★ **Stellar Environmental Solutions, Inc.**

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Geoscience & Engineering Consulting

February 13, 2004

Mr. Don Hwang
Hazardous Materials Specialist
Alameda County Health Care Services Agency
Environmental Health – Environmental Protection
Local Oversight Program
1131 Harbor Bay Parkway
Alameda, California 94502-6577

Subject: Workplan for Groundwater Characterization
Benner Automotive – 488 25th Street, Oakland, California
Alameda County Health Fuel Leak Case No. RO0002518

Dear Mr. Hwang:

INTRODUCTION AND BACKGROUND

On behalf of the property owner (Mr. Michael J. Benner), Stellar Environmental Solutions, Inc. (SES) is submitting to the Alameda County Environmental Health Department (ACEH) this workplan for additional soil and groundwater characterization at the referenced site, as requested by ACEH. This workplan follows:

- Removal of one 1,000-gallon gasoline UFST in January 2003;
- SES's January 2003 closure report discussing the UFST removal (SES, 2003a);
- ACEH request for technical workplan for Preliminary Site Assessment (PSA) (ACEH, 2003a);
- Technical workplan for a Preliminary Site Assessment (PSA) (SES, 2003b), ACEH request for workplan amendment (ACEH, 2003b), and SES workplan amendment (SES, 2003c); and
- Implementation of the PSA in July 2003, and submittal of a PSA documentation report to ACEH (SES, 2003d).

Figures 1 through 6 (attached) show the site location, site plan, sampling locations, former UST, and underground utilities. Tables 1 and 2 (attached) summarize historical soil and water analytical results.

Salient findings discussed in our PSA report upon which the proposed work is based include:

- One 1,000-gallon gasoline UFST was removed from the site 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).
- 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. The boreholes were geologically logged from continuous soil cores.
- Site lithology consists predominantly of low permeability clays (in some cases silty or gravelly). Groundwater was first encountered (as evidenced by saturated soil cuttings and measurable water in the borehole) at a depth of approximately 10 feet, and occurs in an approximately 2-foot-thick zone between approximately 10 and 12 feet bgs. A lower water-bearing zone was encountered at a depth of approximately 18.5 feet bgs and extended down to at least 25 feet (deepest borehole drilled).
- The lateral and vertical extent of soil contamination above regulatory agency screening levels is well defined by available data, and appears 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 has been impacted by gasoline above screening-level criteria (RWCB ESLs), with no apparent contamination above ESLs by BTEX or MTBE. The area of maximum gasoline contamination appears 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 suggest no soil or groundwater contamination beneath the upper water-bearing zone.
- Groundwater impacts at the site indicate that regulatory closure is likely not forthcoming, and the ACEH will likely require additional groundwater characterization.
- An existing shallow groundwater monitoring well located across the street (installed by another property owner to monitor a fuel leak that was subsequently granted closure) could be used for supplemental water level measurements and hydrochemical analyses; that well has not been sampled since 1994.
- The property owner will be pursuing reimbursement costs from the State of California Underground Storage Tank Cleanup Fund (Fund); to maximize the potential for reimbursement, proposed work will not be conducted until written approval is obtained from ACEH.

TECHNICAL OBJECTIVES AND PROPOSED SCOPE OF WORK

The objective of the proposed work is to satisfy one of the generally-required regulatory criteria for site closure: characterization of the groundwater contaminant plume. The ACEH has requested that the limits of the groundwater contaminant plume be further characterized, prior to installing "permanent" groundwater monitoring wells.

The following proposed scope of work addresses each technical comment in the ACEH letter.

Item 1 – Preferential Pathway Survey

The ACEH requested that an underground utility survey be conducted to evaluate the potential for preferential horizontal/vertical contaminant migration pathways, and that the findings be incorporated into this technical workplan (ACEH, 2003a). To satisfy this objective, we conducted three tasks:

1. Contacted Underground Service Alert of California (USA), which notified all known utility providers in the area. The utility providers then marked the locations of underground utilities servicing the property and vicinity.
2. Retained a private utility locating firm to confirm those utilities, including the on-site portions which may or may not have been identified by USA.

3. Obtained and reviewed municipal underground utility information from the City of Oakland (Maps and Records, Electrical Engineering, Public Works Departments), Pacific Gas & Electric (PG&E), and East Bay Municipal Utility District (EBMUD).

Findings

Figure 3 is a site plan showing the location of identified underground utilities on and in the immediate vicinity of the site. Figure 4 shows utilities deeper than 5 feet in a wider area. Figure 5 focuses the utility search data to identify utilities meeting the criteria for potential receptors. Figure 6 shows two geologic cross-sections in the area of the known contamination, including the location of identified utilities. These cross-sections will be updated (in the proposed technical documentation report) with the findings of the proposed investigation.

The only below-grade on-site utility is a sanitary sewer line with flush-level sumps/cleanouts, no deeper than 3 to 4 feet deep; all other on-site utilities (electric, gas, water, and phone) are above-grade. Groundwater is deeper than 10 feet, and there is no known soil contamination shallower than 6 feet. Therefore, there are no known on-site utilities that could act as a preferential pathway for contaminant migration.

Underground utilities in the immediate vicinity of the site (sidewalks and street) include sanitary and storm sewer lines, gas, electric, water, and phone. All of these lines are shallower than 6 feet, with one exception: a 16-inch-diameter, 11-feet-deep sanitary sewer beneath Telegraph Avenue, approximately 150 feet west of the site. Based on the available groundwater contamination data, it appears highly unlikely that site-sourced contamination has migrated that far.

The findings indicate that underground utilities are not considered potential preferential pathways, and therefore do not warrant specific sampling to evaluate trench backfill.

Items 2 and 3 – Site Characterization and Proposed Groundwater Monitoring Wells

The lateral limits of the groundwater contaminant plume above ESL criteria have not been fully defined to the west, north, and east of the former source area (for gasoline and benzene). The lateral limits of MTBE groundwater contamination are well defined by existing data. In addition, the vertical extent of the contaminant plume has not been well defined (i.e., depth to the bottom of the upper water-bearing zone and the top of the inferred lower confining layer). At this time, ACEH is not requiring additional groundwater monitoring wells, but is requesting

exploratory borehole sampling. Those data will then be used to determine if (and where) additional groundwater wells should be installed.

The available data suggest that groundwater contamination extends away from the former UFSTs to the south and east. Regional groundwater flow is expected to be to the west. As shown on Figure 4, we propose to advance six additional exploratory boreholes (following the first five bores of July 2003), both in the vicinity of the former UFST and outboard of the site, in an attempt to define the leading edge of contamination. These bores are labeled BH-06 through BH-11. Note the significant access constraints with regard to drilling, due to the fully-developed nature of the area. Drilling can only be conducted in the street, on adjacent sidewalks, and inside the subject property building. However, the proposed borehole locations should provide sufficient data to evaluate whether groundwater contamination extends beyond the immediate source area.

Each borehole will be advanced to first occurrence of groundwater (likely less than 15 feet deep). Soils will be continuously cored and geologically logged, and examined for evidence of contamination (visually and with a photoionization detector). Soil samples will be collected for off-site laboratory analysis at least every 5 feet in the unsaturated zone, including at significant lithologic changes and evidence of contamination. Upon reaching the saturated zone (i.e., water infiltrating the borehole), a depth-discrete "grab" groundwater sample (as required by ACEH) will be collected. Each borehole will then be deepened to a depth at least 3 feet below the bottom of the higher-permeability upper water-bearing zone (i.e., 3 feet into the lower-permeability zone that likely underlies the water-bearing zone and acts as a vertical confining layer). One soil sample will be collected from that zone for laboratory analysis to define the lower limit of contamination.

Attachment B contains our proposed methods and protocols for exploratory borehole drilling and sampling.

Item 4 – Hydraulic Gradients

Groundwater elevations (hence, hydraulic gradient) cannot be reasonably determined from exploratory boreholes (because the boreholes are not constructed in a manner conducive to measuring equilibrated groundwater levels). If and when groundwater monitoring wells are installed at the site, groundwater elevations will be determined by a well casing elevation survey conducted by a licensed land surveyor. Subsequent technical reports will evaluate cumulative hydraulic gradients, including groundwater elevation contour maps with a rose diagram showing

cumulative gradients. Prior to the installation of groundwater monitoring wells, we will estimate local groundwater flow direction based on the geometry of the contaminant plume.

Items 5 and 6 – Soil and Groundwater Analyses

A California-certified (ELAP) analytical laboratory will complete all laboratory analyses. All soil and groundwater samples will be analyzed for the known (and potential) site contaminants of concern, including:

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

Item 7 – Well Survey

The ACEH requested a survey to identify "wells" within ¼ mile of the subject property, and an evaluation of which wells are potential receptors with regard to site-sourced contamination. While the type of wells to be identified were not specifically delineated by ACEH (e.g., water supply, groundwater monitoring), we received verbal instructions to evaluate all water wells (Hwang, 2004). To accomplish this objective, we made a formal well survey request to the California Department of Water Resources (DWR), the agency ultimately responsible for permitting water supply wells.

DWR identified 117 wells within the specified radius. While the lateral extent of site-sourced groundwater contamination has not yet been fully characterized, it is unlikely that it extends more than 500 feet from the source area. Only 5 of the 117 identified wells are located within 500 feet. All of these wells are located at 2633 Telegraph Avenue (Sears Automotive), at least 300 feet west-northwest of the subject property (likely to be crossgradient or downgradient of the subject property). The wells are all 22 to 25 feet deep, and screened across the first aquifer (approximately 8 to 25 feet deep). The wells were likely installed to monitor a petroleum release. Based on their distance and location relative to groundwater flow direction, and because they were likely installed to monitor petroleum contamination similar to the subject property, these wells should not be a considered potential sensitive receptors with regard to subject property-sourced contamination

SES was informed by the property owner that a shallow groundwater monitoring well was located at the United Glass facility across from the subject property. With the permission of that property owner, SES reviewed their well installation documentation and inspected the well. We determined that one 14-foot-deep groundwater monitoring well is located approximately 70 feet southeast of the subject property's former UST (inside the United Glass building), and was installed to monitor a former fuel tank. The case was granted regulatory closure; however, the well was never closed. SES has confirmed by visual inspection that the well is intact and has water. This well did not appear in the DWR documentation provided to SES. Because the well is an inactive monitoring well, installed specifically to monitor petroleum contamination, this well should not be a considered a potential sensitive receptor with regard to subject property-sourced contamination. In addition, the well is screened only across the upper aquifer and could not act as a vertical pathway for contamination to reach deeper water-bearing units. Attachment C contains the well construction information for this well. The well location is shown in Figure 4.

If any future site characterization reveals the site-sourced groundwater contamination extending beyond 500 feet, SES will re-evaluate the DWR water well survey data regarding additional potentially-impacted off-site wells within the potential footprint of the contaminant plume.

ESTIMATED SCHEDULE

We estimate that the drilling will be conducted within 4 weeks following ACEH approval of this workplan. Analytical laboratory results will be completed on normal turnaround (10 working days). The documentation report will be submitted within 4 weeks following SES' receipt of analytical results.

TEAM QUALIFICATIONS

Stellar Environmental Solutions, Inc. has completed dozens of similar projects, including several under the jurisdiction of ACEH. Our team will consist of the following:

- Stellar Environmental Solutions, Inc. (owner's consultant responsible for overall project coordination, geologic evaluation, sampling, data evaluation, and report certification by a California Registered Geologist);
- Borehole driller with a current C-57 license;
- Underground utility locating firm; and

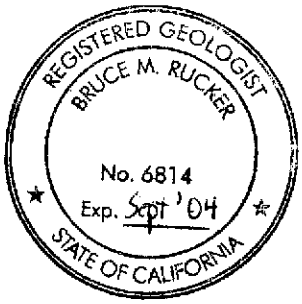
- Analytical laboratory with a current California ELAP certification.

We trust that this submittal meets your agency's needs. We request that ACEH provide to SES and the property owner written approval of this workplan. Please contact the undersigned directly if you have any questions.

Sincerely,

Bruce M. Rucker

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



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

Attachments: Figures 1 through 6
Tables 1 and 2 (Historical Analytical Results)
Attachment A – References
Attachment B – Drilling & Sampling Methods and Protocols
Attachment C – United Glass Groundwater Monitoring Well Documentation

cc: Mr. Michael J. Benner – property owner

N

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

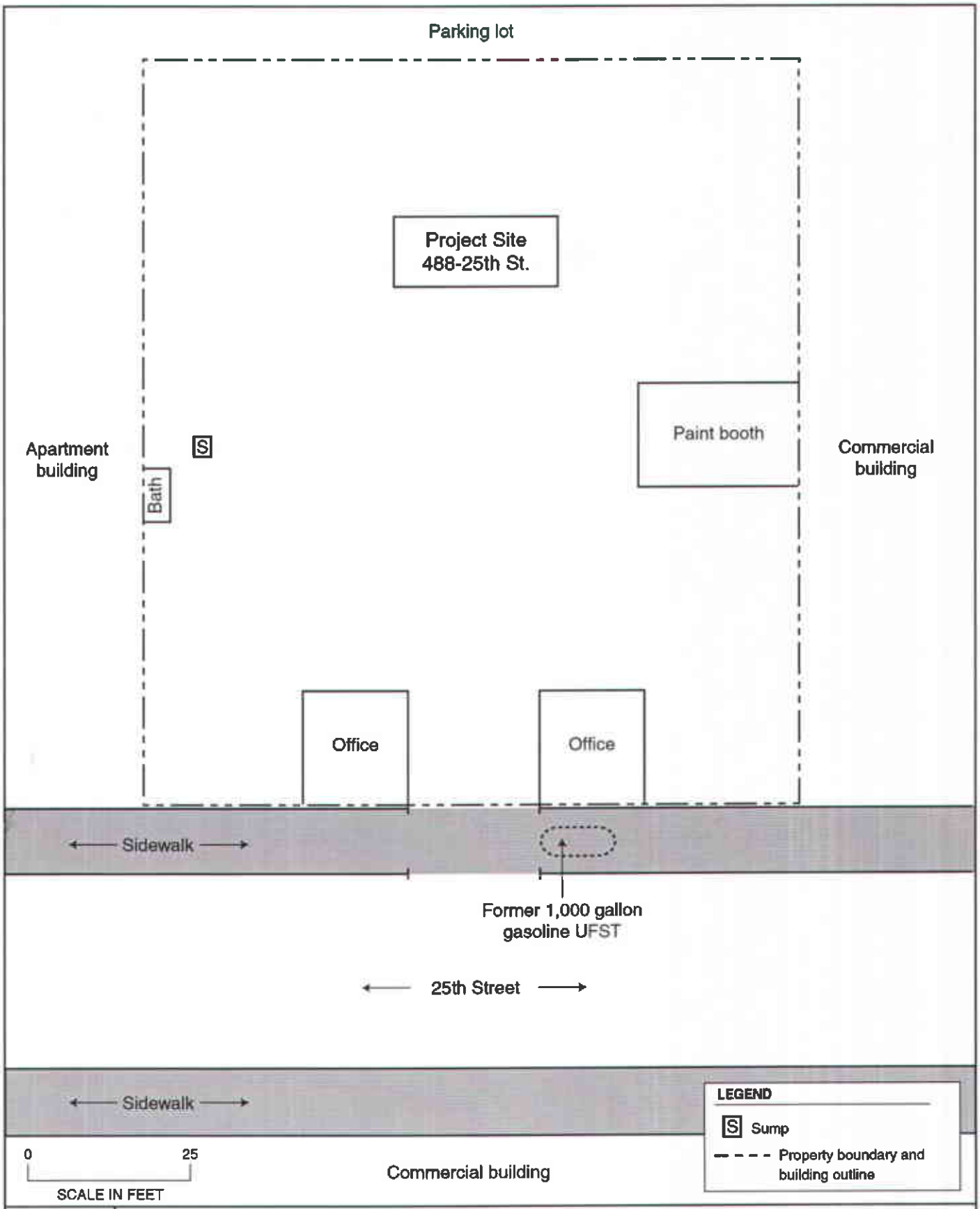
488 25th Street
Oakland, CA

By: MJC | JANUARY 2003

Figure 1

Stellar Environmental Solutions
Geoscience & Engineering Consulting

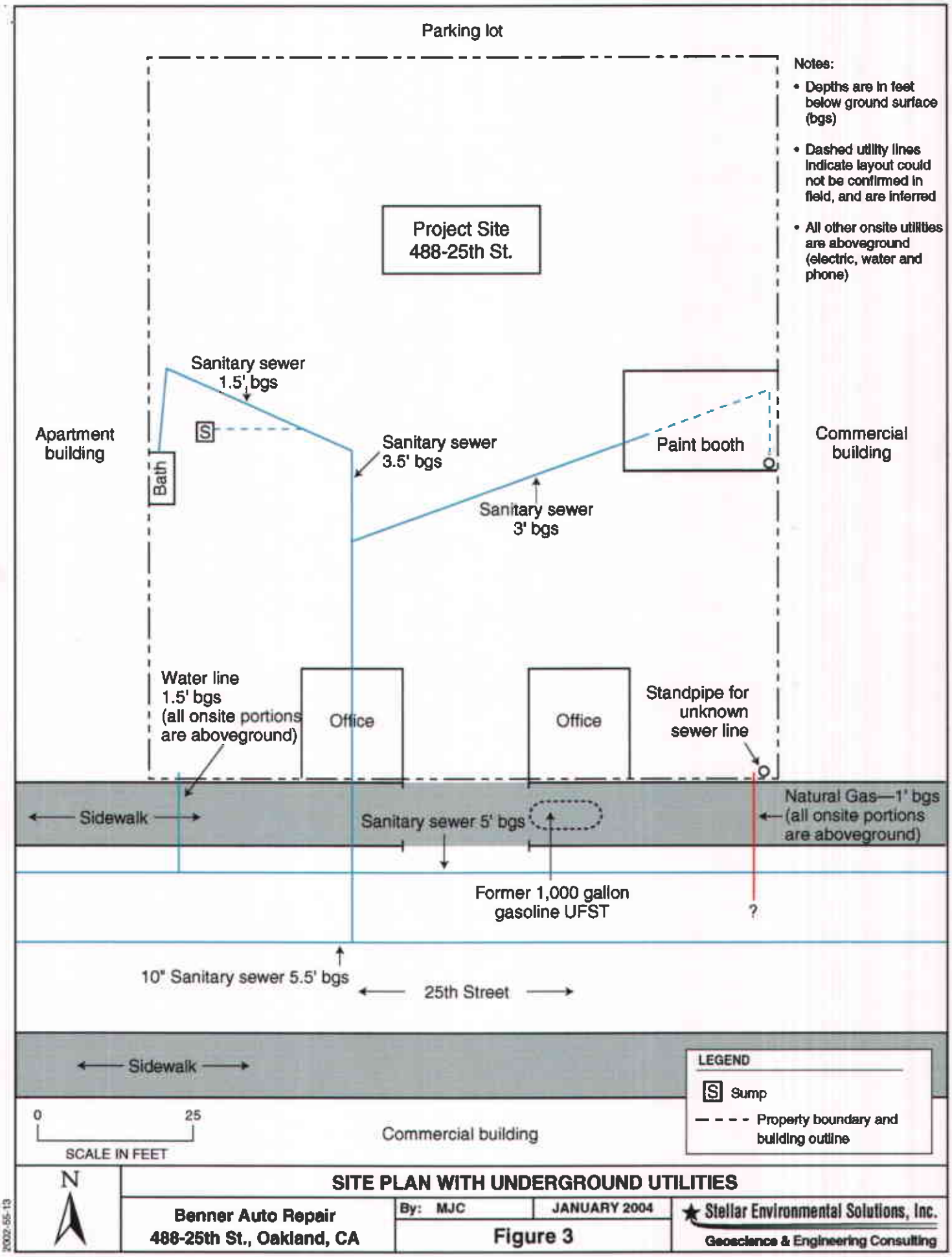
2002-55-01

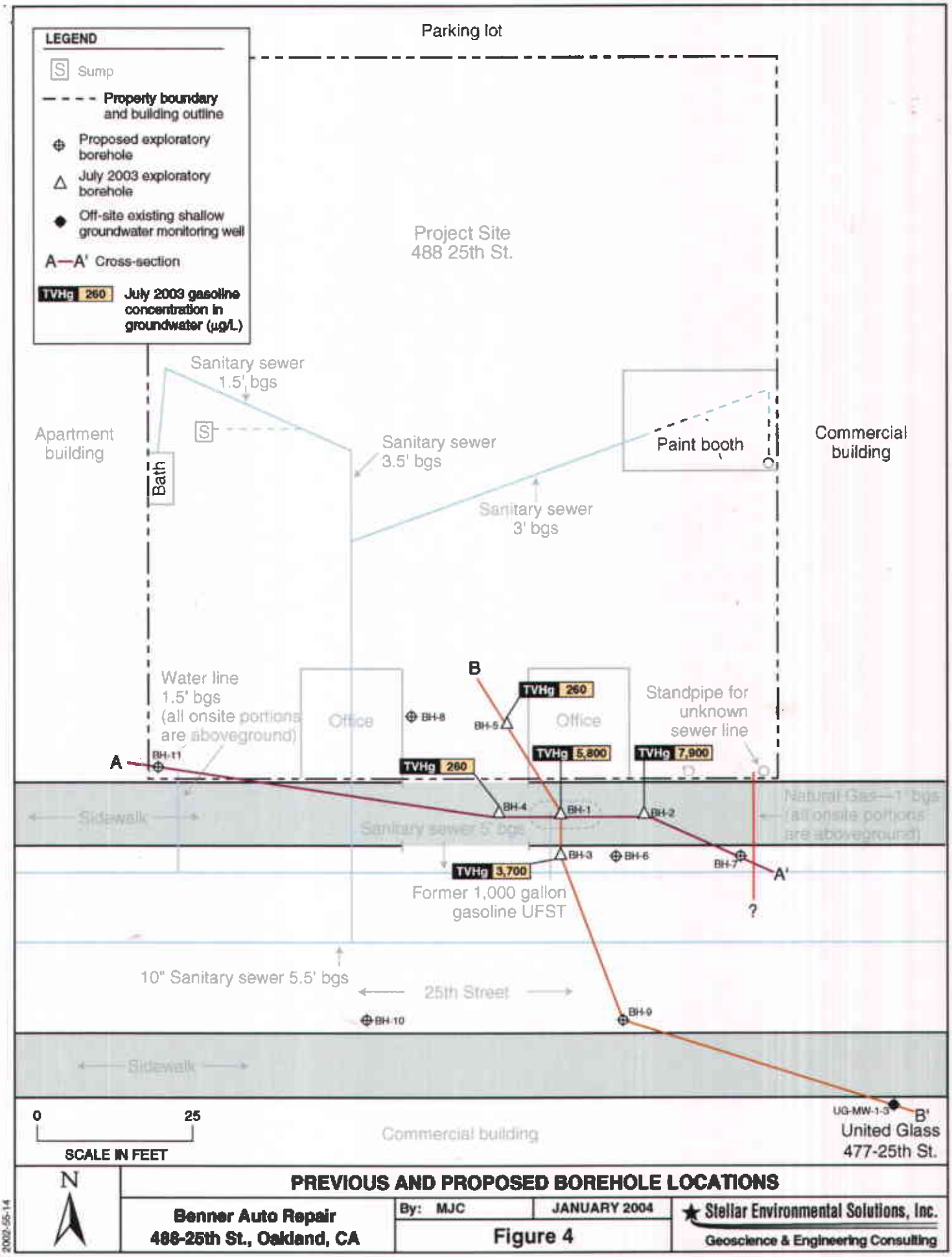


SITE PLAN AND ADJACENT LAND USE

Benner Auto Repair **488-25th St., Oakland, CA**	By: MJC	JANUARY 2004	★ Stellar Environmental Solutions, Inc. Geoscience & Engineering Consulting
	Figure 2		

2002-55-12

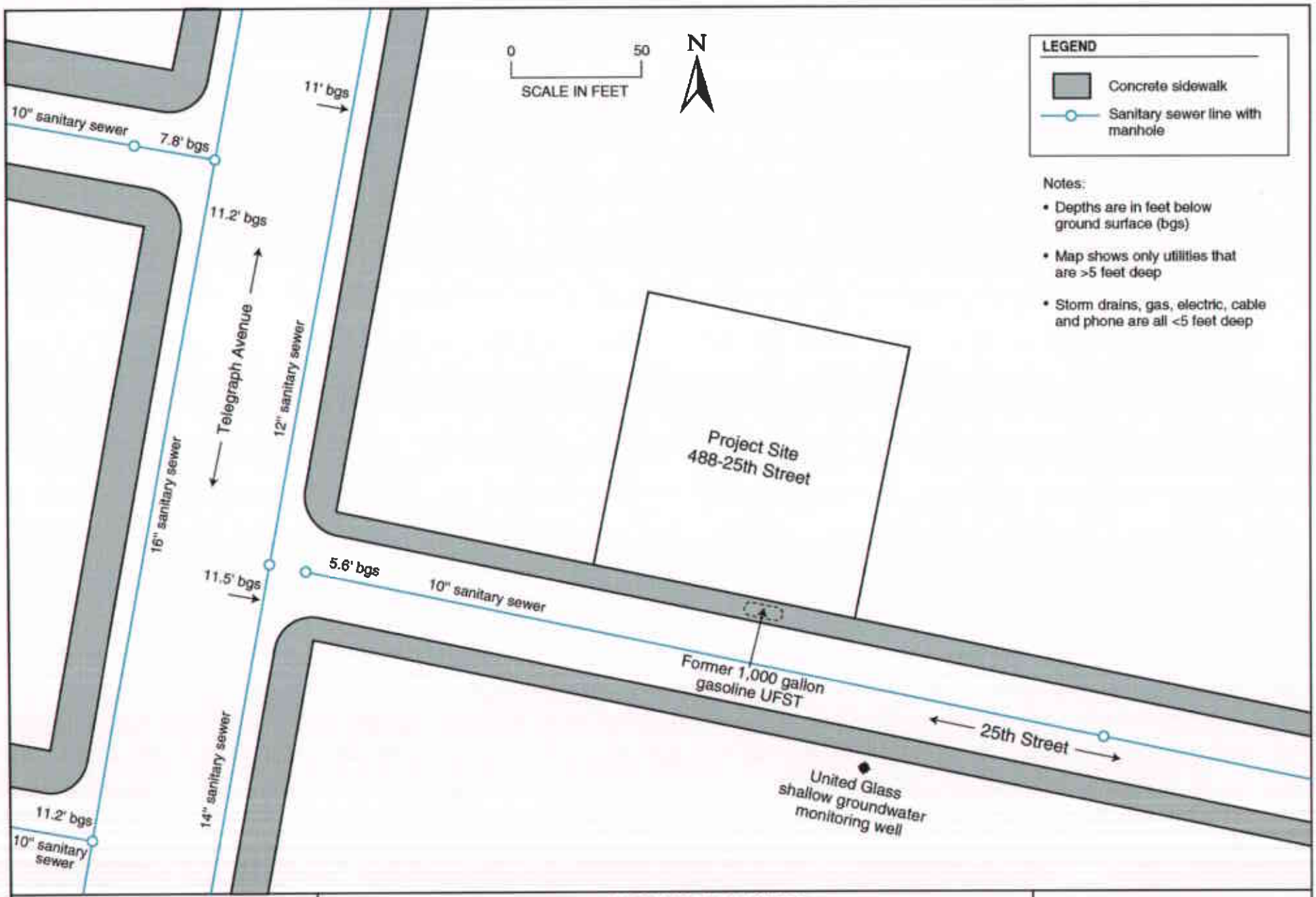

Parking lot
Notes:
• Depths are in feet below ground surface (bgs)
• Dashed utility lines indicate layout could not be confirmed in field, and are inferred
• All other onsite utilities are aboveground (electric, water and phone)
Project Site
488-25th St.
Sanitary sewer
1.5' bgs
Apartment building
S
Bath
Sanitary sewer
3.5' bgs
Paint booth
Commercial building
Sanitary sewer
3' bgs
Water line
1.5' bgs
(all onsite portions are aboveground)
Office
Office
Standpipe for unknown sewer line
Sidewalk
Sanitary sewer 5' bgs
Natural Gas—1' bgs
(all onsite portions are aboveground)
Former 1,000 gallon gasoline UFST
?
10" Sanitary sewer 5.5' bgs
25th Street
Sidewalk
LEGEND
S Sump
Property boundary and building outline
0
25
SCALE IN FEET
Commercial building
N
SITE PLAN WITH UNDERGROUND UTILITIES
Benner Auto Repair
488-25th St., Oakland, CA
By: MJC
JANUARY 2004
Figure 3
Stellar Environmental Solutions, Inc.
Geoscience & Engineering Consulting
2002-55-13



PREVIOUS AND PROPOSED BOREHOLE LOCATIONS

Benner Auto Repair **488-25th St., Oakland, CA**	By: MJC	JANUARY 2004	★ Stellar Environmental Solutions, Inc. Geoscience & Engineering Consulting
	Figure 4		

2002-55-14



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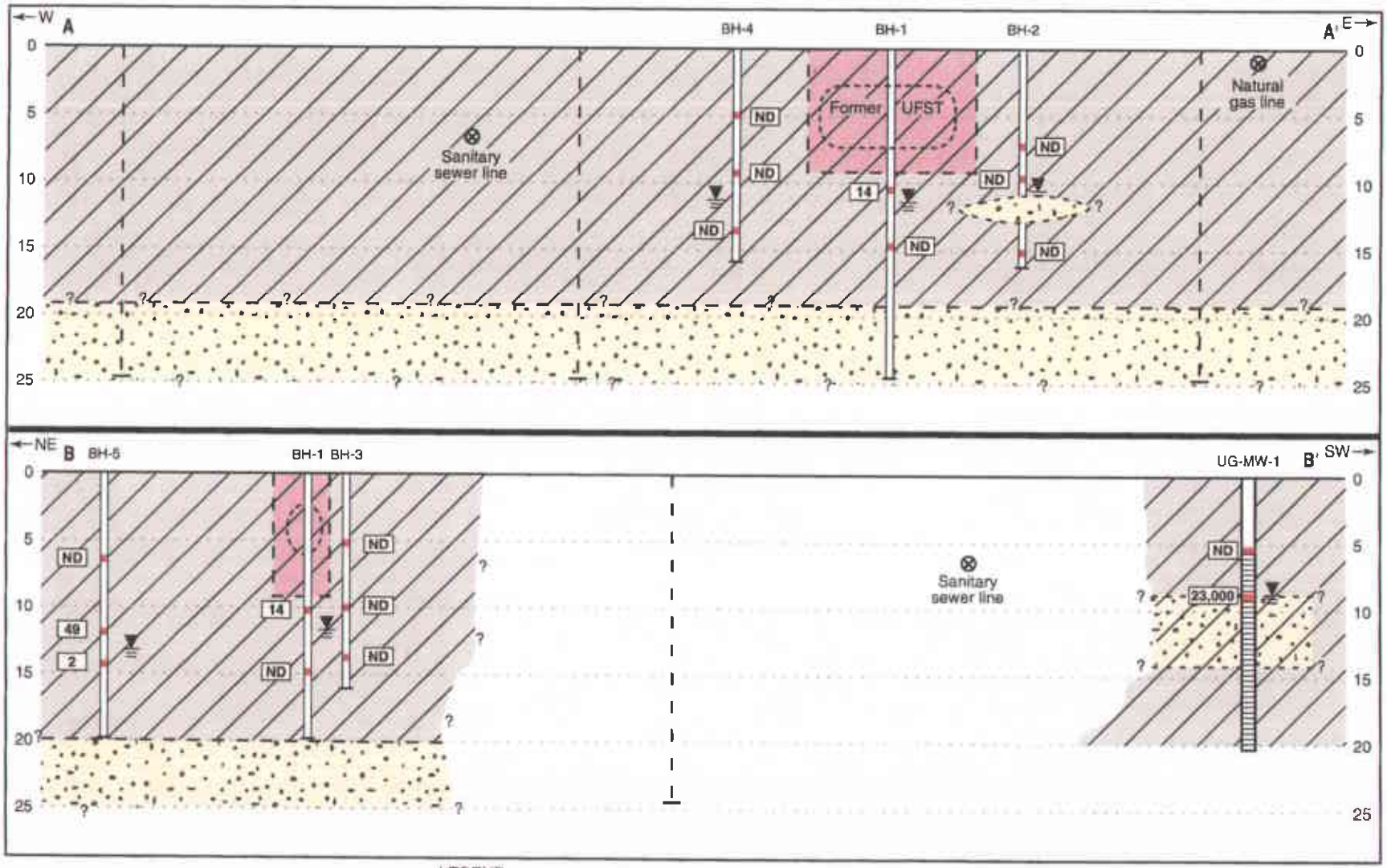
UNDERGROUND UTILITIES AND POTENTIAL RECEPTORS IN VICINITY OF PROJECT SITE
488-25th Street, Oakland, CA

Figure 5

by: MJC | JANUARY 2004

2002-55-15



LEGEND

BH-1 Exploratory Boring BH-1

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

MW-1 Monitoring Well UG-MW-1

Location of soil sample collected for laboratory analysis

Well screen interval

Silt/clay

Sand/gravel

Water level during drilling

0 10

HORIZONTAL SCALE (FEET)

Stellar Environmental Solutions, Inc.

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GEOLOGIC CROSS-SECTION WITH PREVIOUS AND PROPOSED BOREHOLES

488-25th Street, Oakland, CA

Figure 6

by: MJC

JANUARY 2004

2003-55-16

Table 1
Historical Soil Analytical Results
488 25th Street, Oakland, California [a]

Sample I.D.	Sample Depth (feet)	TVHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
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]
UFST Base-West	9.0	*<1.1*	*<0.0053*	*<0.0053*	*<0.0053*	*<0.0053*	*<0.0053*
July 2003 Exploratory Borehole Soil Samples							
BH-1-10'	10.0	14	*<0.0054*	*<0.0054*	*<0.0054*	*<0.0054*	*<0.022*
BH-1-14'	14.0	*<1.1*	*<0.0053*	*<0.0053*	*<0.0053*	*<0.0053*	*<0.021*
BH-2-6.5'	6.5	*<1.1*	*<0.0054*	*<0.0054*	*<0.0054*	*<0.0054*	*<00022*
BH-2-9'	9.0	*<1.0*	*<0.0050*	*<0.0050*	*<0.0050*	*<0.0050*	*<0.020*
BH-2-15'	15.0	*<1.1*	*<0.0053*	*<0.0053*	*<0.0053*	*<0.0053*	*<0.021*
BH-3-5'	5.0	*<1.0*	*<0.0052*	*<0.0052*	*<0.0052*	*<0.0052*	*<0.021*
BH-3-9'	9.0	*<1.1*	*<0.0054*	*<0.0054*	*<0.0054*	*<0.0054*	*<0.022*
BH-3-13'	13.0	*<1.0*	*<0.0052*	*<0.0052*	*<0.0052*	*<0.0052*	*<0.021*
BH-4-5'	5.0	*<1.0*	*<0.0051*	*<0.0051*	*<0.0051*	*<0.0051*	*<0.020*
BH-4-9'	9.0	*<1.0*	*<0.0052*	*<0.0052*	*<0.0052*	*<0.0052*	*<0.021*
BH-4-13'	13.0	*<1.1*	*<0.0055*	*<0.0055*	*<0.0055*	*<0.0055*	*<0.022*
BH-5-6.5'	6.5	*<1.1*	*<0.0054*	*<0.0054*	*<0.0054*	*<0.0054*	*<0.022*
BH-5-11.5'	11.5	49	*<0.010*	*<0.010*	*<0.010*	*<0.010*	*<0.040*
BH-5-13'	13.0	1.7	*<0.0053*	*<0.0053*	*<0.0053*	*<0.0053*	*<0.021*
Soil ESLs [c]		**100 / 400**	**0.045 / 0.39**	**2.6 / 8.4**	**2.5 / 24**	**1.0 / 1.0**	**0.028 / 1.0**

Notes:

[a] All concentrations in mg/kg.

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

[c] First value is for sites where groundwater is a potential or current drinking water source; second value is for sites where it is not.

ESL = RWQCB Environmental Screening Levels for commercial/industrial sites with coarse-grained soil.
TVHg = Total volatile hydrocarbons – gasoline range.

Table 2
July 2003 Groundwater Analytical Results
488 25th Street, Oakland, California [a]

Sample I.D.	Sample Depth (feet)	TVHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
BH-01-GW	~ 10-11	5,800	*<0.50*	*<0.50*	7.4	4.5	*<2.0*
BH-02-GW	~ 10-11	7,900	*<13*	15	24	61	*<50*
BH-03-GW	~ 10-11	3,700	*<1.0*	*<1.0*	*<1.0*	*<1.0*	*<4.0*
BH-04-GW	~ 10-11	260	*<0.50*	*<0.50*	*<0.50*	*<0.50*	*<2.0*
BH-05-GW	~ 10-11	260	*<0.50*	*<0.50*	*<0.50*	*<0.50*	3.1
Groundwater ESLs		**100**	**1.0**	**40**	**30**	**13**	**5.0**
Drinking Water Standards [a]		**NLP**	**1.0**	**40**	**30**	**20**	**5.0 [b] / 13**

Notes:

[a] All concentrations in µg/L.

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

[c] Secondary (nuisance) MCL.

NLP = No Level Published.
ESL = RWQCB Environmental Screening Levels for commercial/industrial sites with coarse-grained soil.
TVHg = Total volatile hydrocarbons – gasoline range.

REFERENCES

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

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

Hwang, Don, 2004. Hazardous Materials Specialist, Alameda County Environmental Health. Personal communication to Bruce Rucker of SES, January 8.

Stellar Environmental Solutions, Inc. (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 21.

ATTACHMENT B
DRILLING & SAMPLING METHODS AND PROTOCOLS

Prior to drilling, SES will prepare a site-specific Health and Safety Plan that will include the proposed drilling activities. We will apply for the requisite borehole drilling permit from Alameda County Public Works Agency, and we will notify Underground Service Alert of proposed drilling for their notification to utilities to mark any potential underground utilities.

The boreholes will be advanced with a Geoprobe™ (direct-push) or equivalent rig that advances approximately 2-inch-diameter sampling rods into undisturbed soil. Soil samples are collected in either acetate or metal sleeves inside the sampling rods. The sleeves selected for off-site laboratory analysis are then capped (with non-reactive plastic caps) and labeled. Depth-specific "grab" groundwater samples will be collected by advancing into undisturbed soil a stainless steel sampling rod with a sacrificial tip and integral well screen. Upon reaching the water table, the sampling string will be raised by approximately 1 foot, dropping the sacrificial tip and exposing the screen interval. The sample will then be collected through new Tygon™ tubing connected to a vacuum pump. The water will then be transferred directly to the appropriate sampling containers.

Samples will be securely sealed in appropriate containers, placed in an ice chest with ice at approximately 4 degrees C., and transported to the analytical laboratory under chain-of-custody record.

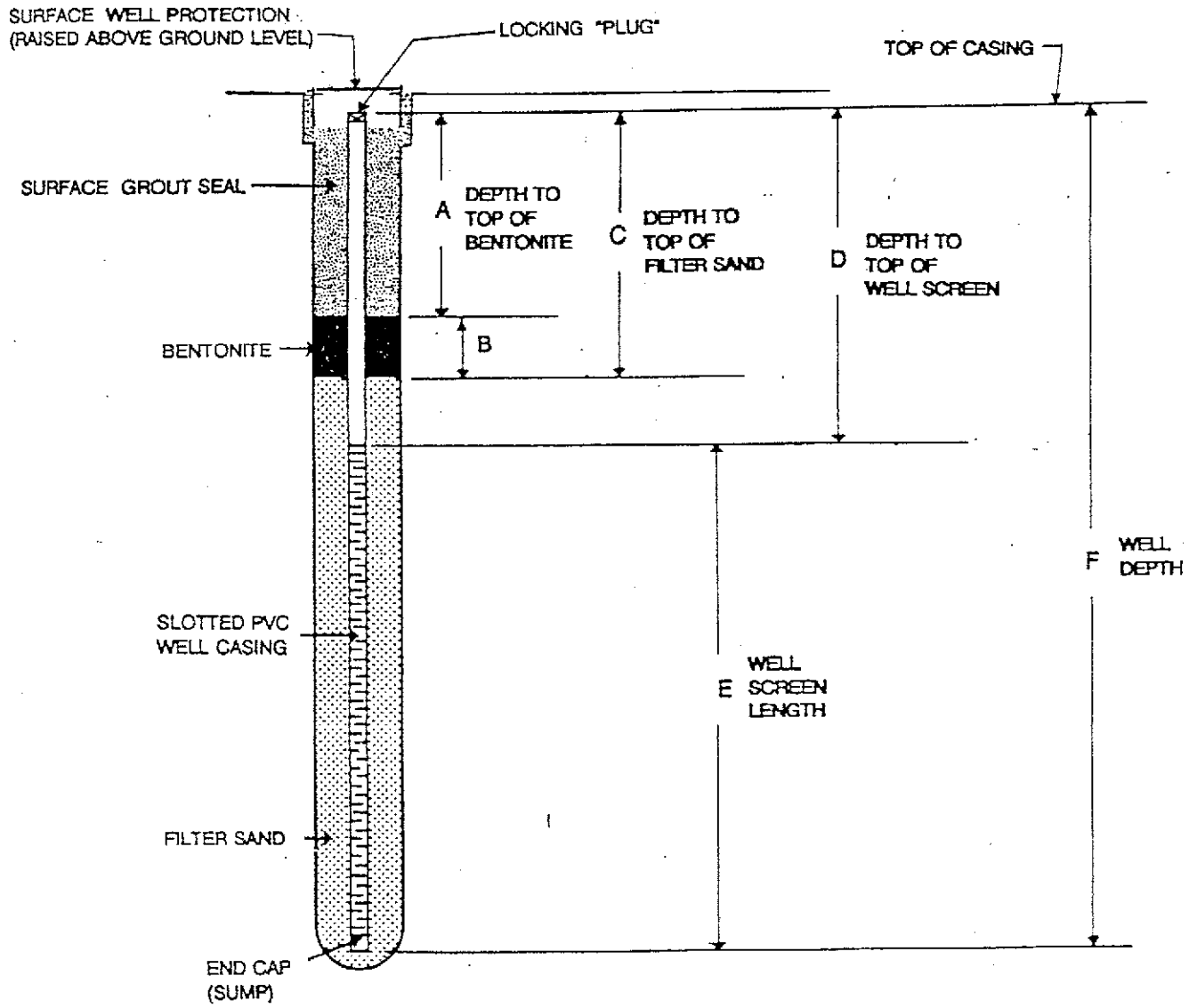
Waste soil (unused samples) will be temporarily containerized on-site in labeled, 5-gallon plastic pails with sealing tops. This soil will be appropriately profiled and disposed of when it has been determined that no further waste soil will be generated, or will be combined with any future generated waste soil from subsequent investigation phases.

WELL BORING LOG MW-1

Century West Engineering

Site Location: 477 25TH STREET, OAKLAND	Boring ID: MW-1
Boring Location: (Inside building, downgradient from UST)	Elevation:
Purpose: Subsurface Investigation	Logged By: Bob Bogar
Date: 01/25/94	Blank Casing: From: 0.0 To: 5.25
Consulting Firm: Century West Engineering	Perforations: From: 5.25 To: 20.0
Project Number: 20511-010-01	Filter Sand: From: 20.0 To: 4.5
Drilling Contractor: Kvilhaug Well Drillers	Bentonite: From: 4.5 To:3.5
Drilling Method: Hollow Stem Auger	Grout: From: 3.5 To: 1.0

Depth	Lab Results TPH-gas	Sample ID	Blow Counts	Profile	Soil Description		Remarks
01					0 - 1.0 ft	Concrete and soil (non-native).	A 4in lens of soil separates two slabs of concrete in the area of the monitoring well.
02					1.0 - 6.0 ft	Dark brown, sligtly moist,clayey SILT. No hydrocarbon odor or discoloration.	
03							
04							
05							
06	ND	SB-1	9		6.0 - 9.0 ft	Dark grey to green, SILT; with clasts (angular pebbles) 1-4mm. Some rust color, no hydrocarbon odor.	
07			15				
08			22				
09		SB-2	9	▽			
10			7				
11			5				
12					9.0 - 13.0 ft	Wet, dark green, coarse SAND. Strong gasoline odor.	
13							
14							
15							
16					13.0 - 20.0 ft	Wet, light to dark green, clayey SILT. Slight to moderate gasoline odor.	
17							
18					Ground Water Depth - 9.0 feet Final Auger Well Depth - 20.0 feet		
19							
20							



WELL SPECIFICATIONS		MW-1	
WELL CASING:	Two-inch Sch. 40 PVC	A	3.0 feet
WELL SLOT SIZE:	0.020 inch	B	1.0 feet
BENTONITE:	Hydrated pellets	C	4.0 feet
SURFACE SEAL:	Cement slurry (bent. < 5%)	D	5.25 feet
WELL PLUG:	Locking expandable cap	E	14.81 feet
SURFACE PROTECTION:	Traffic rated, water tight	F	20.06 feet

DESIGN BY		CHECKED BY		WELL CONSTRUCTION DIAGRAM	APPROVED
SURVEY BY		SCALE	NO SCALE		DATE

CENTURY WEST ENGINEERING