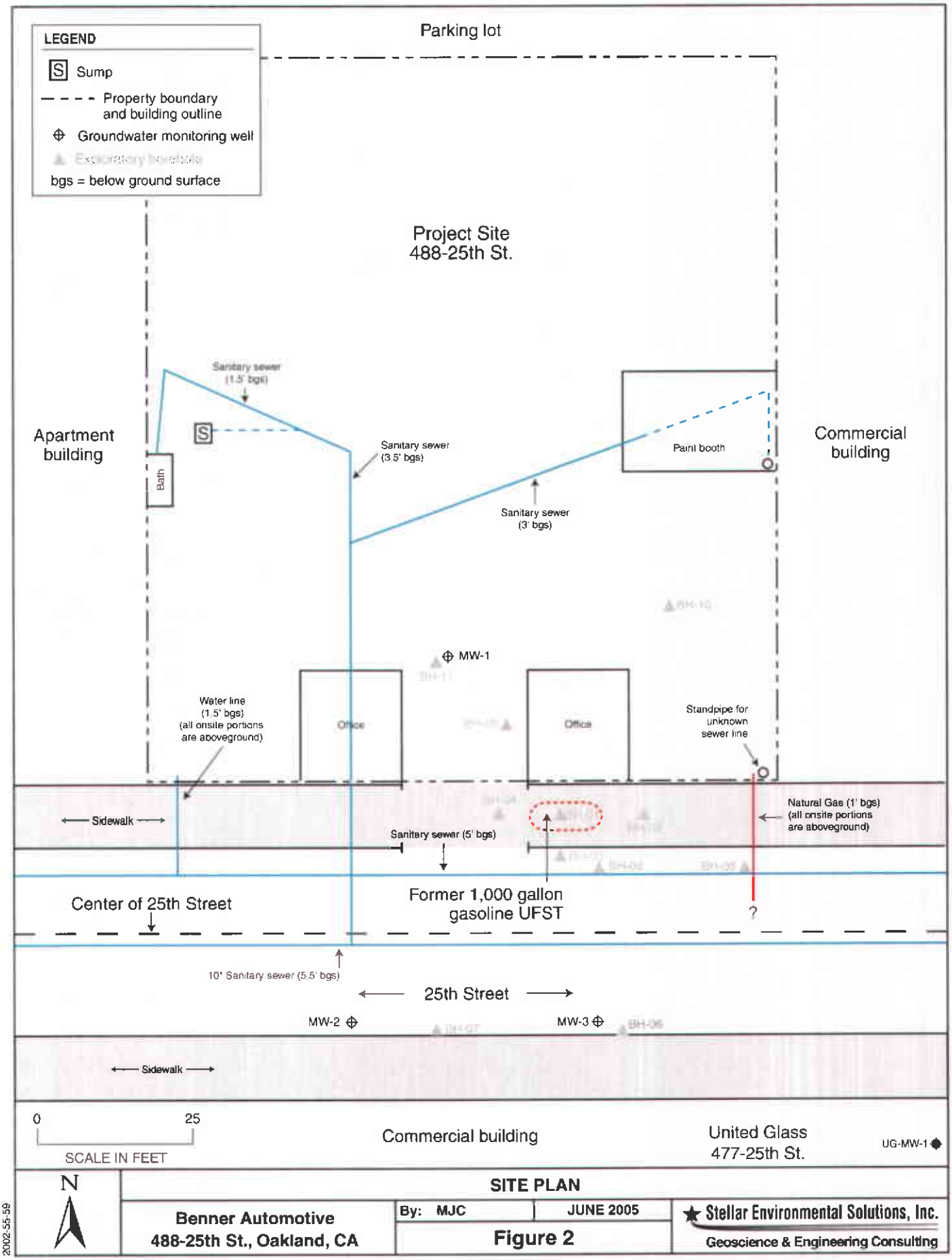
Previous investigations are summarized as follows:

- ***January 2003***. A 1,000-gallon gasoline UFST was removed from the subject site. Gasoline-range petroleum hydrocarbon contamination was detected in soil samples collected from the base of the tank excavation.
- ***July 2003***. A preliminary borehole investigation was conducted to define the extent and type of contamination that resulted from the leaking UFST. Five boreholes were advanced to depths of 16 to 25 feet below ground surface (bgs); soil and groundwater samples collected from these boreholes indicated gasoline contamination beneath the former UFST and to the east and south, with minor to insignificant gasoline contamination to the west and northwest.
- ***July 2004***. Six exploratory boreholes were drilled and sampled in the vicinity of the former UFST to further define the extent of groundwater and soil contamination. Additionally, a well search indicated no vicinity water wells that could intercept site-sourced groundwater

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


LEGEND
Sump
Property boundary and building outline
Groundwater monitoring well
Exploratory borehole
bgs = below ground surface
Parking lot
Project Site
488-25th St.
Sanitary sewer (1.5' bgs)
Apartment building
Bath
Sanitary sewer (3.5' bgs)
Paint booth
Commercial building
Sanitary sewer (3' bgs)
MW-1
Water line (1.5' bgs) (all onsite portions are aboveground)
Office
Office
Standpipe for unknown sewer line
Sidewalk
Natural Gas (1' bgs) (all onsite portions are aboveground)
Sanitary sewer (5' bgs)
Center of 25th Street
Former 1,000 gallon gasoline UFST
?
10" Sanitary sewer (5.5' bgs)
25th Street
MW-2
MW-3
Sidewalk
0
25
SCALE IN FEET
Commercial building
United Glass
477-25th St.
UG-MW-1
N
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

contamination, except for an inactive groundwater monitoring well (installed to monitor a fuel release) at a property across the street. A preferential pathway survey was also conducted to identify underground utility trenches that may act as a preferential pathway for groundwater contamination. Only sanitary and storm sewer lines located approximately 150 feet west (crossgradient) of the subject property were potentially at the depth of groundwater. Based on the distance of these lines from the site, they are unlikely to intercept site-sourced groundwater and therefore to act as preferential contaminant migration pathways.

- ***May 2005***. Three groundwater monitoring wells were installed, developed, surveyed, and sampled in May 2005. This was the first groundwater monitoring event at the subject site.

CURRENT EVENT OBJECTIVES AND SCOPE OF WORK

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

- Collecting water levels in site wells to determine shallow groundwater flow direction; and
- Sampling site wells for contaminant analysis and indicators of natural attenuation.

REGULATORY OVERSIGHT

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

Electronic Data Format (EDF) files from all groundwater monitoring events have been successfully uploaded to the State Water Resources Control Board's GeoTracker database, in accordance with that agency's requirements for electronic submittals.

2.0 PHYSICAL SETTING

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 in May 2005, 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 evaluated. 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).

LITHOLOGY

A laterally-extensive clay (occasionally gravelly) is present in all boreholes, extending from ground surface to approximately 17 to 20 feet bgs. In two of the boreholes a thin (1- to 3-foot-thick) sandy lens was encountered 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 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.

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

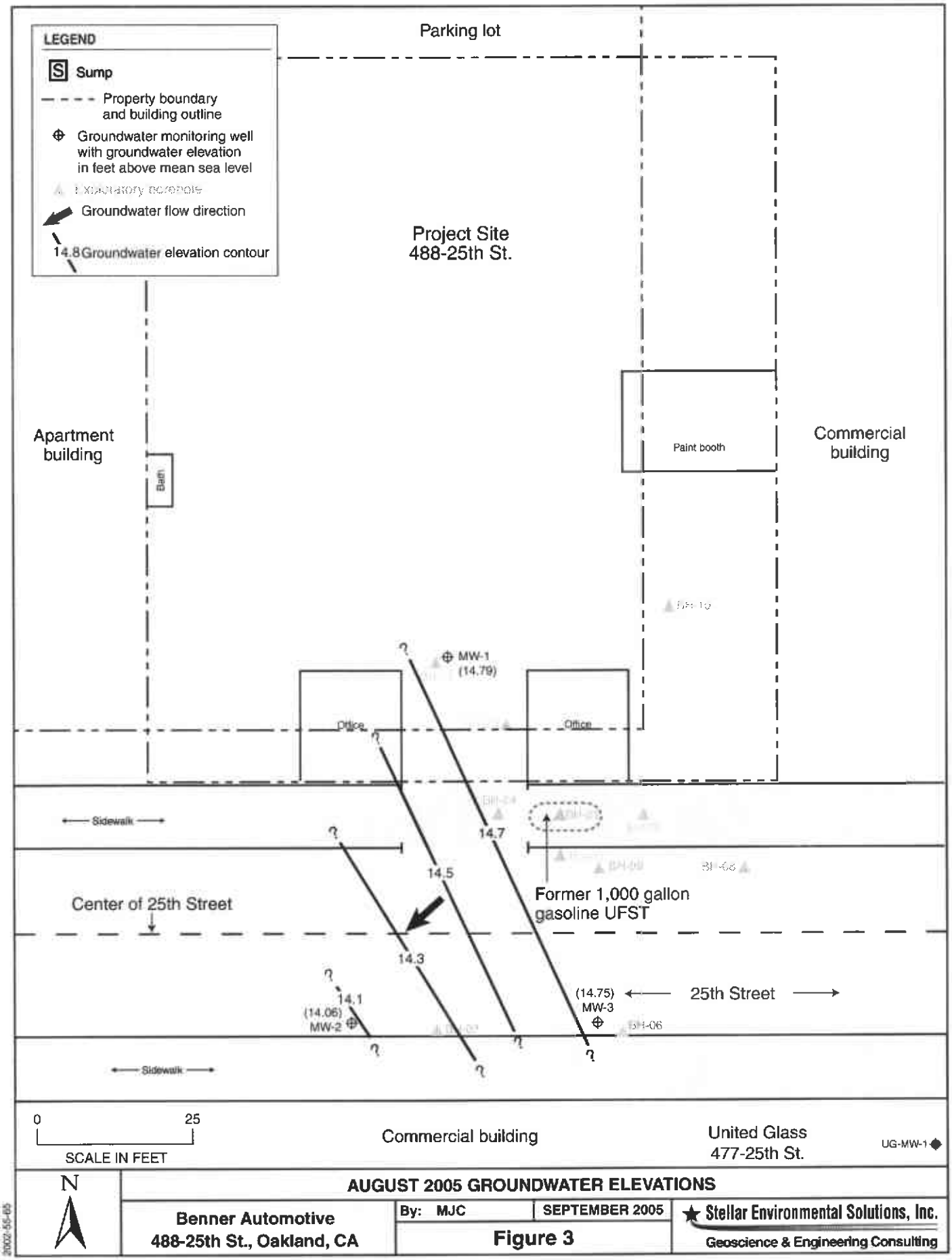
GROUNDWATER HYDROLOGY

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 of approximately 7 to 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 of approximately 9 to 10 feet bgs. The underlying clay unit showed little to no moisture.

Depth to groundwater (equilibrated in wells) in the August 2005 monitoring event ranged from 9.11 to 10.45 feet below grade (14.06 to 14.79 feet above mean 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 3 shows groundwater elevations and flow contours. The direction of groundwater flow in the (surveyed) 2003 piezometers was to the south-southeast.



AUGUST 2005 GROUNDWATER ELEVATIONS

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

2002-55-05

3.0 AUGUST 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 August 25, 2005 by EnTech Analytical Labs under the supervision of SES personnel. Table 1 shows the well construction and groundwater elevation data. Appendix A contains the groundwater monitoring field records for the sampling event.

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

Well	Well Depth	Screened Interval	TOC Elevation	Groundwater Elevation (8/25/05)
MW-1	25	10 to 25	25.24	14.79
MW-2	25	10 to 25	23.71	14.06
MW-3	25	10 to 25	23.86	14.75

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. Each well was then purged (with a downhole pump) of three wetted casing volumes. Aquifer stability parameters were measured between each purged casing volume to ensure that representative formation water entered the well before sampling. Neither separate-phase petroleum product nor sheen was observed during well purging/sampling.

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

4.0 REGULATORY CONSIDERATIONS

REGULATORY STATUS

The lead regulatory agency for petroleum contamination cases in the City of Oakland is Alameda County Health, which is a Local Oversight Program (LOP) for the State Water Resources Control Board (covering California Regional Water Quality Control Board [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 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 (i.e., the UFSTs and obviously-contaminated backfill material) has been removed. 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 (e.g., 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 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 *GeoWell* data (water level monitoring-related data for the Q3 2005 monitoring event).

- Uploading *GeoReport* (portable data format [pdf]) electronic copy of this report.
- Uploading *EDD* (electronic version) of the analytical laboratory report for the Q3 2005 groundwater sampling event.

A hard copy of this report was also mailed to Alameda County Health.

5.0 ANALYTICAL RESULTS AND FINDINGS DISCUSSION

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

All groundwater samples in this groundwater monitoring event were analyzed for:

- Total volatile hydrocarbons – gasoline range (TVHg), by modified EPA Method 8015; and
- BTEX (benzene, toluene, ethylbenzene, and xylenes), MTBE (methyl *tertiary*-butyl ether), fuel oxygenates (TAME, ETBE, DIPE, TBA, and ethanol), and lead scavengers (EDB and EDC), by EPA Method 8260.

The current investigation groundwater samples were analyzed by EnTech Analytical Labs (Santa Clara, California), which maintains current ELAP certifications for all of the analytical methods utilized in this investigation. Appendix B contains the certified analytical laboratory reports and chain-of-custody records.

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

Only three contaminants were detected in the current event. Gasoline was detected only in MW-1 at 66 µg/L (in contrast to the 100-µg/L ESL). Toluene was detected only in MW-1 at 0.57 µg/L (in contract to the 40-µg/L ESL). The only fuel oxygenate detected was 1,2-dichloroethane (EDC) at 0.62 µg/L in MW-3 (compared to the 0.5-µg/L ESL criterion). Contaminants analyzed for and not detected in the current event include benzene, ethylbenzene, xylenes, lead scavengers, and other fuel oxygenates.

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

Table 2
August 25, 2005 Groundwater Analytical Results
488 25th Street, Oakland, California [a]

Sample I.D.	TVHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Lead Scavengers and Fuel Oxygenates [b]
MW-1	**66**	*<0.50*	**0.57**	*<0.50*	*<1.0*	*<5.0*	*ND*
MW-2	< 50	*<0.50*	*<0.50*	*<0.50*	*<1.0*	*<5.0*	*ND*
MW-3	< 50	*<0.50*	*<0.50*	*<0.50*	*<1.0*	*<5.0*	**EDC = 0.62**
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] Table shows only detected analytes. See Appendix B for full list of analytes.

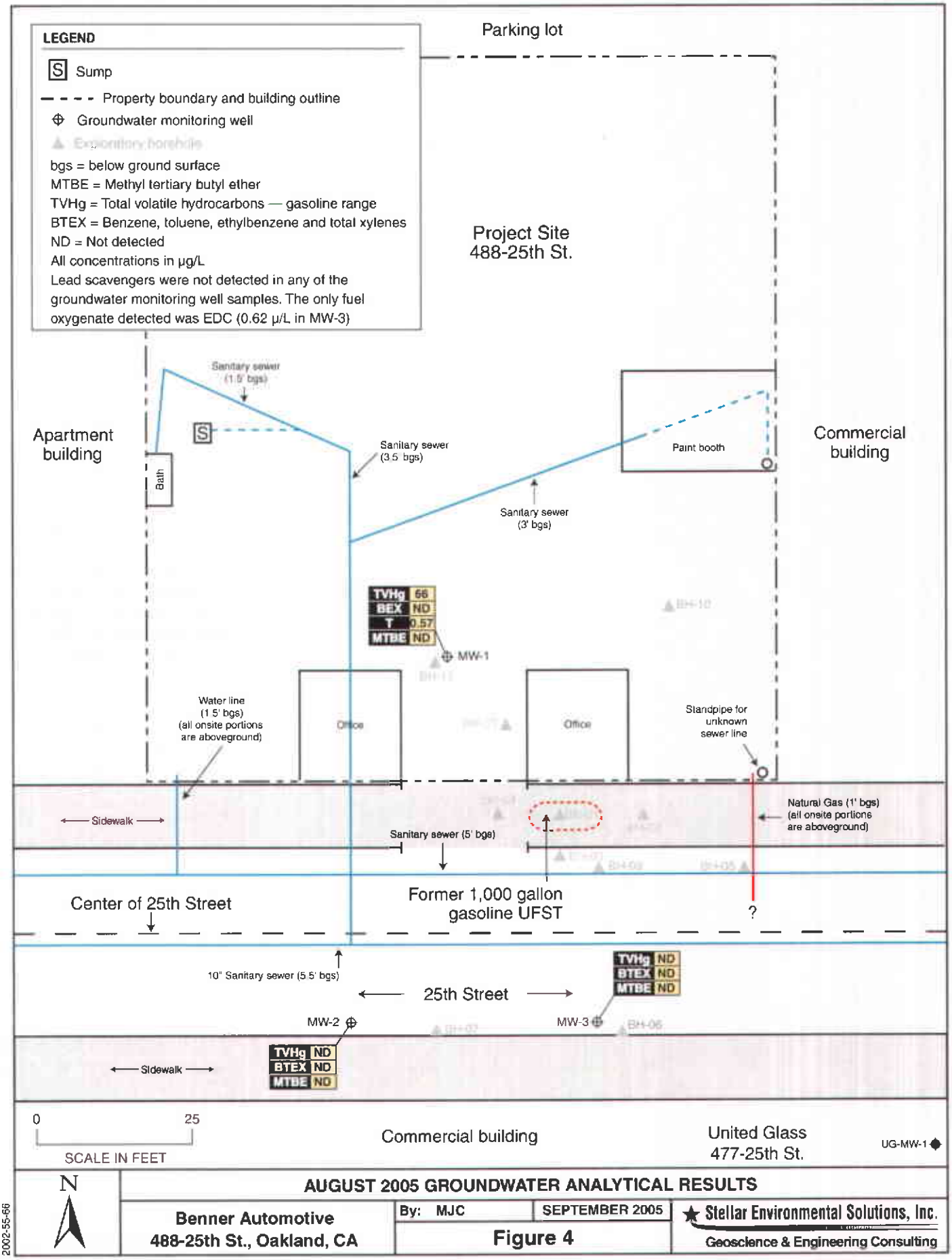
[c] ESLs = Regional Water Quality Control Board, San Francisco Bay Region Environmental Screening Levels for commercial/industrial sites where groundwater is a potential drinking water reso

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

[e] State of California Public Health Goal.

EDC = 1,2-dchloroethane
TVHg = total volatile hydrocarbons- gasoline range
MTBE = methyl*tertiary*-butyl ether.

ND = not detected (see Appendix B for reporting limits)
NLP = no level published



AUGUST 2005 GROUNDWATER ANALYTICAL RESULTS

Benner Automotive **488-25th St., Oakland, CA**	By: MJC	SEPTEMBER 2005	★ Stellar Environmental Solutions, Inc. Geoscience & Engineering Consulting
	Figure 4		

2002-55-66

6.0 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.
- 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 be due to a combination of factors, including the filtration of contaminated dissolved solids by the well annular filter pack and/or seasonal fluctuations in groundwater levels and concomitant "pulses" of dissolved contamination. However, it is unlikely that the reduced concentrations are the result of either natural attenuation or plume migration.

- Current contaminant concentrations in groundwater do not exceed Water Board ESL criteria, except for EDC which was detected just above the 0.5-µg/L ESL.
- 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.
- 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, and this report was also uploaded to the ACDEH file transfer protocol (ftp) 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 Alameda County Health. This will include electronic uploads of water level and groundwater contamination data for future monitoring events to the GeoTracker system.
- The property owner will continue to pursue reimbursement of eligible incurred corrective action costs from the California UST Cleanup Fund.

7.0 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.

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), 2005a. Groundwater Monitoring Well Installation and Sampling Specifications, Benner Automotive – 488 25th Street, Oakland, California. March 23.

SES, 2005b. Groundwater Monitoring Well Installation and Baseline Groundwater Monitoring Report, Benner Automotive – 488 25th Street, Oakland, California. June 20.

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.

8.0 LIMITATIONS

This report has been prepared for the exclusive use of the 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.

FLUID-LEVEL MONITORING DATA

Project No: _____ **Date:** 8-25-05

Project/Site Location: BENNER AUTOREPAIR 458 25TH ST., OAKLAND

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

Well	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Total Well Depth (feet)	Comments
MW-1	10.45			24.65	@ 1415
MW-2	9.65			24.20	@ 1420
MW-3	9.11			24.85	@ 1425

INSIDE ↑ R

Measurements referenced to top of well casing. NORTH

Page 1 of 1

WELL PURGING/SAMPLING DATA

Project Number: _____ **Date:** 8-25-05

Project / Site Location: RENNER AUTO REPAIR
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-1

A. Total Well Depth	24.65
B. Depth To Water	10.45
C. Water Height (A-B)	14.2
D. Well Casing Diameter	0.75
E. Casing Volume	0.02
F. Single Case Volume (CxE)	.28
G. Case Volume(s)(CxEx3)	.84
H. 80% Recharge Level	10.17

Purge Event
Start Time: 1440
Finish Time: 1500
Post Purge Measurement
Depth to Water 14.61
Time Measured: 1505
Recharge/Sample Time
Depth to Water: 10.21
Time Measured: 1610

Well Fluid Parameters:

Gals.	0	.28	.56	.84
pH	6.59	6.69	6.74	6.75
T (°C)	22.5	20.6	20.2	19.8
Cond.	556	478	436	413
DO mg/L	2.76	→	→	→
DO %	28.8	→	→	→
Turbidity				
ORP				

Summary Data:
Total Gallons Purged: .84
Purge device: DISPOSABLE BAILER
Sampling Device: " "
Sample Collection Time: 1610
Sample Appearance/Odor:

POST PURGE

Well No. MW-2

A. Total Well Depth	24.20
B. Depth To Water	9.65
C. Water Height (A-B)	14.55
D. Well Casing Diameter	0.75
E. Casing Volume	0.02
F. Single Case Volume (CxE)	.29
G. Case Volume(s)(CxEx3)	.87
H. 80% Recharge Level	9.36

Purge Event
Start Time: 1525
Finish Time: 1550
Post Purge Measurement
Depth to Water 12.69
Time Measured: 1555
Recharge/Sample Time
Depth to Water: 9.40
Time Measured: 1645

Well Fluid Parameters:

Gals.	0	.29	.54	.87
pH	6.65	6.70	6.73	6.71
T (°C)	20.9	20.4	20.3	19.7
Cond.	380	393	371	198.1
DO mg/L				2.29
DO %				29.6
Turbidity				
ORP				

Summary Data:
Total Gallons Purged: .87
Purge device: DISPOSABLE BAILER
Sampling Device: " "
Sample Collection Time: 1645
Sample Appearance/Odor:

POST PURGE

WELL PURGING/SAMPLING DATA

Project Number: _____ Date: 8-25-05

Project / Site Location: BENNER AUTO REPAIR
458 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	24.85
B. Depth To Water	9.11
C. Water Height (A-B)	15.74
D. Well Casing Diameter	0.75
E. Casing Volume	0.02
F. Single Case Volume (CxE)	.31
G. Case Volume(s)(CxEx3)	.93
H. 80% Recharge Level	8.80

Purge Event

Start Time: 16:20
Finish Time: 1640

Post Purge Measurement

Depth to Water 9.43
Time Measured: 1650

Recharge/Sample Time

Depth to Water: 8.87
Time Measured: 1725

Well Fluid Parameters:				
Gals.	0	.31	.62	.93
pH	6.81	6.76	6.79	6.82
T (°C)	20.8	20.4	19.1	19.9
Cond.	358	191.9	198.8	185.4
DO mg/L	2.41	→	→	→
DO %	23.4	→	→	→
Turbidity				
ORP				

POST PURGE

Summary Data:

Total Gallons Purged: .93
Purge device: DISPOSABLE BAILER
Sampling Device: " "
Sample Collection Time: 1725
Sample Appearance/Odor:

Well No. _____

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

Purge Event

Start Time:
Finish Time:

Post Purge Measurement

Depth to Water
Time Measured:

Recharge/Sample Time

Depth to Water:
Time Measured:

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

Summary Data:

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

Entech Analytical Labs, Inc.

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

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

Certificate ID: 45055 - 9/6/2005 4:19:33 PM

Order Number: 45055
Project Name: Benner Auto Repair

Date Received: 08/26/2005
P.O. Number: Benner Auto Repair
Global ID: T0600114301

Certificate of Analysis - Final Report

On August 26, 2005, samples were received under chain of custody for analysis.
Entech analyzes samples "as received" unless otherwise noted. The following results are included:

Matrix	Test	Comments
Liquid	EDF TPH as Gasoline BTEX EPA 8260B EPA 624	

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

Sincerely,

for

Laurie Glantz-Murphy
Laboratory Director

Entech Analytical Labs, Inc.

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

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

Date Received: 8/26/2005
Project ID: Benner Auto Repair
Project Name: Benner Auto Repair
GlobalID: T0600114301
P.O. Number: Benner Auto Repair
Sample Collected by: Client

Certificate of Analysis - Data Report

Lab # : 45055-001 **Sample ID: MW-1** **Matrix:** Liquid **Sample Date:** 8/25/2005 4:10 PM

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

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
TPH as Gasoline	66		1	50	µg/L	N/A	N/A	8/29/2005	WGC4050829(A)
Atypical pattern.									

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	96.3	65 - 135

Analyzed by: mruan
Reviewed by: MaiChiTu

EPA 8020 **BTEX**

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
Benzene	ND		1	0.50	µg/L	N/A	N/A	8/29/2005	WGC4050829(A)
Toluene	0.57		1	0.50	µg/L	N/A	N/A	8/29/2005	WGC4050829(A)
Ethyl Benzene	ND		1	0.50	µg/L	N/A	N/A	8/29/2005	WGC4050829(A)
Xylenes, Total	ND		1	0.50	µg/L	N/A	N/A	8/29/2005	WGC4050829(A)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	99.8	65 - 135

Analyzed by: mruan
Reviewed by: MaiChiTu

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

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

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	110	70 - 125
Dibromofluoromethane	102	70 - 125
Toluene-d8	110	70 - 125

Analyzed by: MTu
Reviewed by: ECunniffe

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

Entech Analytical Labs, Inc.

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

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

Certificate of Analysis - Data Report

Date Received: 8/26/2005
Project ID: Benner Auto Repair
Project Name: Benner Auto Repair
GlobalID: T0600114301
P.O. Number: Benner Auto Repair
Sample Collected by: Client

Lab # : 45055-002 **Sample ID: MW-2** **Matrix:** Liquid **Sample Date:** 8/25/2005 4:45 PM

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

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
TPH as Gasoline	ND		1	50	µg/L	N/A	N/A	8/29/2005	WGC4050829(A)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	95.6	65 - 135

Analyzed by: mruan
Reviewed by: MaiChiTu

EPA 8020 — **BTEX**

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
Benzene	ND		1	0.50	µg/L	N/A	N/A	8/29/2005	WGC4050829(A)
Toluene	ND		1	0.50	µg/L	N/A	N/A	8/29/2005	WGC4050829(A)
Ethyl Benzene	ND		1	0.50	µg/L	N/A	N/A	8/29/2005	WGC4050829(A)
Xylenes, Total	ND		1	0.50	µg/L	N/A	N/A	8/29/2005	WGC4050829(A)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	95.4	65 - 135

Analyzed by: mruan
Reviewed by: MaiChiTu

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

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

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	111	70 - 125
Dibromofluoromethane	102	70 - 125
Toluene-d8	110	70 - 125

Analyzed by: MTu
Reviewed by: ECunniffe

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

Entech Analytical Labs, Inc.

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

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

Date Received: 8/26/2005
Project ID: Benner Auto Repair
Project Name: Benner Auto Repair
GlobalID: T0600114301
P.O. Number: Benner Auto Repair
Sample Collected by: Client

Certificate of Analysis - Data Report

Lab # : 45055-003 **Sample ID: MW-3** **Matrix:** Liquid **Sample Date:** 8/25/2005 5:25 PM

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

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
TPH as Gasoline	ND		1	50	µg/L	N/A	N/A	8/29/2005	WGC4050829(A)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	92.8	65 - 135

Analyzed by: mruan
Reviewed by: MaiChiTu

EPA 8020 — **BTEX**

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
Benzene	ND		1	0.50	µg/L	N/A	N/A	8/29/2005	WGC4050829(A)
Toluene	ND		1	0.50	µg/L	N/A	N/A	8/29/2005	WGC4050829(A)
Ethyl Benzene	ND		1	0.50	µg/L	N/A	N/A	8/29/2005	WGC4050829(A)
Xylenes, Total	ND		1	0.50	µg/L	N/A	N/A	8/29/2005	WGC4050829(A)

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	98.6	65 - 135

Analyzed by: mruan
Reviewed by: MaiChiTu

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

Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
Methyl-t-butyl Ether	ND		1	1.0	µg/L	N/A	N/A	9/3/2005	WM2050902
tert-Butyl Ethyl Ether	ND		1	5.0	µg/L	N/A	N/A	9/3/2005	WM2050902
tert-Butanol (TBA)	ND		1	10	µg/L	N/A	N/A	9/3/2005	WM2050902
Diisopropyl Ether	ND		1	5.0	µg/L	N/A	N/A	9/3/2005	WM2050902
tert-Amyl Methyl Ether	ND		1	5.0	µg/L	N/A	N/A	9/3/2005	WM2050902
1,2-Dichloroethane	0.62		1	0.50	µg/L	N/A	N/A	9/3/2005	WM2050902
1,2-Dibromoethane (EDB)	ND		1	0.50	µg/L	N/A	N/A	9/3/2005	WM2050902
Ethanol	ND		1	100	µg/L	N/A	N/A	9/3/2005	WM2050902

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	109	70 - 125
Dibromofluoromethane	103	70 - 125
Toluene-d8	110	70 - 125

Analyzed by: MTu
Reviewed by: EConniffe

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

Entech Analytical Labs, Inc.

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

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

QC Batch ID: WGC4050829(A)

Reviewed by: MaiChiTu - 09/01/05

QC Batch ID Analysis Date: 8/29/2005

LCS

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	Recovery Limits
TPH as Gasoline	<50	250	267	µg/L	107	65 - 135

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

LCSD

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	RPD	RPD Limits	Recovery Limits
TPH as Gasoline	<50	250	269	µg/L	108	0.75	25.0	65 - 135

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	97.6	65 - 135

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

QC Batch ID: WGC4050829(A)

Reviewed by: MaiChiTu - 09/01/05

QC Batch ID Analysis Date: 8/29/2005

LCS

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	Recovery Limits
Benzene	<0.50	8.0	7.94	µg/L	99.2	65 - 135
Ethyl Benzene	<0.50	8.0	7.33	µg/L	91.6	65 - 135
Toluene	<0.50	8.0	8.44	µg/L	106	65 - 135
Xylenes, total	<0.50	24	22.1	µg/L	92.1	65 - 135

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	94	65 - 135

LCSD

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	RPD	RPD Limits	Recovery Limits
Benzene	<0.50	8.0	8.04	µg/L	100	1.3	25.0	65 - 135
Ethyl Benzene	<0.50	8.0	7.43	µg/L	92.9	1.4	25.0	65 - 135
Toluene	<0.50	8.0	7.93	µg/L	99.1	6.2	25.0	65 - 135
Xylenes, total	<0.50	24	22.0	µg/L	91.7	0.45	25.0	65 - 135

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	92.9	65 - 135

Entech Analytical Labs, Inc.

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

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

QC Batch ID: WGC4050829(A)

Reviewed by: MaiChiTu - 09/01/05

QC Batch ID Analysis Date: 8/29/2005

MS

Sample Spiked: 45055-003

Parameter	Sample Result	Spike Amount	Spike Result	Units	Analysis Date	% Recovery	Recovery Limits
TPH as Gasoline	ND	250	262	µg/L	8/29/2005	105	65 - 135

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	103	65 - 135

MSD

Sample Spiked: 45055-003

Parameter	Sample Result	Spike Amount	Spike Result	Units	Analysis Date	% Recovery	RPD	RPD Limits	Recovery Limits
TPH as Gasoline	ND	250	267	µg/L	8/29/2005	107	1.9	25.0	65 - 135

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	100	65 - 135

Entech Analytical Labs, Inc.

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

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

QC Batch ID: WGC4050829(A)

Reviewed by: MaiChiTu - 09/01/05

QC Batch ID Analysis Date: 8/29/2005

MS

Sample Spiked: 45055-003

Parameter	Sample Result	Spike Amount	Spike Result	Units	Analysis Date	% Recovery	Recovery Limits
Benzene	ND	2.8	2.80	µg/L	8/29/2005	99.6	65 - 135
Ethyl Benzene	ND	3.7	2.93	µg/L	8/29/2005	79.2	65 - 135
Toluene	ND	16	15.3	µg/L	8/29/2005	93.5	65 - 135
Xylenes, total	ND	20	17.9	µg/L	8/29/2005	91.6	65 - 135

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	99.8	65 - 135

MSD

Sample Spiked: 45055-003

Parameter	Sample Result	Spike Amount	Spike Result	Units	Analysis Date	% Recovery	RPD	RPD Limits	Recovery Limits
Benzene	ND	2.8	2.82	µg/L	8/29/2005	100	0.71	25.0	65 - 135
Ethyl Benzene	ND	3.7	2.94	µg/L	8/29/2005	79.5	0.34	25.0	65 - 135
Toluene	ND	16	15.2	µg/L	8/29/2005	93.0	0.52	25.0	65 - 135
Xylenes, total	ND	20	16.0	µg/L	8/29/2005	82.1	11	25.0	65 - 135

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

Entech Analytical Labs, Inc.

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

Method Blank - Liquid - EPA 8260B - 8260Petroleum

QC Batch ID: WM2050902

Validated by: ECunniffe - 09/06/05

QC Batch Analysis Date: 9/2/2005

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

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

Entech Analytical Labs, Inc.

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

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

QC Batch ID: WM2050902

Reviewed by: ECunniffe - 09/06/05

QC Batch ID Analysis Date: 9/2/2005

LCS

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

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

LCSD

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

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

Entech Analytical Labs, Inc.

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

Chain of Custody / Analysis Request

Attention to:	Phone No.:	Purchase Order No.:	Invoice to: (If Different)	Phone:
BRUCE RUCKER				
Company Name:	**Fax No.:**	**Project No.:**	**Company:**	**Quote No.:**
STELLAR ENV. SOLUTIONS				
Mailing Address:	**Email Address:**	**Project Name:**	**Billing Address: (If Different)**	
2198 SIXTH STREET, STE 201	brucker@stellar-enviro.com	BENNER AUTO REPAIR		
City:	**State:** / **Zip Code:**	**Project Location:**	**City:** / **State:** / **Zip:**	
BERKELEY	CA 94710	488 25TH ST, OAKLAND		

Sampler:	Field Org. Code:
S. CASSADY	
Global ID:	
T0600114301	

Turn Around Time
- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Day
- ☐ 3 Day
- ☒ 5 Day
- ☐ 4 Day
- ☐ 10 Day

Order ID:

Sample

Client ID / Field Point (FIELD POINT ID SAME AS CLIENT ID)	Lab. No.	Date	Time	Matrix	No. of Containers	GC/MS Methods: EPA 8260B; BTEX ☐, MTBE ☐, TPH Gas ☐ by 8260B; 5 Oxygenates (MTBE, TBA, ETBA, DIPE, TAME) ☐; Lead Scavengers (1,2-DCA & EDB) ☐; Base/Neutral/Acid Organics 8270C ☐; PAH - 8270C ☐; TPH Extractable: Diesel ☐, Motor Oil ☐, Other ☐; w/ Si-Gel Cleanup ☐; Pesticides-8081 ☐; PCBs - 8082 ☐; TPH as Gas/BTEX ☒; MTBE ☐ by 8015M/8020; Methanol by 8015M; Ethanol ☒; GC Methods; General Chemistry: Anions F ☐, Cl ☐, Br ☐, SO4 ☐, NO3 ☐, NO2 ☐, PO4 ☐; pH ☐, TSS ☐, SC ☐, TOC ☐, TRPH ☐, O & G ☐; Metals - Circle Below: Total ☐, Dissolved ☐, STLC ☐, TCLP ☐	Remarks
MW-1		8-25-05	1610	GW	4-VOA	X	45055-001
MW-2		↓	1645	↓	↓	X	002
MW-3		↓	1725	↓	↓	X	003

Relinquished by:	Received by:	Date:	Time:
Scott Cassady		8/26/05	0800
		8/26/05	1440
Relinquished by:	Received by:	Date:	Time:

Special Instructions or Comments

- ☐ EDD Report
- ☒ EDF Report
- ☐ Plating
- ☐ LUFT-5
- ☐ RCRA-8
- ☐ PPM-13
- ☐ CAM-17

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

Table C-1
Historical Groundwater Monitoring Well Analytical Results
488 25th Street, Oakland, California [a]

Sample I.D.	TVHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Lead Scavengers and Fuel Oxygenates [b]
May 2005 Groundwater Sampling Event							
MW-1	**64**	*<0.50*	*<0.50*	*<0.50*	*<1.0*	*<0.50*	*ND*
MW-2	< 50	*<0.50*	*<0.50*	*<0.50*	*<1.0*	*<0.50*	*ND*
MW-3	**57**	*<0.50*	*<0.50*	*<0.50*	*<1.0*	*<0.50*	*ND*
August 2005 Groundwater Sampling Event							
MW-1	**66**	*<0.50*	**0.57**	*<0.50*	*<1.0*	*<5.0*	*ND*
MW-2	< 50	*<0.50*	*<0.50*	*<0.50*	*<1.0*	*<5.0*	*ND*
MW-3	< 50	*<0.50*	*<0.50*	*<0.50*	*<1.0*	*<5.0*	**EDC = 0.62**
Groundwater ESLs [c]	**100**	**1.0**	**40**	**30**	**13**	**5.0**	**ECC = 0.5**
Drinking Water Standards [d]	**NLP**	**5.0**	**1,000**	**700**	**10,000**	**13 [e]**	**Various**

Notes:

[a] All concentrations are in µg/L.

[b] Table shows only detected analytes.

[c] ESLs = RegionalWater 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, unless specified otherwise.

[e] State of California Public Health Goal.

EDC = 1,2-dchloroethane
TVHg = total volatile hydrocarbons- gasoline range
MTBE = methyl*tertiary*-butyl ether.

ND = not detected (see Appendix B for reporting limits)
NLP = no level published