CAMBRIA

July 20, 2006

Mr. Don Hwang
Hazardous Materials Specialist
Alameda County Health Agency
Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502-6577

Re: **Work Plan Additional Site Assessment**
Hooshi's Auto Service
1499 MacArthur Boulevard, Oakland, California 94602
Fuel Leak Case No. RO0000516
Cambria Project No. 129-0741

Dear Mr. Hwang:

On behalf of our client Ms. Naomi Gatzke, Cambria Environmental Technology, Inc. (Cambria) has prepared the following *Work Plan Additional Site Assessment* for the above referenced site.

If you would like to discuss this work plan or the project, please contact me at your convenience using 510/420-3307.

Sincerely,
Cambria Environmental Technology, Inc.

Mark Jonas, P.G.
Senior Project Manager

Enclosure

cc: Ms. Naomi Gatzke, 1545 Scenic View Drive, San Leandro, California 94577
Mr. Kevin Graves, SWQCB, Underground Storage Tank Cleanup Unit, P.O. Box 2231, Sacramento, CA 95812

Cambria Environmental Technology, Inc.

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WORK PLAN
ADDITIONAL SITE ASSESSMENT
HOOSHI'S AUTO SERVICE
1499 MACARTHUR BOULEVARD, OAKLAND, CALIFORNIA 94602
FUEL LEAK CASE NO. RO0000516

JULY 20, 2006

Prepared for:

Ms. Naomi Gatzke
1545 Scenic View Drive
San Leandro, California 94577

Prepared by:

Cambria Environmental Technology, Inc.
5900 Hollis Street, Suite A
Emeryville, California 94608

Cambria Project No. 129-0741

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Mark Jonas, P.G.
Senior Project Manager

PROFESSIONAL GEOLOGIST
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WORK PLAN
ADDITIONAL SITE ASSESSMENT
HOOSHI'S AUTO SERVICE
1499 MACARTHUR BOULEVARD, OAKLAND, CALIFORNIA 94602

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WORK PLAN
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FUEL LEAK CASE NO. RO0000516

JULY 20, 2006

1.0 INTRODUCTION

On behalf of our client Ms. Naomi Gatzke, Cambria Environmental Technology, Inc. (Cambria) has prepared the following *Work Plan Additional Site Assessment* (Work Plan) for the above referenced site. This Work Plan is in response to a May 11, 2006 letter (Appendix A) from Alameda County Health Care Services Agency, Environmental Health Services (ACEH) requesting additional assessment of the site. The site is referenced under ACEH Fuel Leak Case No. RO0000516. Following is a brief discussion of the site, previous studies, sampling rationale, and a proposed scope of work for additional site assessment.

2.0 SITE BACKGROUND

2.1. Site Description

The site is located at 1499 MacArthur Boulevard in Oakland, California and currently operates as an automobile service business. It is located in a commercial and residential area, bound by MacArthur Boulevard to the north, 14th Avenue to the east, and Interstate 580 to the south. Surrounding topography is relatively hilly and generally slopes to the south and southwest. Prior to 1990, the site apparently operated as a gasoline service station. Figures 1 and 2 present the facility location and a site plan, respectively.

2.2. Geology and Hydrogeology

Geology: The site is located in the Coast Range Physiographic Province, characterized by northwest-southeast trending valleys and ridges. This region lies between the Pacific Ocean to the west and the Great Valley to the east. The oldest known bedrock in the Coast Range Province is marine sedimentary and volcanic rocks that form the Franciscan Assemblage. Geologic formations in the San Francisco Bay Region range in age from Jurassic to Recent Holocene.

The site is located to the west of the Oakland-Berkeley Hills on the East Bay Plain, which generally slopes gently to the west towards San Francisco Bay. The San Francisco Bay is located in a broad depression in the Franciscan bedrock resulting from an east-west expansion between the San Andreas and Hayward fault systems. Unconsolidated sediments in the East Bay Plain vary in thickness, with some areas up 1,000 ft thick. From oldest to youngest, the unconsolidated sediments are 1/ Santa

Clara Formation, 2/ Alameda Formation, 3/ Temescal Formation, and 4/ artificial fill. The Early Pleistocene Santa Clara Formation consists of alluvial fan deposits inter-fingered with lake, swamp, river channel, and flood plain deposits, ranging from 300 to 600 ft thick. The Late Pleistocene Alameda Formation was deposited primarily in an estuarine environment and consists of alluvial fan deposits bound by mud deposits on the top and bottom of the formation. The Alameda Formation ranges from 26 to 245 ft thick and is subdivided into the Yerba Buena Mud, San Antinio, Merritt, and Young Bay Mud Members. The Early Holocene Temescal Formation is an alluvial fan deposit consisting primarily of silts and clays with some gravel layers. The Temescal Formation ranges from 1 to 50 ft thick, thinning toward the bay. Based on the Department of the Interior U.S. Geological Survey, *Geologic Map of the Hayward Fault Zone, 1995,* the site geology consists of undifferentiated Quaternary surficial deposits. Under the fill, the shallow unconsolidated sediments at the site are probably Temescal Formation.

Based on previous studies, soil material beneath the site consists of fill, clay, and clayey sand. The apparent fill consists of poorly graded sands, gravels, and clay materials, from 0 to 6 feet (ft) below ground surface (bgs). Underlying the fill material is clay approximately 4 to 8 ft in thickness. Below the clay is clayey sand, observed to the total explored depth of 20 ft bgs.

Hydrogeology: The site is located in the East Bay Plain Subbasin, Groundwater Basin No. 2-9.04 (Department of Water Resources 2003). The East Bay Plain Subbasin is a northwest trending alluvial basin, bounded on the north by San Pablo Bay, on the east by the contact with Franciscan basement rock, and on the south by the Nile Cone Groundwater Basin. The East Bay Plain Subbasin extends beneath the San Francisco Bay to the west. The East Bay Plain Subbasin aquifer system consists of unconsolidated sediments of Quaternary age. These include the Santa Clara Formation, Alameda Formation, Temescal Formation, and artificial fill. The water-bearing formation at the site is currently undefined. In the project area most rainfall occurs between November and March. The average annual rainfall is approximately 23 inches.

Throughout most of the East Bay Plain in the region of the site, water level contours show that the general direction of groundwater flow is east to west, towards San Francisco Bay. Groundwater flow direction typically correlates to topography.

Based on the regional topography and the results from years of groundwater monitoring, the groundwater beneath the site flows in a southwesterly direction, towards the San Francisco Bay. According to the California Regional Water Quality Control Board San Francisco Bay Region's Water Quality Control Plan (1995), this groundwater basin has been designated as existing beneficial use for municipal and domestic, industrial process, industrial service, and agricultural water supplies.

Previous to the fourth quarter 2000, the depth to groundwater had ranged from approximately 8.15 to 18.55 ft bgs and groundwater tended to mound in the vicinity of MW-2. Since the fourth quarter 2000 event, the depth to groundwater has ranged from approximately 4.88 to 14.05 ft bgs and the gradient has generally been towards the southwest.

2.3. Previous Investigations and Activities

UST Removal Activities: Three underground storage tanks (USTs) were removed from the site by "others" in October 1990, after which subsurface soil sampling was performed. The size, construction, contents, and condition of the USTs were not reported. No observations of a release, soil or groundwater sampling, number or location of piping and/or dispenser locations, or waste manifests were included in the reviewed report.

Subsurface Assessment Activities: A subsurface assessment was conducted by "others" in 1993, during which three groundwater monitoring wells (MW-1, MW-2, and MW-3) were installed at the site. Results of this assessment indicated that the soil and groundwater beneath the site were impacted by petroleum hydrocarbons that may have leaked from the former USTs.

Phase II Site Characterization: Century West Engineering Corporation (CWEC) performed site characterization activities as described in their *Report of Phase II Site Characterization*, dated August 30, 1996 for the subject site. This report indicated that:

- On June 24, 1996, CWEC advanced 12 Geoprobe™ borings to a maximum depth of approximately 20 ft bgs to collect soil and groundwater samples.
- On June 27, 1996, CWEC installed three groundwater monitoring wells (MW-4, MW-5, and MW-6). CWEC concluded that high concentrations of hydrocarbons in soil and groundwater, and separate phase hydrocarbons (SPH) are probably limited to the UST excavation vicinity (Figure 2).
- In July 1996, CWEC performed a soil vapor extraction (SVE) pilot test at three monitoring wells (MW-1, MW-2, and MW-5) and also performed a hydraulic slug test in two site wells. Soil vapor samples were collected during the pilot test. As a result of the pilot test, CWEC concluded that significant vacuum influence was observed in wells MW-1, MW-2, MW-3, and MW-5 and high concentrations of volatile organic compounds (VOCs) were measured in vapor samples collected from wells MW-1, MW-2, and MW-5. Vacuum influence was not observed at wells MW-4 or MW-6.
- As a result of the hydraulic slug tests, CWEC concluded the hydraulic conductivity (K) of aquifer materials at locations MW-1 and MW-3 had a K value of 1.0×10^{-5} centimeters per second (cm/s) and 2.6×10^{-5} cm/s, respectively.

Remedial Activities: On September 19, 2000, Cambria installed a SVE remediation system. Monitoring wells MW-1, MW-2, and MW-5 were connected to the system. On October 23, 2000, in-well air sparging was initiated in wells MW-2 and MW-5 to help remove any remaining SPH. The SVE system operations were performed for eight months (September 2000 through April 2001) and were subsequently halted due to low hydrocarbon removal rates. A total of 16.5 pounds of hydrocarbons were removed during the SVE activities. SVE helped significantly reduce the dissolved-phase hydrocarbon concentrations in monitoring wells in MW-2 and MW-5.

Groundwater Monitoring: Groundwater onsite has been monitored and sampled from January 1993 to the present. During the fourth quarter 2000, groundwater levels rose approximately 5 ft and have remained at these levels to date. However, groundwater levels are still within the well screen intervals of 5 to 20 ft. Since the fourth quarter of 2000, groundwater depths have fluctuated between 4.88 and 14.05 ft bgs. Seasonal groundwater depth fluctuations have been relatively flat with first and second quarter groundwater depths usually being slightly less than the third and fourth quarters. The second quarter 2006 groundwater monitoring and sampling data and other historical groundwater data are presented as Table 1

2.4. Hydrocarbon Distribution in Soil

Sample results from borings indicated that hydrocarbons were concentrated around 10 to 15 ft bgs Soil results are provided in Table 2. Sample results from the borings suggest that the fuel release occurred near the former USTs. The highest Total Petroleum Hydrocarbons as gasoline (TPHg) concentration detected in soil was 1,460 milligrams per kilogram (mg/kg) at 10 ft bgs in boring B2 for monitoring well MW-2. The highest benzene concentration was detected at 3.1 mg/kg in boring G-9 from 12.5 ft bgs. The proposed verification samples will help to determine the distribution of any hydrocarbons in soil adjacent to the former excavation.

2.5. Hydrocarbon Distribution in Groundwater

Groundwater at the site is currently monitored by six monitoring wells, MW-1 through MW-6. TPHg and benzene concentrations in all of the site wells generally tend to steadily decrease. SPH was observed in wells MW-2 and MW-5 until August 2000. Since then, the highest TPHg concentration detected in groundwater was in well MW-2 on December 1, 2000, at 260,000 micrograms per liter (µg/L). The highest concentration of benzene was 1,200 µg/L, from MW-2 on January 27, 2005. During the second quarter 2006 groundwater monitoring event the highest TPHg and benzene concentration detected was in well MW-2 at 18,000 µg/L and 280 µg/L, respectively. The highest methyl tertiary butyl ether (MTBE) concentration detected in groundwater was in well MW-1 in June 1996, at 80 µg/L. No MTBE was detected during the last twelve groundwater monitoring events (Table 1). Based on recent groundwater monitoring events the hydrocarbon plume appears to be confined to the site.

3.0 PROPOSED SCOPE OF WORK

This section presents the scope of work for soil, groundwater, and soil vapor sampling for additional site assessment. In summary, it is currently anticipated that five (5) borings will be used to collect verification soil samples at 5, 10, and 15 ft bgs and grab groundwater samples. Soil and groundwater samples will be analyzed using EPA Method 8260 for TPHg; benzene, toluene, ethylbenzene, and xylenes (BTEX); and MTBE. Figure 3 presents the proposed borings for soil and groundwater samples. Nine (9) additional boring will be used to collected soil gas samples. The soil vapor samples will be analyzed for benzene using EPA Method 8260. Figure 3 presents the proposed soil gas sampling locations

3.1. Sampling Rationale

The sampling rationale is presented in the May 11, 2006 ACEH (Appendix A) letter. Proposed soil samples are to provide verification sampling results adjacent to the former UST excavation. This will help to determine if residual contamination exists in soil beyond the original excavation. Grab groundwater samples were also requested in the May 11, 2006 ACEH letter. Soil gas sampling results are to determine if soil gas concentrations of benzene may present a potential vapor intrusion risk.

3.2. Pre-Sampling Preparations

Prior to performing on-site sampling activities, regulatory approval will be received for the proposed sampling approach, a site-specific Health and Safety Plan (HSP) will be prepared, utility clearance will be performed, and a boring permit will be submitted (if necessary) and approved.

3.2.1. Regulatory Approval of Sampling Approach

This Work Plan presents the proposed scope of work for the sampling approach. The scope of work shall be approved by the ACEH prior to initiating field activities.

3.2.2. Health and Safety Plan

A site-specific HSP will be prepared for the proposed field activities. The HSP will be maintained on-site during field work.

3.2.3. Utility Clearance

Prior to boring, the proposed boring locations will be marked with white paint and Underground Service Alert (USA) will be notified to perform a utility survey of USA members. Because of the limits of the USA survey, a utility locating service will be subcontracted to also perform an additional utility survey of those areas proposed for borehole sampling. This will help to identify subsurface utilities at boring locations. In addition, during boring a hand auger or air knife may be used to clear to a reasonable depth and to collect soil samples.

3.2.4. Permit

Based on regulatory requirements of the local agency, a soil boring permit will be obtained from Alameda County Public Works Agency.

3.3. Borings, Soil Gas, and Sampling Procedures

Proposed borings for soil and groundwater samples are presented in Figure 3 *Proposed Verification Sampling Locations.* Borings for soil gas samples are presented in Figure 4 *Proposed Soil Gas Sampling Locations.* Actual boring locations may be modified based on subsurface utilities or obstructions. This section presents proposed borings, soil-gas, and sampling procedures.

3.3.1. Equipment Decontamination

Prior to use and between sampling events, all downhole and sampling equipment will be cleaned with Alconox®, or an appropriate alternative, and deionized or distilled water.

3.3.2. Boring Procedures

After pre-sampling preparations are complete, a field program using a hand auger or air knife and a C-57 drilling contractor will be implemented. It is currently anticipated that five (5) boreholes will be drilled to 15 ft bgs (see Figure 3). Soil samples will be collected from 5, 10, and 15 ft bgs. A grab groundwater sample will be collected from groundwater from the base each of the five (5) boreholes. If groundwater is not encountered within the upper 15 ft, the borehole will be extended to a maximum depth of 20 ft bgs to attempt to collected a groundwater sample. A hand auger or air knife and then a Geoprobe™ will be used to collect lithologic and analytical samples. After sampling activities are complete the boring will be properly closed with grout and capped with like material as the existing surface.

Soil gas sampling borings are presented in Figure 4. It is currently anticipated that soil gas samples will be collected from 5 ft bgs, assuming that groundwater is below this horizon.

Standard field procedures for hand auger soil borings, Geoprobe™, and for soil gas sampling are presented in Appendix B *Standard Field Procedures.* These procedures provide general field guidance.

3.3.3. Soil Sampling Procedures

At each boring, soils will be examined for staining and odor and screened using a photoionization detector (PID). Soil samples will be collected from 5, 10, and 15 ft bgs using the general protocol presented in Appendix B *Standard Field Procedures.* Soil samples will be collected in polyethene or brass tubes, or glass sampling containers with no head-space remaining. Samples will be labeled, placed in a cold iced insulated container for transport to the laboratory under a chain-of-custody record.

3.3.4. Groundwater Sampling Procedures

Grab groundwater samples will be collected from each borehole, if possible. The protocols presented in Appendix B *Standard Field Procedures* provide general guidance for collecting the grab groundwater sample.

3.3.5. Soil Gas Sampling Procedures

Soil gas samples will be collected from each soil-gas borehole, if possible (see Figure 4). The protocols presented in Appendix B *Standard Field Procedures* provide general guidance for collecting soil gas samples.

3.3.6. Sample Documentation

Sampling containers will be labeled in the field with the job number, sampling location, date and time of sample, and requested analysis. A chain-of-custody record will be initiated and updated throughout handling of the samples and will accompany the samples to the laboratory.

3.4. Soil, Groundwater, and Soil Gas Analysis

Soil, groundwater, and soil gas vapor samples will be analyzed, as follows:

3.4.1. Soil Analysis

Soil samples will be analyzed for TPHg, BTEX, and MTBE. The following Table 3-1 presents soil analysis, sampling containers, preservation, detection limit, and holding time:

Table 3-1
Soil Analysis, Sampling Containers, Preservatives, Detection Limits, and Holding Times

Analysis and Method	Sampling Containers	Preservatives	Detection Limit	Holding Times
TPHg (EPA Method 8260)	Glass or Tube	Cold	1.0 mg/kg	14 days
BTEX (EPA Method 8260)	Glass or Tube	Cold	0.005 mg/kg	14 days
MTBE (EPA Method 8260)	Glass or Tube	Cold	0.005 mg/kg	14 days

3.4.2. Groundwater Analysis

Groundwater samples will be analyzed for TPHg, BTEX, and MTBE. The following Table 3-2 presents groundwater analysis, sampling containers, preservation, detection limit, and holding time:

Table 3-2
Groundwater Analysis, Sampling Containers, Preservatives, Detection Limits, and Holding Times

Analysis and Method	Sampling Containers	Preservatives	Detection Limit	Holding Times
TPHg (EPA Method 8260)	3 VOAs	HCl	50 ug/L	14 days
BTEX (EPA Method 8260)		HCl	0.5 ug/L	14 days
MTBE (EPA Method 8260)	2 VOAs	HCl	0.5 ug/L	14 days

3.4.3. Soil Vapor Analysis

Soil vapor samples will be analyzed for benzene. The following Table 3-3 presents soil vapor analysis, sampling containers, preservation, detection limit, and holding time:

Table 3-3
Soil Vapor Analysis, Sampling Containers, Preservatives, Detection Limits, and Holding Times

Analysis and Method	Sampling Containers	Preservatives	Detection Limit	Holding Times
Benzene (TO-15, TO-14A, or 8260)	Summa Canister or On-Site Laboratory	Cold or On-Site Lab	1 ppbv	14 days

3.5. Investigation Derived Waste

All investigation derived waste (IDW) will be temporarily stored on-site in sealed Department of Transportation-approved drums or other appropriate container(s). The drums will be labeled with the appropriate boring(s) identification number(s), date of collection, and nature of contents. All drummed IDW will be properly disposed of by the client.

3.6. Borehole Locations

Following borehole sampling, sampling locations will be defined based on field measurements from existing structures. Borehole sampling locations will be identified on a scaled figure.

3.7. Report

After receiving analytical results from the laboratory, a *Supplemental Site Characterization Report* or a *Closure Request* will be provided with sampling methods, results, and conclusions.

4.0 QUALITY ASSURANCE PROJECT PLAN

This Quality Assurance Project Plan (QAPP) is intended to define procedures to facilitate the acquisition of accurate and reliable data.

4.1. Project Organization

Ms. Naomi Gatzke, for Hooshi's Auto Service, is currently responsible for the site. Cambria works for this client to provide consulting and sampling services. Subcontractors would be used for drilling; soil, groundwater, and soil-gas analysis; and independent utility clearance. It is currently anticipated that California-certified McCampbell Analytical Inc. and Air Toxics Ltd. will provide analytical services. ACEH is the lead agency and will provide oversight for sampling activities. Documents will be sent to the client and the lead agency for their consideration. USA will be contacted prior to performing any subsurface activities

Following are principal contacts for organization currently associated with the project:

Client
Ms. Naomi Gatzke
510/483-9015 phone & fax
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Facility
Hooshi's Auto Service
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Matt Meyers, P.G.
510/420-3314

Alameda County Public Works Agency
James Yoo (for Drilling Permit)
510/670-6633; 510/782-1939 fax
399 Elmhurst Street, Hayward, CA 94544
Jamesy@acpwa.org

Air Toxics Ltd.
180 Blue Ravine Road, Suite B
Folsom, CA 95630
916/985-1000

Underground Service Alert
1-800/227-2600

4.2. Quality Assurance Objectives

The overall quality assurance objective is to develop and implement procedures for field sampling, chain-of-custody, laboratory analysis, and reporting that will provide results that are defensible and reliable. Quality assurance objectives for accuracy, precision, and method detection limits, are discuss as follows:

Accuracy

The criterion for accuracy is a measurement of bias that exists in a measurement system. It refers to the degree of agreement of a measurement, X, with an accepted reference or true value, T, usually expressed as the difference between the two values, X-T. Accuracy can also be assessed by using percent bias and percent recovery information. Accuracy is difficult to measure for the entire data collection activity and specifically the sampling component. The criteria for accuracy is best addressed using laboratory matrix spikes.

Precision

The criterion for precision is a measure of the reproducibility of replicate analyses made under a given set of conditions. Specifically, it is a quantitative measure of the variability of a group of measurements as compared to their average value. The overall precision of each data collection activity should take into account both field sampling precision and analytical precision. The specific criterion for precision for each parameter is detailed within the individual analytical test method. If groundwater is sampled, a blind duplicate ground water sample may be collected and assessed as a means of assessing both sampling and analytical reproducibility and as a measure of the data collection activity's precision. The duplicate sample would be analyzed for the same suite of analyses as the original sample. All results will be included in a report.

Method Detection Limits

Anticipated method detection limits are based on a relatively standard sample with a manageable amount of interference. The specific character of a sample with respect to high concentrations of multiple contaminants, can increase the actual detection limit above the anticipated method detection limit

4.3. Sampling Procedures

Sampling procedures are presented in Section 3.0 *Proposed Scope of Work.*

4.4. Sample Custody Procedures and Documentation

Chain-of-custody procedures and documentation are covered in Section 3.0 *Proposed Scope of Work.*

4.5. Field and Laboratory Calibration Procedures

Field Calibration Procedures

If a PID is used, it will be calibrated in the office or at an equipment supplier, prior to use in the field.

Laboratory Calibration Procedures

The analytical laboratory has calibration procedures as required by the current EPA Standard Methods and their own laboratory Quality Assurance/Quality Control (QA/QC) plan. The details associated with all the specific laboratory calibration procedures are available from the laboratory upon request.

4.6. Analytical Procedures

Analytical methods to be used are presented in Section 3.0 *Proposed Scope of Work.* Specific laboratory procedures associated with each method are available upon request.

4.7. Certified Analytical Laboratory

Pursuant to Health and Safety Code Section 25198, a state-certified laboratory will perform analytical services. For this project it is anticipated that McCampbell Analytical Inc., a California-certified laboratory with Department of Health Services (DHS) License #1644, will perform various soil and groundwater analytical services. If soil-gas is collected for off-site analysis, Air Toxic Ltd (DHS License #02110CA) would perform the analysis. An on-site laboratory may be used to analyze the soil vapor samples.

4.8. Data Assessment and Corrective Actions

Data Assessment

Data assessment within the analytical laboratory is defined by the specific requirements for the standard analytical method and the laboratory's QA/QC program. Procedures for analytical accuracy, precision, and completeness are in laboratory documents, available upon request. Accuracy and precision are also discussed in Section 4.2 "Quality Assurance Objectives." Completeness of analytical data is a measure of the amount of valid data obtained from the measurement system compared with the amount that was expected under normal conditions.

The analytical laboratories McCampbell Analytical and Air Toxics will submit QC documentation with the analytical results. QC documentation typically includes a case narrative describing conformance; surrogate recoveries; spike amount(s), control limits, accuracy, and precision; calibration summaries; and a GC/MS internal standard summary.

Field data and analytical results will be evaluated by a Professional Geologist.

Corrective Actions

Unacceptable conditions or data, nonconformance with the QA procedures, or other deficiency may require corrective actions. A corrective action may be necessary if the nonconformance is of program significance. If required, the action to correct the nonconformance will be developed, initiated, and implemented.

Corrective action(s) may include:

- Reanalyzing the samples, if holding time permits.
- Resampling and reanalyzing.
- Evaluating and amending the sampling and analytical procedures.
- Accepting the data and acknowledging its level of uncertainty.

Necessary corrective actions will be documented.

4.9. Reporting Procedures

Reporting procedures for measurement of system performance and data quality are part of the laboratory's operating procedures and documentation is available upon request. Quality control documentation will be presented with analytical results from the laboratory.

4.10. Data Management

Laboratory data management, data reduction, and reporting requirements are in the laboratory's QA/QC program and operating procedures. Documentation from the laboratory is available upon request. Independent third-party (outside of McCampbell Analytical and Air Toxics) validation will not be performed. McCampbell Analytical and Air Toxics do perform an internal review of analytical and QC results prior to release of a data package signed by a laboratory representative.

Laboratory results and associated QC documentation will be presented in a report following field activities and sample analysis.

4.11. Internal Quality Control

Quality control is defined as the routine application of procedures for obtaining prescribed standards of performance. The procedures used for field work are discussed throughout this report, under Section 3.0 *Proposed Scope of Work.* Standards of performance are discussed in this section of the Work Plan. Laboratory documentation on standard analytical methods and the laboratory's QA/QC program is available upon request.

TABLES

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Table 1. Groundwater Elevation and Analytical Data - Hooshi's Auto Service, 1499 MacArthur Boulevard, Oakland, California

Well ID *TOC (ft*)*	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft**)	SPH Thickness (ft)	TPHg ←	Benzene	Toluene (µg/L)	Ethylbenzene	Xylenes	MTBE →	Notes
MW-1	1/4/1993	--	--	--	539	130	12	22	13	--	
181.00	4/22/1993	--	--	--	1,130	75	8.0	38	11	--	
	12/27/1994	--	--	--	770	22	6.6	14	21	--	
	6/27/1996	14.11	166.89	--	3,300	260	34	59	170	80	
	12/10/1996	13.71	167.29	--	1,500	84	11	22	32	34	
	5/8/1998	13.85	167.15	--	3,200	300	12	62	36	NDND<120	a
	8/17/1998	14.11	166.89	--	1,700	160	18	32	27	39	a
	11/4/1998	14.28	166.72	--	1,100	11	4.3	3.6	6.5	ND<50	a
	2/17/1999	13.41	167.59	--	320	200	47	72	75	57	a
	5/27/1999	14.16	166.84	--	2,500	81	12	29	41	ND<80	a
	8/19/1999	14.18	166.82	--	780	19	ND<0.5	5.7	4.5	28	a
180.83	11/23/1999	14.43	166.40	--	1,300	24	0.64	1.8	3.3	ND<100	a
	2/17/2000	13.85	166.98	--	1,300	60	9.1	22	19	22 (16)	a,b
	5/9/2000	14.01	166.82	--	2,700	55	13	19	25	34 (29)	a
	8/15/2000	14.24	166.59	--	--	--	--	--	--	--	
	12/1/2000	8.75	172.08	--	480	6.4	5.9	1.1	3.9	18 (21)	a
180.63	2/8/2001	8.49	172.14	--	64	ND<0.5	ND<0.5	ND<0.5	ND<0.5	6.1 (5.6)	a,c
	4/9/2001	8.71	171.92	--	--	--	--	--	--	--	
	4/24/2001	7.90	172.73	--	77	ND<0.5	ND<0.5	ND<0.5	ND<0.5	5.6 (3.7)	c
	8/6/2001	8.83	171.80	--	140	1.7	0.55	ND<0.5	0.63	5.8 (4.0)	a
	10/22/2001	8.91	171.72	--	120	0.92	ND<0.5	ND<0.5	0.59	11(10)	a
	2/1/2002	8.15	172.48	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	4/19/2002	8.63	172.00	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	7/16/2002	8.79	171.84	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	10/3/2002	8.90	171.73	--	110	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	f
	1/10/2003	7.93	172.70	--	ND<50	ND<0.5	0.74	ND<0.5	ND<0.5	ND<5.0	
	4/21/2003	8.17	172.46	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	7/9/2003	8.92	171.71	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	10/7/2003	9.13	171.50	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	1/22/2004	8.20	172.43	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	4/2/2004	7.09	173.54	--	110	0.52	ND<0.5	ND<0.5	ND<0.5	ND<5.0	a

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Table 1. Groundwater Elevation and Analytical Data - Hooshi's Auto Service, 1499 MacArthur Boulevard, Oakland, California

Well ID *TOC (ft*)*	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft**)	SPH Thickness (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
					←		(µg/L)			→	
MW-1 cont'd	12/29/2004	6.15	174.48	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	1/27/2005	7.15	173.48	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	4/6/2005	6.84	173.79	--	140	ND<0.5	0.55	ND<0.5	0.70	ND<5.0	c
	7/28/2005	7.36	173.27	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	10/14/2005	7.51	173.12	--	220	1.2	ND<0.5	0.56	0.75	ND<5.0	a
	1/30/2006	6.80	173.83	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	4/11/2006	**6.60**	**174.03**	--	**ND<50**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<5.0**	
MW-2	1/4/1993	--	--	--	149,000	21,700	25,000	ND	7,760	--	
180.45	4/22/1993	--	--	--	136,300	9,900	15,870	15,300	2,190	--	
	12/27/1994	--	--	--	94,000	11,000	18,000	2,700	16,000	--	
	6/27/1996	12.61	168.64	1.00	--	--	--	--	--	--	
	12/10/1996	11.10	169.55	0.25	--	--	--	--	--	--	
	5/8/1998	10.81	169.66	0.03	--	--	--	--	--	--	
	8/17/1998	12.16	168.31	0.02	--	--	--	--	--	--	
	11/4/1998	12.61	167.86	0.02	--	--	--	--	--	--	
	2/17/1999	9.82	170.66	0.04	--	--	--	--	--	--	
	5/27/1999	11.07	169.48	0.13	--	--	--	--	--	--	
	8/19/1999	12.79	167.68	0.02	--	--	--	--	--	--	
180.24	11/23/1999	12.14	168.20	0.12	--	--	--	--	--	--	
	2/17/2000	10.01	170.37	0.18	--	--	--	--	--	--	
	5/9/2000	10.88	169.38	0.03	--	--	--	--	--	--	
	8/15/2000	12.28	167.97	0.01	--	--	--	--	--	--	
	12/1/2000	8.03	172.21	--	260,000	1,100	5,000	1,900	17,000	ND<100	a
	2/8/2001	7.86	172.38	--	2,900	1.7	14	5.0	140	ND<5.0	c,d
	4/9/2001	7.95	172.29	--	--	--	--	--	--	--	
	4/24/2001	6.90	173.34	--	56,000	360	980	1,000	4,700	ND<5.0	a,b
	8/6/2001	8.15	172.09	--	54,000	680	1,900	1,500	7,800	ID<200 (ND<1	a,b,j
	10/22/2001	8.22	172.02	--	32,000	420	770	1,100	4,100	ND<250	a,b
	2/1/2002	8.07	172.17	--	26,000	310	490	920	1,600	ND<1,000	a
	4/19/2002	8.60	171.64	--	16,000	300	240	1,000	990	ND<100	a

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Table 1. Groundwater Elevation and Analytical Data - Hooshi's Auto Service, 1499 MacArthur Boulevard, Oakland, California

Well ID *TOC (ft*)*	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft**)	SPH Thickness (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
					←		(µg/L)			→	
MW-2 cont'd	7/16/2002	8.21	172.03	--	5,700	120	18	340	15	ND<50	a
	10/3/2002	8.14	172.10	--	4,400	44	16	68	20	ND<25	a
	1/10/2003	6.98	173.26	--	16,000	300	320	580	830	ND<100	a,b
	4/21/2003	7.25	172.99	--	12,000	350	260	610	380	ND<50	a
	7/9/2003	7.99	172.25	--	3,300	51	7.4	47	2.8	ND<17	a
	10/7/2003	8.21	172.03	--	2,400	93	11	34	22	ND<50	a
	1/22/2004	7.24	173.00	--	5,900	240	130	350	200	ND<50	a
	4/2/2004	6.29	173.95	--	37,000	840	1,500	1,300	5,900	ND<500	a
	12/29/2004	5.37	174.87	--	9,300	240	230	330	880	ND<50	a
	1/27/2005	6.38	173.86	--	37,000	1,200	1,400	1,300	5,200	<250	a
	4/6/2005	5.88	174.36	--	21,000	400	340	780	1,700	ND<100	a
	7/28/2005	6.61	173.63	--	35,000	690	1,200	1,200	5,200	ND<500	a
	10/14/2005	6.80	173.44	--	14,000	380	120	780	1,200	ND<100	a, b
	1/30/2006	5.91	174.33	--	22,000	310	140	1,300	2,800	ND<50	a,b,i
	4/11/2006	**5.65**	**174.59**	**--**	**18,000**	**280**	**170**	**780**	**1,400**	**ND<250**	**a,b,i**
MW-3	1/4/1993	--	--	--	1,610	772	14	11	ND	--	
179.94	4/22/1993	--	--	--	3,040	980	34	19	16	--	
	12/27/1994	--	--	--	2,600	180	9.0	7.2	13	--	
	6/27/1996	13.20	166.74	--	2,000	22	2.9	11	7.4	56	
	12/10/1996	13.13	166.81	--	970	ND<0.5	ND<0.5	ND<0.5	ND<0.5	24	
	5/8/1998	13.03	166.91	--	780	3.7	2.1	1.1	2.4	ND<32	a
	8/17/1998	13.22	166.72	--	870	2.8	ND<0.5	ND<0.5	3.7	ND<5.0	b,c
	11/4/1998	13.31	166.63	--	770	1.6	4.4	2.0	6.9	ND<30	c
	2/17/1999	12.89	167.05	--	650	6.2	3.4	1.5	2.6	ND<5.0	b,c
	5/27/1999	12.32	167.62	--	570	1.5	1.2	0.72	1.1	ND<20	a
	8/19/1999	13.19	166.75	--	830	ND<0.5	1.9	ND<0.5	1.3	ND<20	c,d
179.55	11/23/1999	13.26	166.29	--	900	ND<0.5	1.8	0.56	1.4	ND<20	c,d
	2/17/2000	12.78	166.77	--	250	ND<0.5	1.5	ND<0.5	0.62	ND<5.0	d
	5/9/2000	12.92	166.63	--	690	ND<0.5	2.1	0.85	1.6	ND<5.0	a
	8/15/2000	13.19	166.36	--	610	ND<0.5	2.3	0.75	1.2	ND<5.0	c,d

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Table 1. Groundwater Elevation and Analytical Data - Hooshi's Auto Service, 1499 MacArthur Boulevard, Oakland, California

Well ID *TOC (ft*)*	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft**)	SPH Thickness (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
					←		(µg/L)			→	
MW-3 cont'd	12/1/2000	7.50	172.05	--	120	ND<0.5	0.90	0.65	0.62	ND<5.0	c,d
	2/8/2001	7.20	172.35	--	87	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	c,d
	4/9/2001	7.33	172.22	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	8/6/2001	7.61	171.94	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	10/22/2001	7.58	171.97	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	2/1/2002	7.53	172.02	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	8.5 (8.5)	
	4/19/2002	7.95	171.60	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	9.0 (11)	
	7/16/2002	7.68	171.87	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	20 (30)	
	10/3/2002	7.78	171.77	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	1/10/2003	6.91	172.64	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	19 (16)	
sampled annually	4/21/2003	7.21	172.34	--	--	--	--	--	--	--	
	7/9/2003	8.05	171.50	--	--	--	--	--	--	--	
	10/7/2003	8.19	171.36	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	1/22/2004	7.13	172.42	--	--	--	--	--	--	--	
	4/2/2004	5.73	173.82	--	--	--	--	--	--	--	
	12/29/2004	4.88	174.67	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	1/27/2005	5.80	173.75	--	--	--	--	--	--	--	
	4/6/2005	5.49	174.06	--	--	--	--	--	--	--	
	7/28/2005	6.02	173.53	--	--	--	--	--	--	--	
	10/14/2005	6.11	173.44	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	1/30/2006	5.45	174.10	--	--	--	--	--	--	--	
	4/11/2006	**5.22**	**174.33**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-4	6/27/1996	17.03	163.51	--	720	2	0.5	2.5	23	3.2	
180.54	12/10/1996	8.50	172.04	--	80	2.4	ND<0.5	ND<0.5	6.6	ND<2.0	
	5/8/1998	11.46	169.08	--	ND<50	0.60	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	8/17/1998	13.98	166.56	--	ND<50	ND<0.5	ND<0.5	ND<0.5	0.5	ND<5.0	
	11/4/1998	14.36	166.18	--	96	9.7	8.1	4.8	18	ND<5.0	a
	2/17/1999	8.39	172.15	--	ND<50	ND<0.5	ND<0.5	ND<0.5	0.5	ND<5.0	
	5/27/1999	12.80	167.74	--	ND<50	ND<0.5	1.0	ND<0.5	2.9	ND<5.0	
	8/19/1999	14.42	166.12	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	

Table 1. Groundwater Elevation and Analytical Data - Hooshi's Auto Service, 1499 MacArthur Boulevard, Oakland, California

Well ID *TOC (ft*)*	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft**)	SPH Thickness (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
					←		(µg/L)			→	
180.12	11/23/1999	14.63	165.49	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
MW-4 cont'd	2/17/2000	8.15	171.97	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	5/9/2000	12.81	167.31	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	8/15/2000	14.29	165.83	--	ND<50	2.1	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	12/1/2000	12.80	167.32	--	81	6.0	8.4	1.0	5.6	ND<5.0	a
	2/8/2001	12.57	167.55	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	4/9/2001	12.50	167.62	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	8/6/2001	14.00	166.12	--	59	1.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	a
	10/22/2001	14.05	166.07	--	130	6.3	ND<0.5	0.88	ND<0.5	ND<5.0	a
	2/1/2002	13.47	166.65	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	4/19/2002	13.55	166.57	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	7/16/2002	14.05	166.07	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	10/3/2002	13.09	167.03	--	77	2.1	0.51	ND<0.5	ND<0.5	ND<5.0	a
	1/10/2003	12.04	168.08	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	20 (15)	a
sampled annually	4/21/2003	12.15	167.97	--	--	--	--	--	--	--	
	7/9/2003	12.90	167.22	--	--	--	--	--	--	--	
	10/7/2003	13.15	166.97	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	1/22/2004	12.09	168.03	--	--	--	--	--	--	--	
	4/2/2004	8.97	171.15	--	--	--	--	--	--	--	
	12/29/2004	7.85	172.27	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	1/27/2005	8.28	171.84	--	--	--	--	--	--	--	
	4/6/2005	8.07	172.05	--	--	--	--	--	--	--	
	7/28/2005	10.83	169.29	--	--	--	--	--	--	--	
	10/14/2005	11.49	168.63	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	1/30/2006	8.04	172.08	--	--	--	--	--	--	--	
	4/11/2006	**8.03**	**172.09**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-5	6/27/1996	13.62	166.74	0.16	--	--	--	--	--	--	
180.23	12/10/1996	13.26	167.77	1.00	--	--	--	--	--	--	
	5/8/1998	13.15	167.11	0.04	--	--	--	--	--	--	
	8/17/1998	13.36	166.89	0.02	--	--	--	--	--	--	

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Well ID *TOC (ft*)*	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft**)	SPH Thickness (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
					←			(µg/L)		→	
MW-5 cont'd	11/4/1998	13.52	166.73	0.02	--	--	--	--	--	--	
	2/17/1999	13.02	167.23	0.02	--	--	--	--	--	--	
	5/27/1999	13.80	166.71	0.35	--	--	--	--	--	--	
	8/19/1999	13.45	166.86	0.10	--	--	--	--	--	--	
180.09	11/23/1999	14.03	166.35	0.36	--	--	--	--	--	--	
	2/17/2000	13.28	167.02	0.26	--	--	--	--	--	--	
	5/9/2000	13.55	166.77	0.29	--	--	--	--	--	--	
	8/15/2000	13.58	166.54	0.04	--	--	--	--	--	--	
	12/1/2000	8.00	172.09	0.00	54,000	240	1,700	870	1,000	ND<300	c,d
180.04	2/8/2001	7.88	172.16	0.00	33,000	63	420	120	4,500	ND<50	a,b
	4/9/2001	7.97	172.07	0.00	--	--	--	--	--	--	
	4/24/2001	7.00	173.04	0.00	3,200	ND<1.0	11	7	260	ND<5.0	c,d
	8/6/2001	8.17	171.87	--	2,700	11	40	21	240	ND<5.0	a
	10/22/2001	8.15	171.89	--	20,000	200	1,200	330	2,900	ND<100	a,b
	2/1/2002	8.07	171.97	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	4/19/2002	8.51	171.53	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	7/16/2002	8.40	171.64	--	ND<50	ND<0.5	ND<0.5	ND<0.5	1.7	ND<5.0	
	10/3/2002	8.18	171.86	--	15,000	94	830	460	2,200	ND<500	a
	1/10/2003	6.95	173.09	--	290	ND<0.5	1.8	ND<0.5	17	ND<5.0	a
	4/21/2003	7.18	172.86	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	7/9/2003	7.95	172.09	--	ND<50	ND<0.5	ND<0.5	ND<0.5	2.7	ND<5.0	
	10/7/2003	8.22	171.82	--	9,800	120	340	180	2,000	ND<50	a
	1/22/2004	7.18	172.86	--	250	ND<0.5	0.82	ND<0.5	29	ND<5.0	d
	4/2/2004	6.23	173.81	--	4,300	6.3	18	59	750	ND<25	a
	12/29/2004	5.27	174.77	--	72	ND<0.5	0.78	ND<0.5	6.5	ND<5.0	d
	1/27/2005	6.25	173.79	--	3,300	<5.0	22	18	320	<50	a
	4/6/2005	5.90	174.14	--	3,100	1.3	6.9	7.2	100	ND<10	c,d
	7/28/2005	6.50	173.54	--	18,000	53	230	130	2,100	ND<500	a
	10/14/2005	6.65	173.39	--	23,000	140	370	240	2,100	ND<500	a, b
	1/30/2006	5.96	174.08	--	2,500	1.0	8.7	ND<1.0	130	ND<10	b,c,d
	4/11/2006	**5.63**	**174.41**	--	**1,200**	**1.3**	**3.1**	**1.7**	**54**	**ND<5.0**	a

CAMBRIA

Table 1. Groundwater Elevation and Analytical Data - Hooshi's Auto Service, 1499 MacArthur Boulevard, Oakland, California

Well ID *TOC (ft*)*	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft**)	SPH Thickness (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
					←		(µg/L)			→	
MW-6	6/27/1996	18.55	161.48	--	ND	ND	ND	ND	ND	--	
180.03	12/10/1999	11.79	168.24	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.0	
	5/8/1998	11.62	168.41	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	8/17/1998	12.66	167.37	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	11/4/1998	13.56	166.47	--	68	3.8	3.7	2.8	11	ND<5.0	a
	2/17/1999	12.91	167.12	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	5/27/1999	13.03	167.00	--	ND<50	1.0	1.7	0.82	4.9	ND<5.0	
	8/19/1999	13.10	166.93	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
179.63	11/23/1999	13.58	166.05	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	2/17/2000	10.72	168.91	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	5/9/2000	11.71	167.92	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	8/15/2000	12.49	167.14	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	12/1/2000	8.64	170.99	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	2/8/2001	8.20	171.43	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	4/9/2001	8.53	171.10	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	8/6/2001	8.69	170.94	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	10/22/2001	8.75	170.88	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	2/1/2002	8.31	171.32	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	4/19/2002	8.62	171.01	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	7/16/2002	8.84	170.79	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	10/3/2002	8.71	170.92	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	1/10/2003	6.99	172.64	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	19 (16)	
sampled annually	4/21/2003	7.15	172.48	--	--	--	--	--	--	--	
	7/9/2003	7.98	171.65	--	--	--	--	--	--	--	
	10/7/2003	8.28	171.35	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	1/22/2004	7.15	172.48	--	--	--	--	--	--	--	
	4/2/2004	6.56	173.07	--	--	--	--	--	--	--	
	12/29/2004	5.63	174.00	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	1/27/2005	6.66	172.97	--	--	--	--	--	--	--	
	4/6/2005	6.25	173.38	--	--	--	--	--	--	--	
	7/28/2005	6.71	172.92	--	--	--	--	--	--	--	

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Table 1. Groundwater Elevation and Analytical Data - Hooshi's Auto Service, 1499 MacArthur Boulevard, Oakland, California

Well ID *TOC (ft*)*	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft**)	SPH Thickness (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
					←			(µg/L)		→	
MW-6 cont'd	10/14/2005	6.86	172.77	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	1/30/2006	6.35	173.28	--	--	--	--	--	--	--	
	4/11/2006	**5.89**	**173.74**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
Trip Blank	5/8/1998	--	--	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	11/4/1998	--	--	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	5/27/1999	--	--	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	11/23/1999	--	--	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	
	12/1/2000	--	--	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	

Abbreviations and Methods:

TOC = Top of casing elevation

ft = Measured in feet

SPH = Separate phase hydrocarbons

TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method SW8015C

Benzene, toluene, ethylbenzene, and xylenes by EPA Method SW8021B

MTBE = Methyl tertiary butyl ether by EPA Method SW8021B
(concentration in parentheses confirmed by EPA Method SW8260B)

µg/L = Micrograms per liter

-- = Not sampled, not analyzed, or not applicable

ND<0.5 = Not Detected (ND) above Detection Limit.

ND = Compound not detected, detection limit unknown

* = Wells surveyed to an arbitrary datum

** = Calculated groundwater elevation corrected for SPH by the relation: Groundwater Elevation = Well Elevation - Depth to Water + (0.8xSPH thickness (ft))

*** = Due to the air sparge system running during sampling, samples collected on 4/9/01 were anomalous. Well was resampled on 4/24/01 with the air sparge system off.

Analytical Laboratory Notes:

a - Unmodified or weakly modified gasoline is significant.

b - Lighter than water immiscible sheen is present.

c - No recognizable pattern on laboratory chromatogram.

d - Heavier gasoline range compounds are significant (aged gasoline?)

f - One to a few isolated non-target peaks present on laboratory chromatogram

i- Liquid sample contains greater than ~1 vol. % sediment

j - Sample diluted due to high organic content.

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Table 2. Soil Analytical Data - Hooshi's Auto Service, 1499 MacArthur Boulevard, Oakland, California

Sample ID	Sample Depth (ft)	Sample Date	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes
			<--------------------	--------------------	(mg/kg)	--------------------	-------------------->
(MW-1) B1-5.0	5.0	01/07/93	ND	ND	ND	ND	ND
(MW-1) B1-10.0	10.0	01/07/93	ND	ND	ND	ND	ND
(MW-1) B1-15.0	15.0	01/07/93	ND	ND	ND	ND	ND
(MW-1) B1-20.0	20.0	01/07/93	ND	ND	ND	ND	ND
(MW-2) B2-5.0	5.0	01/07/93	**5.5**	ND	ND	ND	ND
(MW-2) B2-10.0	10.0	01/07/93	**1,460**	ND	**6.44**	ND	**63.1**
(MW-2) B2-15.5	15.5	01/07/93	**17.8**	**0.849**	**0.125**	ND	**0.309**
(MW-2) B2-20.5	20.5	01/07/93	ND	ND	ND	ND	ND
(MW-3) B3-5.0	5.0	01/07/93	ND	ND	ND	ND	ND
(MW-3) B3-10.0	10.0	01/07/93	ND	ND	ND	ND	ND
(MW-3) / B3-15.0	15.0	01/07/93	ND	ND	ND	ND	ND
(MW-3) B3-20.0	20.0	01/07/93	ND	ND	ND	ND	ND
MW-4-10	10	06/26/96	ND(1)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)
MW-5-10	10	06/26/96	ND(1)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)
MW-5-15	15	06/26/96	ND(1)	**0.049**	**0.094**	**0.022**	**0.13**
MW-6-10	10	06/26/96	ND(1)	ND(0.0025)	ND(0.0025)	ND(0.0025)	ND(0.0025)
G-2-10	10	06/24/96	ND	ND	ND	ND	ND
G-2-15	15	06/24/96	ND	**0.006**	**0.009**	ND	**0.025**
G-3B-10	10	06/24/96	ND	ND	ND	ND	ND
G-3B-14.5	14.5	06/24/96	**1.5**	**0.14**	**0.012**	**0.052**	**0.18**
G-4-10	10	06/24/96	ND	ND	ND	ND	ND
G-5-7	7	06/24/96	ND	ND	ND	ND	ND
G-5-12	12	06/24/96	ND	ND	ND	ND	ND
G-6-10	10	06/24/96	ND	ND	ND	ND	ND
G-7B-5	5	06/24/96	ND	ND	ND	ND	ND
G-7B-10	10	06/24/96	ND	ND	ND	ND	ND
G-8-10	10	06/24/96	ND	ND	ND	ND	ND
G-9-11.5	11.5	06/24/96	**98**	**0.079**	**0.064**	**1.3**	**4.2**
G-9-12.5	12.5	06/24/96	**860**	**3.1**	**11**	**14**	**97**

Notes:

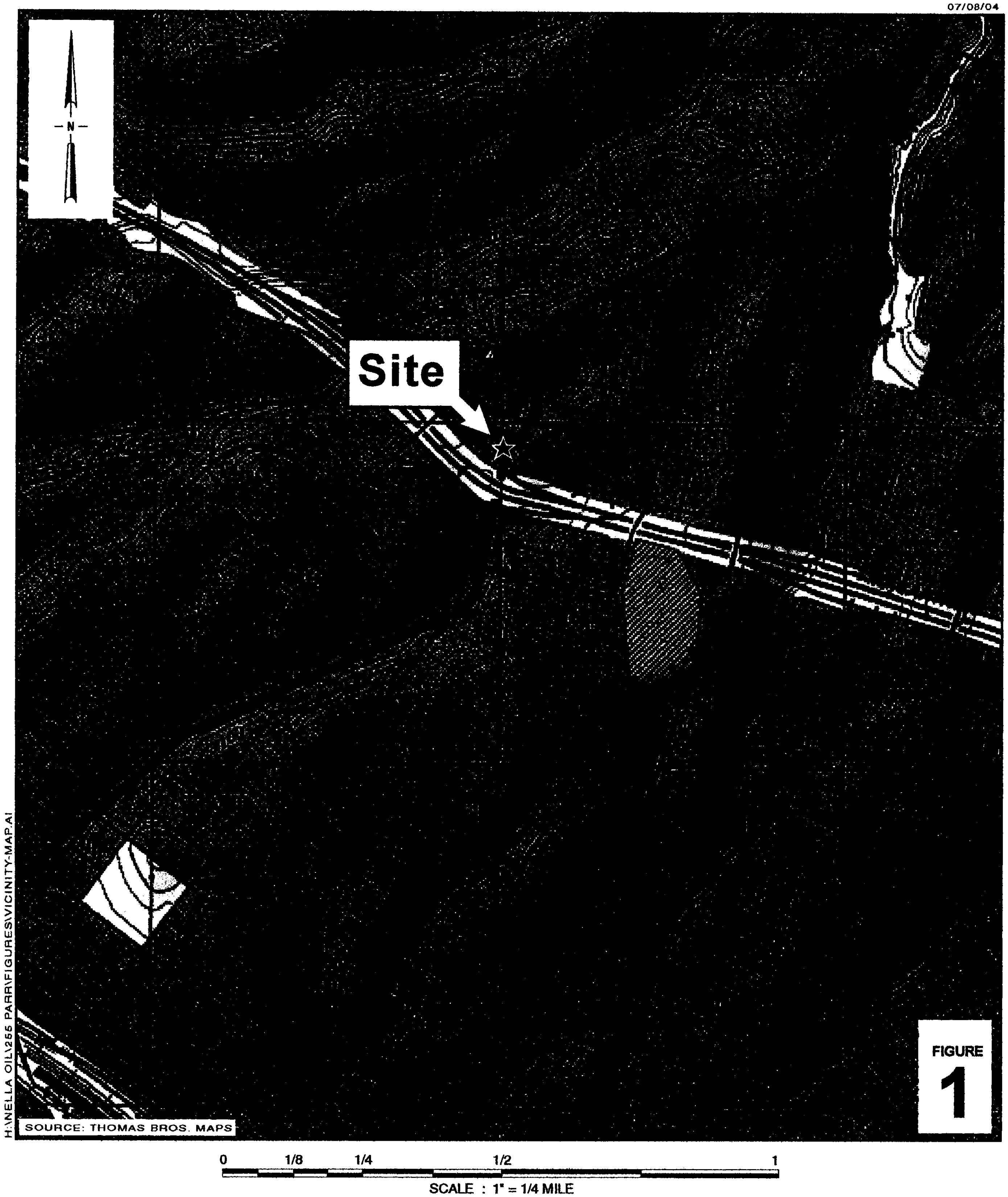
TPHg = Total petroleum hydrocarbons as gasoline.

ND = not detected above detection limit.

ND(0.005) = not detected above cited detection limit.

FIGURES

07/08/04



Hooshii's Auto Service

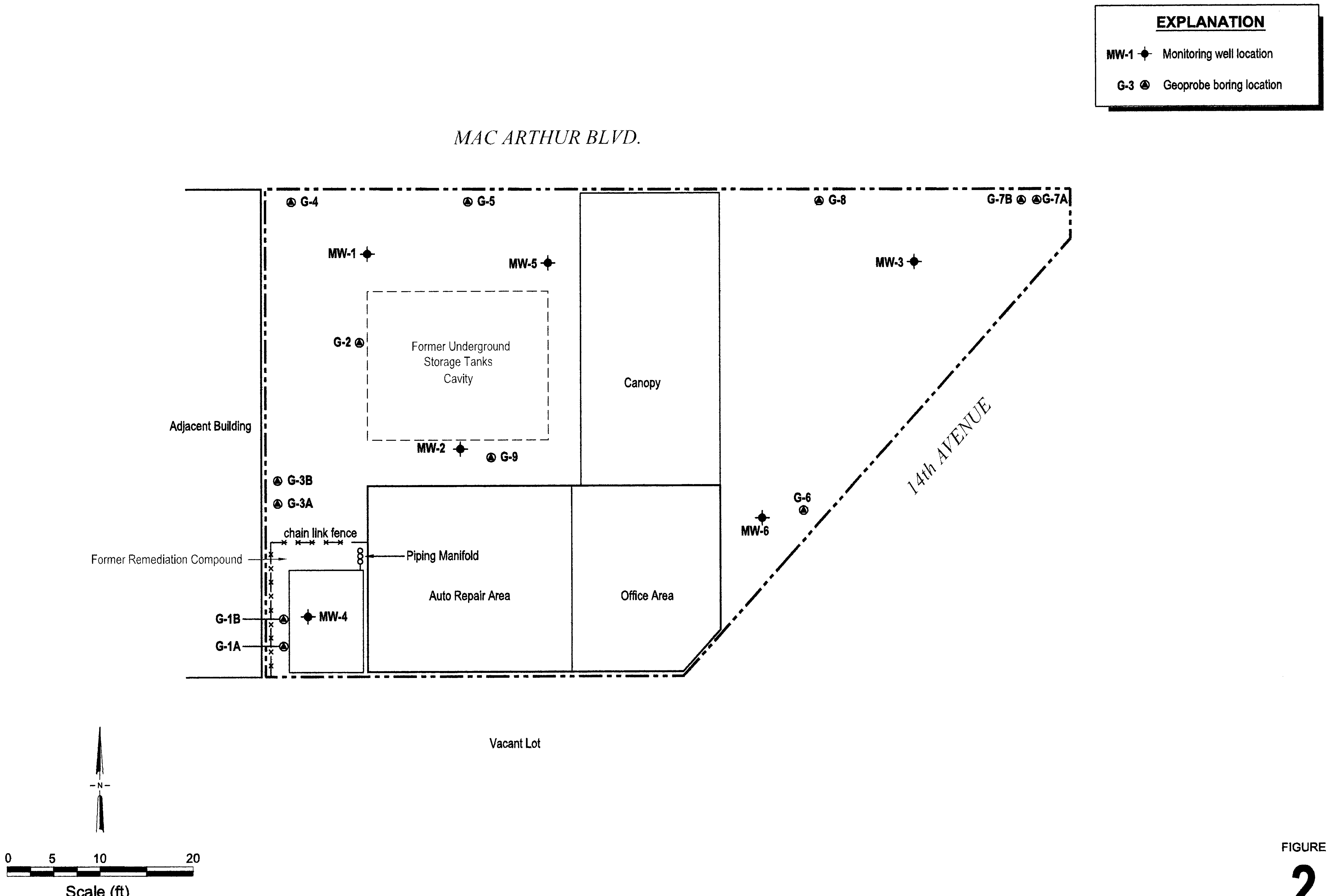
1499 MacArthur Boulevard

Oakland, California

CAMBRIA

Vicinity Map

07/07/06



NOTE: All points surveyed to an arbitrary datum.

H:\GATZKE (HOOSHI'S) - OAKLAND\FIGURES\SITEPLAN.DWG

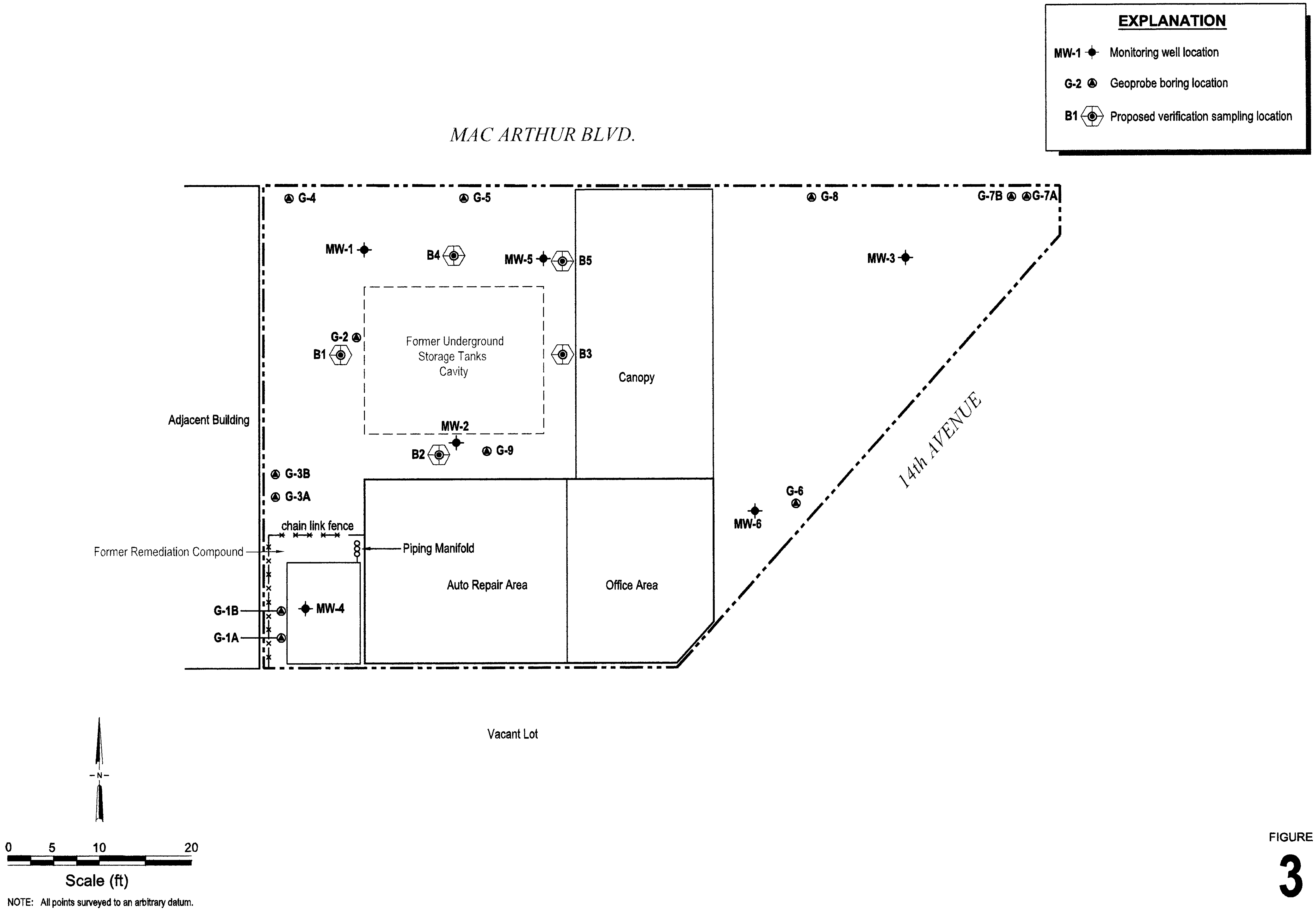
Site Plan

CAMBRIA

Hooshi's Auto Service
1499 MacArthur Boulevard
Oakland, California

FIGURE
2

07/07/06



NOTE: All points surveyed to an arbitrary datum.

H:\GATZKE (HOOSHI'S) - OAKLAND\FIGURES\PROP-VER-SAMP.DWG

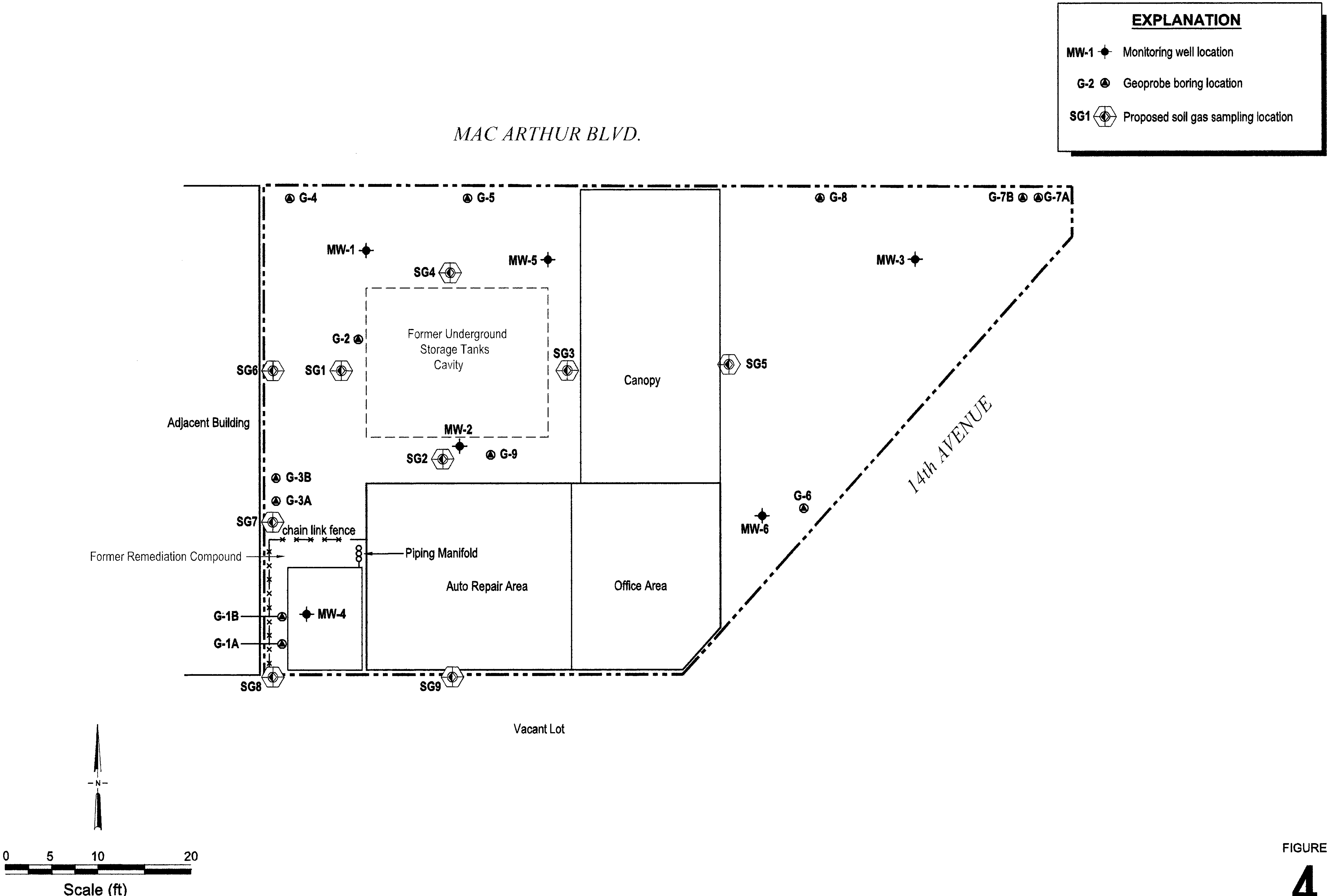
Proposed Verification Sampling Locations

CAMBRIA

Hooshi's Auto Service
1499 MacArthur Boulevard
Oakland, California

FIGURE
3

07/07/06



NOTE: All points surveyed to an arbitrary datum.

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FIGURE 4

Proposed Soil Gas Sampling Locations

CAMBRIA

Hooshi's Auto Service
1499 MacArthur Boulevard
Oakland, California

APPENDIX A

Agency Correspondence

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

7

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

MAY 23 2006

FILE COPY

May 11, 2006

Naomi Gatzke
1545 Scenic View Dr.
San Leandro, CA 94577

Dear Ms. Gatzke:

RO0000516

Subject: Verification Sampling, Fuel Leak Case No. [redacted], Hooshi's Auto Service, 1499 MacArthur Blvd., Oakland, CA

Alameda County Environmental Health (ACEH) staff after discussions with the State Water Resources Control Board (SWRCB) regarding your "Petition for Closure" dated May 6, 2005, prepared by Cambria Environmental Technology, Inc., has identified additional investigation requirements. We request that you address the following technical comments, perform the proposed work, and send us the technical reports requested below.

TECHNICAL COMMENTS

1) **Source Area Verification Soil & Groundwater Sampling** – During the most recent groundwater monitoring event on January 30, 2006, 22,000 ug/l TPHG and 310 ug/l Benzene were detected in MW-2. Free product has historically been detected in MW-2 and MW-5. Additionally, 1,460 mg/kg TPHG was detected in soil at 10 ft. bgs when MW-2 was installed and 860 mg/kg TPHG and 3.1 mg/kg Benzene were detected at 10 ft. bgs in G-9. Verification sampling of the source area following remediation activities at this site was not performed. We request that you perform verification sampling of your source area to evaluate the effectiveness of your remedial measures and identify the residual pollution, if any, remaining in place at the subject site.

   We recommend that your sampling locations include the vicinity of the former underground storage tank excavation and the vicinity of MW-2 and MW-5. A minimum of 4 sampling locations is requested. Acceptable locations would be around the east, south, and north sides of the former underground storage tank excavation. Please collect and analyze grab groundwater samples from each of the borings for verification sampling (analysis of groundwater samples from monitoring wells is not requested). Soil and groundwater samples are to be analyzed for by EPA Method 8260 for TPHG, BTEX, and MTBE. Please submit an abbreviated workplan showing your sampling locations by the date specified below.

2) **Evaluation of the Vapor Pathway** – The potential risk posed by contamination via the vapor pathway has not been evaluated at this site. We request that you

collect and analyze soil gas samples to evaluate this pathway. We recommend that sampling locations include the vicinity of the underground storage tank excavation; adjacent to the automobile repair area and the canopy; vapor exposure to users of the adjacent property. Soil gas samples are to be analyzed for Benzene. Include your proposal for this work in the workplan requested below.

TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Don Hwang), according to the following schedule:

- **July 11, 2006 - Workplan**

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

If you have any questions, I may be reached at (510) 567-6746.

Sincerely,

Don Hwang
Hazardous Materials Specialist
Local Oversight Program

C: Matthew Meyers, Cambria Environmental Technology, Inc., 1144-65th St., Suite B, Oakland, CA 94608
Kevin Graves, SWQCB, Underground Storage Tank Cleanup Unit, P.O. Box 2231, Sacramento, CA 95812
Donna Drogos
File

APPENDIX B

Standard Field Procedures

STANDARD FIELD PROCEDURES FOR HAND-AUGER SOIL BORINGS

This document describes Cambria Environmental Technology's standard field methods for drilling and sampling soil borings using a hand-auger. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

Objectives

Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor odor or staining, estimate ground water depth and quality and to submit samples for chemical analysis.

Soil Classification/Logging

All soil samples are classified according to the Unified Soil Classification System by a trained geologist or engineer working under the supervision of a California Professional Geologist (PG) or a Certified Engineering Geologist (CEG). The following soil properties are noted for each soil sample:

- Principal and secondary grain size category (i.e. sand, silt, clay or gravel)
- Approximate percentage of each grain size category,
- Color,
- Approximate water or product saturation percentage,
- Observed odor and/or discoloration,
- Other significant observations (i.e. cementation, presence of marker horizons, mineralogy), and
- Estimated permeability.

Soil Boring and Sampling

Hand-auger borings are typically drilled using a hand-held bucket auger to remove soil to the desired sampling depth. Samples are collected using lined split-barrel or equivalent samplers driven into undisturbed sediments beyond the bottom of the augered hole. The vertical location of each soil sample is determined using a tape measure. All sample depths use the ground surface immediately adjacent to the boring as a datum. The horizontal location of each boring is measured in the field from an onsite permanent reference using a measuring wheel or tape measure.

Augering and sampling equipment is steam-cleaned prior to drilling and between borings to prevent cross-contamination. Sampling equipment is washed between samples with trisodium phosphate or an equivalent EPA-approved detergent.

Sample Storage, Handling and Transport

Sampling tubes chosen for analysis are trimmed of excess soil and capped with Teflon tape and plastic end caps. Soil samples are labeled and stored at or below 4°C on either crushed or dry ice, depending upon local regulations. Samples are transported under chain-of-custody to a State-certified analytic laboratory.

Field Screening

One of the remaining tubes is partially emptied leaving about one-third of the soil in the tube. The tube is capped with plastic end caps and set aside to allow hydrocarbons to volatilize from the soil. After ten to fifteen minutes, a portable photoionization detector (PID) measures volatile hydrocarbon vapor concentrations in the tube headspace, extracting the vapor through a slit in the cap. PID measurements are used along with the field observations, odors, stratigraphy and ground water depth to select soil samples for analysis.

Water Sampling

Water samples, if they are collected from the boring, are collected from the open borehole using bailers. The ground water samples are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4°C, and transported under chain-of-custody to the laboratory.

Duplicates and Blanks

Blind duplicate water samples are collected usually collected only for monitoring well sampling programs, at a rate of one blind sample for every 10 wells sampled. Laboratory-supplied trip blanks accompany samples collected for all sampling programs to check for cross-contamination caused by sample handling and transport. These trip blanks are analyzed if the internal laboratory QA/QC blanks contain the suspected field contaminants. An equipment blank may also be analyzed if non-dedicated sampling equipment is used.

Grouting

The borings are filled to the ground surface with cement grout poured or pumped through a tremie pipe.

Waste Handling and Disposal

Soil cuttings from drilling activities are usually stockpiled onsite on top of and covered by plastic sheeting. At least four individual soil samples are collected from the stockpiles for later compositing at the analytic laboratory. The composite sample is analyzed for the same constituents analyzed in the borehole samples. Soil cuttings are transported by licensed waste haulers and disposed in secure, licensed facilities based on the composite analytic results.

Ground water removed during sampling and/or rinsate generated during decontamination procedures are stored onsite in sealed 55-gallon drums. Each drum is labeled with the drum number, date of generation, suspected contents, generator identification and consultant contact. Disposal of the water is based on the analytic results for the well samples. The water is either pumped out using a vacuum truck for transport to a licensed waste treatment/disposal facility or the individual drums are picked up and transported to the waste facility where the drum contents are removed and appropriately disposed.

STANDARD FIELD PROCEDURES FOR GEOPROBE®
SOIL AND GROUNDWATER SAMPLING

This document describes Cambria Environmental Technology, Inc.'s standard field methods for GeoProbe® soil and groundwater sampling. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

Objectives

Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor odor or staining, estimate ground water depth and quality and to submit samples for chemical analysis.

Soil Classification/Logging

All soil samples are classified according to the Unified Soil Classification System by a trained geologist or engineer working under the supervision of a California Professional Geologist (PG) or a Certified Engineering Geologist (CEG). The following soil properties are noted for each soil sample:

- Principal and secondary grain size category (i.e., sand, silt, clay or gravel)
- Approximate percentage of each grain size category,
- Color,
- Approximate water or separate-phase hydrocarbon saturation percentage,
- Observed odor and/or discoloration, and
- Other significant observations (i.e., cementation, presence of marker horizons, mineralogy)

Soil Sampling

GeoProbe® soil samples are collected from borings driven using hydraulic push technologies. A minimum of one and one half ft of the soil column is collected for every five ft of drilled depth. Additional soil samples can be collected near the water table and at lithologic changes. Samples are collected using samplers lined with polyethylene or brass tubes driven into undisturbed sediments at the bottom of the borehole. The ground surface immediately adjacent to the boring is used as a datum to measure sample depth. The horizontal location of each boring is measured in the field relative to a permanent on-site reference using a measuring wheel or tape measure.

Drilling and sampling equipment is steam-cleaned or washed prior to drilling and between borings to prevent cross-contamination. Sampling equipment is washed between samples with trisodium phosphate or an equivalent EPA-approved detergent.

Sample Storage, Handling and Transport

Sampling tubes chosen for analysis are trimmed of excess soil and capped with Teflon® tape and plastic end caps. Soil samples are labeled and stored at or below 4°C on either crushed or dry ice, depending upon local regulations. Samples are transported under chain-of-custody to a State-certified analytic laboratory.

Field Screening

After a soil sample has been collected, soil from the remaining tubing is placed inside a sealed plastic bag and set aside to allow hydrocarbons to volatilize from the soil. After ten to fifteen minutes, a portable GasTech® or photoionization detector measures volatile hydrocarbon vapor concentrations in the bag's headspace, extracting the vapor through a slit in the plastic bag. The measurements are used along with the field observations, odors, stratigraphy and ground water depth to select soil samples for analysis.

Grab Groundwater Sampling

Groundwater samples are collected from the open borehole using bailers, advancing disposable Tygon® tubing into the borehole and extracting ground water using a diaphragm pump, or using a hydro-punch style sampler with a bailer or tubing. The ground water samples are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4° C, and transported under chain-of-custody to the laboratory.

Duplicates and Blanks

Blind duplicate water samples are usually collected only for monitoring well sampling programs, at a rate of one blind sample for every 10 wells sampled. Laboratory-supplied trip blanks accompany samples collected for all sampling programs to check for cross-contamination caused by sample handling and transport. These trip blanks are analyzed if the internal laboratory quality assurance/quality control (QA/QC) blanks contain the suspected field contaminants. An equipment blank may also be analyzed if non-dedicated sampling equipment is used.

Grouting

If the borings are not completed as wells, the borings are filled to the ground surface with cement grout poured or pumped through a tremie pipe.

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Cambria

STANDARD FIELD PROCEDURES SOIL VAPOR SAMPLING DIRECT PUSH AND VAPOR POINT METHODS

This document describes Cambria Environmental Technology's standard field methods for soil vapor sampling. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

Objectives

Soil vapor samples are collected and analyzed to assess whether vapor-phase subsurface contaminants pose a threat to human health or the environment.

Direct Push Method for Soil Vapor Sampling

The direct push method for soil vapor sampling uses a hollow vapor probe, which is pushed into the ground, rather than augured, and the stratigraphy forms a vapor seal between the surface and subsurface environments ensuring that the surface and subsurface gases do not mix. Once the desired soil vapor sampling depth has been reached, the field technician installs disposable polyethylene tubing with a threaded adapter that screw into the bottom of the rods. The screw adapter ensures that the vapor sample comes directly from the bottom of the drill rods and does not mix with other vapor from inside the rod or from the ground surface. In addition, hydrated bentonite is placed around the sampling rod and the annulus of the boring to prevent ambient air from entering the boring. The operator then pulls up on the rods and exposes the desired stratigraphy by leaving an expendable drive point at the maximum depth. The required volume of soil vapor is then purged through the polyethylene tubing using a standard vacuum pump. The soil vapor can be sampled for direct injection into a field gas chromatograph, pumped into inert tedlar bags using a "bell jar" sampling device, or allowed to enter a Summa vacuum canister. Once collected, the vapor sample is transported under chain-of-custody to a state-certified laboratory. The ground surface immediately adjacent to the boring is used as a datum to measure sample depth. The horizontal location of each boring is measured in the field relative to a permanent on-site reference using a measuring wheel or tape measure. Drilling and sampling equipment is washed between samples with trisodium phosphate or an equivalent EPA-approved detergent. Once the sampling is completed, the borings are filled to the ground surface with neat cement.

Shallow Soil Vapor Point Method for Soil Vapor Sampling

The shallow soil vapor point method for soil vapor sampling utilizes a hand augur to advance a boring for the installation of a soil vapor sampling point. Once the boring is hand augered to the final depth, a half a foot of number 2/16 filter sand is placed at the base of the boring (Figure A). One, ¼-inch inner-diameter Teflon™ tube of known length is placed into the boring. The tube is fitted with a stainless steel screen and barbed brass fitting to prevent sand from clogging the tube and is capped at the top with another barbed brass fitting. Another half a foot of number 2/16 filter sand is placed above the bottom of the tubing creating a one foot zone of filter sand with the end of the tubing in the middle. A 2-inch layer of unhydrated bentonite chips is placed on top of the filter pack. Next pre-hydrated bentonite gel is then poured into the hole to approximately 0.5 fbg. Another 2-inch layer of unhydrated bentonite chips is placed on top of the bentonite gel. The tube is coiled and placed within a wellbox finished flush to the surface. Soil vapor samples will be collected no sooner than one week after installation of the soil-vapor points to allow adequate time for representative soil vapors to accumulate. Soil vapor sample collection will not be scheduled until after a minimum of three consecutive precipitation-free days and irrigation onsite has ceased. Figure B shows the soil vapor sampling apparatus. A measured volume of air will be purged from the tubing using a hand-held purge pump and a tedlar bag. Immediately after purging, soil-vapor samples will be collected over an approximate 30-minute period using 6-liter Summa canisters and capillary air-flow controllers. The soil-vapor points will be preserved until they are no longer needed for risk evaluation purposes. At that time, they will be destroyed by extracting the tubing, hand augering to remove the sand and bentonite, and backfilling the boring with neat cement. The boring will be patched with asphalt or concrete, as appropriate.

Vapor Sample Storage, Handling, and Transport

Samples are stored out of direct sunlight in coolers or boxes and transported under chain-of-custody to a state-certified analytic laboratory.

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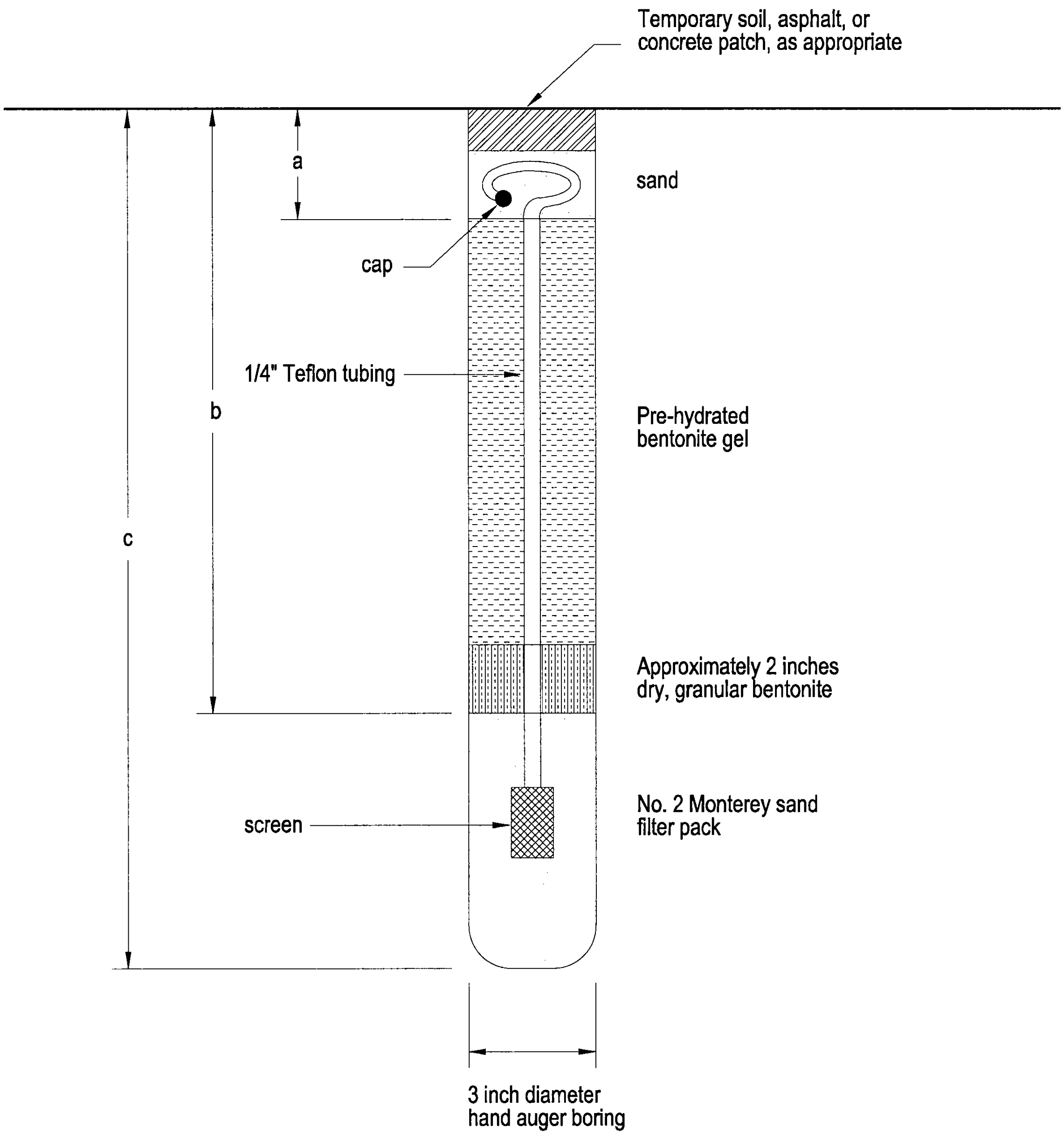

S:\0-TEXACO\TEX-SITES\211273\FIGURES\VAPOR-POINT.DWG

Schematic Not to Scale

FIGURE
A

CAMBRIA

Soil Vapor Point

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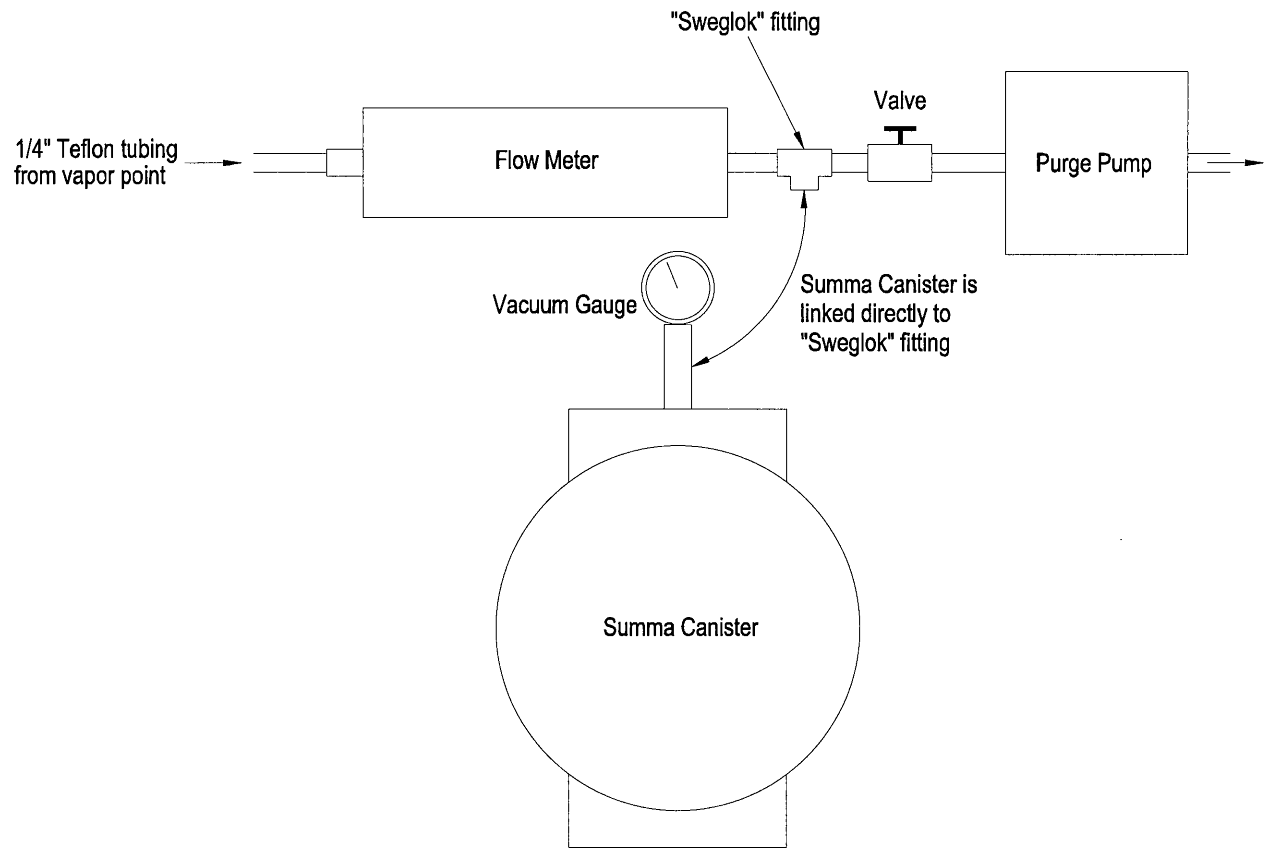

S:\0-TEXACO\TEX-SITES\211273\FIGURES\VAPOR-DIAG.DWG

Schematic Not to Scale

FIGURE
B

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Soil Vapor Sampling Apparatus Diagram