AEI CONSULTANTS
Environmental & Civil Engineering

2500 Camino Diablo, Suite 200, Walnut Creek, CA 94597
Phone: (925) 283-6000 Fax: (925) 944-2895

RO 389

June 9, 2004

Mr. Amir Gholami
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Subject: **Monitoring Well Installation and Sampling Report**
1200 East 12th Street
Oakland, CA
AEI Project No. 8279

Dear Mr. Gholami:

Enclosed is a copy of the recently completed *Monitoring Well Installation and Sampling Report* for the above referenced site. I look forward to hear your thoughts and comments regarding this report.

If you could call me at (925) 283-6000 x120 it would be very much appreciated.

Sincerely,

Jeff Rosenberg
Project Engineer

June 9, 2004

MONITORING WELL INSTALLATION AND SAMPLING REPORT

1200 East 12th Street
Oakland, CA 94601

AEI Project No. 8279

Prepared For

Mr. Lawrence Y.G. Qiu
Quality Auto Service
1200 East 12th Street
Oakland, CA 94601

Prepared By

AEI Consultants
2500 Camino Diablo, Suite 200
Walnut Creek, CA 94597
(925) 283-6000

AEI

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AEI

1.0 INTRODUCTION

AEI Consultants (AEI) has prepared this report on behalf of Quality Auto Service to document the installation of one groundwater monitoring well and the sampling activities performed at the property located at 1200 East 12th Street, in the City of Oakland, California (Figure 1). The project was performed at the request of the client to comply with a request by Alameda County Health Care Services Agency (ACHCSA) to further investigate a release of fuel hydrocarbons that occurred at the property.

2.0 SITE DESCRIPTION AND BACKGROUND

The subject property (hereafter referred to as the "site" or "property") is located on the northeastern corner of East 12th Street and 12th Avenue. The property is approximately 7,500 square feet in size and is developed with a 9,000 square foot two-story brick building. The building occupies the entire area of the property and is currently occupied by Quality Auto Service, an automotive repair facility. The site was occupied by a gas station and auto parts store from 1927 to the mid 1960s and was utilized as a tire and auto supply company, as well as a truck and forklift maintenance facility from the mid 1960s to the late 1980s.

In 1996, two 500-gallon gasoline underground storage tanks were removed from the sidewalk along 12th Avenue at the subject property. Soil samples collected from beneath the tanks indicated elevated levels of total petroleum hydrocarbons (TPH) as gasoline at the western end of Tank 2. Further over-excavation was performed in this area and two soil samples were collected. TPH as gasoline was detected up to 210 mg/kg.

In September 1999, AEI performed a subsurface investigation at the site in accordance with the requirements of the Alameda County Health Care Services Agency (ACHCSA). Soil and groundwater samples were collected from two shallow soil borings shown in Figure 2. No significant concentrations of petroleum hydrocarbons were detected in the soil samples analyzed, however TPH as gasoline and benzene were detected in the groundwater up to 6,700 µg/L and 470 µg/L, respectively. Please refer to Tables 2 & 3 for soil and groundwater sample analytical results from this investigation. Based on the results of the groundwater sample analysis, Mr. Barney Chan of the ACHCSA requested the installation of one groundwater monitoring well to assess the concentration and stability of the dissolved hydrocarbon plume over time. The remainder of this report documents the installation of a single monitoring well at the site and associated sampling activities.

3.0 GEOLOGY AND HYDROLOGY

According to logs of soil borings advanced by AEI, the near surface sediments beneath the site consist of silty and sandy clay to the maximum depth penetrated (24 feet below ground surface [bgs]). Saturated soil was encountered between 10 and 20 feet bgs. The water bearing deposits consist of clay with silt and fine sand.

The site is located approximately 40 feet above mean sea level (MSL) and the topography of the area slopes gently to the southwest. AEI reviewed information obtained from a groundwater monitoring well network for a site located at 1199 East 12th Street, located across 12th Street and to the west of the subject site. Groundwater beneath this adjacent site was calculated to flow to the south/southwest, and based on the proximity of this adjacent site to former tank locations and the local topography, AEI assumes the groundwater at the subject site flows to the south/southwest.

The nearest surface water body is Alameda Harbour, located approximately 1/4 mile to the south. Water level measurements taken in the monitoring well revealed a depth to water of 11.51 feet bgs. Water level and analytical data is presented in Tables 1 and 2.

4.0 PERMITS

Well construction permits were obtained from the Alameda County Public Works Agency prior to scheduling the drilling and well construction activities (Permit # W04-0531). Excavation and encroachment permits were obtained from the city of Oakland prior to conducting drilling activities. Following well construction, a Department of Water Resources (DWR) well registration form 188 was completed and submitted. Refer to Appendix A for copies of the permitting documentation.

5.0 WELL INSTALLATION AND CONSTRUCTION

Prior to mobilizing on-site, Underground Service Alert (USA) North was notified to locate utilities in the area of the borehole. On May 13, 2004, one soil boring was advanced and converted to a groundwater monitoring well (MW-1). The monitoring well location is shown on Figure 2.

The boring was advanced with a rotary drilling rig using 8¼" nominal outside diameter hollow stem augers. Prior to drilling, the borehole was cleared with hand auger equipment to a depth of 5 feet bgs. The boring was advanced to a depth of 24 feet bgs.

During drilling, soil samples were collected at five foot intervals with a California modified split spoon sampler advanced ahead of the auger bit. Soil was collected into brass liners, selected samples were sealed with Teflon tape and plastic end caps, samples were labeled, placed on ice, and transported under chain of custody protocol for analysis to McCampbell Analytical Inc. (DOHS Certification Number 1644). The samples were screened in the field using a photo-ionizing detector (PID). Soil boring logs are included in Appendix B.

Upon drilling to the target depth and collecting a sample from the bottom of the borehole, the augers were pulled up to a depth of 20 feet bgs. The borehole was backfilled with sand to a depth of 20.5 feet bgs, a 0.5 foot thick bentonite seal was placed above the sand and hydrated with tap water. The well casing was next installed through the augers. The well was constructed with 2" diameter Schedule 40 flush threaded PVC well casing. The well screen consists of 0.10" factory slotted casing, set from 10 to 20 feet bgs. Number 3 sand (5 sacks) was poured through the auger to form a sand pack from the bottom of the casing to 2 feet above the top of the screen. An approximately 2 foot thick bentonite seal was placed above the sand and hydrated with tap water, to form a seal against the neat cement grout. The remainder of the boring was filled to 0.5 feet below grade with neat cement grout. An expanding well cap was placed in the top of the casing, and a flush mounted traffic rated well box was installed. Refer to the Appendix B for a log of the boring and visual description of well construction details.

6.0 WELL DEVELOPMENT AND SAMPLING

The well was developed 3 days after construction by using a surge block to loosen any accumulated fines from the well screen and sand pack. The well was then purged until reasonably clear. Approximately 6 gallons of water was purged from the well.

The initial monitoring event occurred on May 21, 2004. Prior to the collection of samples, the cap was removed, allowing it to equilibrate with atmospheric pressure. The water level was measured from the top of the casing with an electric water level meter. The well was then purged, and the following water quality parameters were measured: temperature, pH, specific conductivity, dissolved oxygen, and oxidation-reduction potential. At least 3 well volumes of water were removed from the well, upon completion of which water quality measurements were relatively stable. Once the well water level returned to within approximately 90% of its original level, samples were collected from the well with disposable bailers. Refer to Appendix C for the Groundwater Monitoring Well Sampling Field Form, which includes details on the sampling of the well.

The groundwater samples were collected from the well using a clean, disposable bailer. Water samples were collected into 40 ml volatile organic analysis (VOAs) vials. The VOAs were capped so no headspace or air bubbles were visible within the sample containers. The samples were labeled and placed on ice and transported under chain of custody protocol for analysis to

McCampbell Analytical Inc. (DOHS Certification Number 1644) of Pacheco, California on the day of sampling.

7.0 SAMPLE ANALYSES

During the project, two soil samples and one groundwater sample was analyzed from the well. Each sample was analyzed for the following:

- Total Petroleum Hydrocarbons (TPH) as gasoline (TPH-g) by EPA method SW8015Cm
- Benzene, toluene, ethyl benzene, and xylenes (BTEX) and methyl tertiary-butyl ether (MTBE) by EPA method SW8021B

In addition, soil samples were screened in the field using a photo ionization detector.

In soil sample MW-1 10', TPH-g, toluene, and xylenes were detected above laboratory reporting limits at concentrations of 31 mg/kg, 0.024 mg/kg, and 0.021 mg/kg respectively. No contaminants of concern were detected in MW-1 15'. Soil sample analytical data is included in Table 3.

No TPH-g was detected above laboratory reporting limits the groundwater sample analyzed during the first groundwater monitoring event. Benzene, toluene, ethylbenzene, and xylenes were detected at concentrations of 3.7 µg/L, 1.7 µg/L, 0.90 µg/L, and 2.3 µg/L. Groundwater sample analytical data from this recent sampling event is included in Table 2.

Refer to Appendix D for laboratory analytical reports with details on reporting limits, analytical methodology, quality assurance / quality control (QA/QC) results, and chain-of-custody documents.

8.0 SUMMARY AND CONCLUSIONS

AEI was contracted by Quality Auto Service to install one groundwater monitoring well (MW-1) at the site and perform a groundwater monitoring and sampling event on the newly installed well.

Both soil and groundwater samples collected during the installation of the well contained low concentrations of fuel hydrocarbons.

Monitoring well MW-1 was placed in the expected down gradient location as requested by the ACHCSA. The location of MW-1 (Figure 2) was adjusted slightly due to underground utility lines in the area of the proposed location. The low levels of hydrocarbons detected in groundwater samples collected from MW-1 indicate that the previously identified release is

somewhat limited in extent. Quarterly groundwater monitoring will occur at the site, with the next episode scheduled to occur in August, 2004.

9.0 REFERENCED REPORTS

1) *Phase II Subsurface Investigation,* October 1, 1999, prepared by AEI Consultants

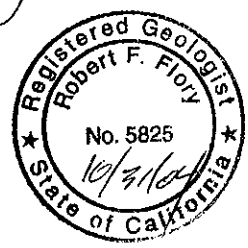
10.0 REPORT LIMITATIONS AND SIGNATURES

This report presents a summary of work completed by AEI, including observations and descriptions of site conditions. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of samples are chosen to provide required information, but it cannot be assumed that they are entirely representative of all areas not sampled. All conclusions and recommendations are based on these analyses, observations, and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document.

These services were performed in accordance with generally accepted practices in the environmental engineering and consulting field that existed at the time and location of the work.

Sincerely,
AEI Consultants

Jeff Rosenberg
Project Engineer



Robert F. Flory, ~~R.G.~~
Senior Geologist

Distribution:

Mr. Lawrence Y.G. Qiu
Quality Auto Service
1200 East 12th Street
Oakland, CA 94601

Mr. Amir Gholami
Alameda County Health Care Services Agency
1131 Harbour Bay Parkway, Suite 250
Alameda, CA 94502

37°47.363' N, 122°14.842' W WGS84, Oakland West, CA

Map created with TOPO!® ©2003 National Geographic (www.nationalgeographic.com/topo)

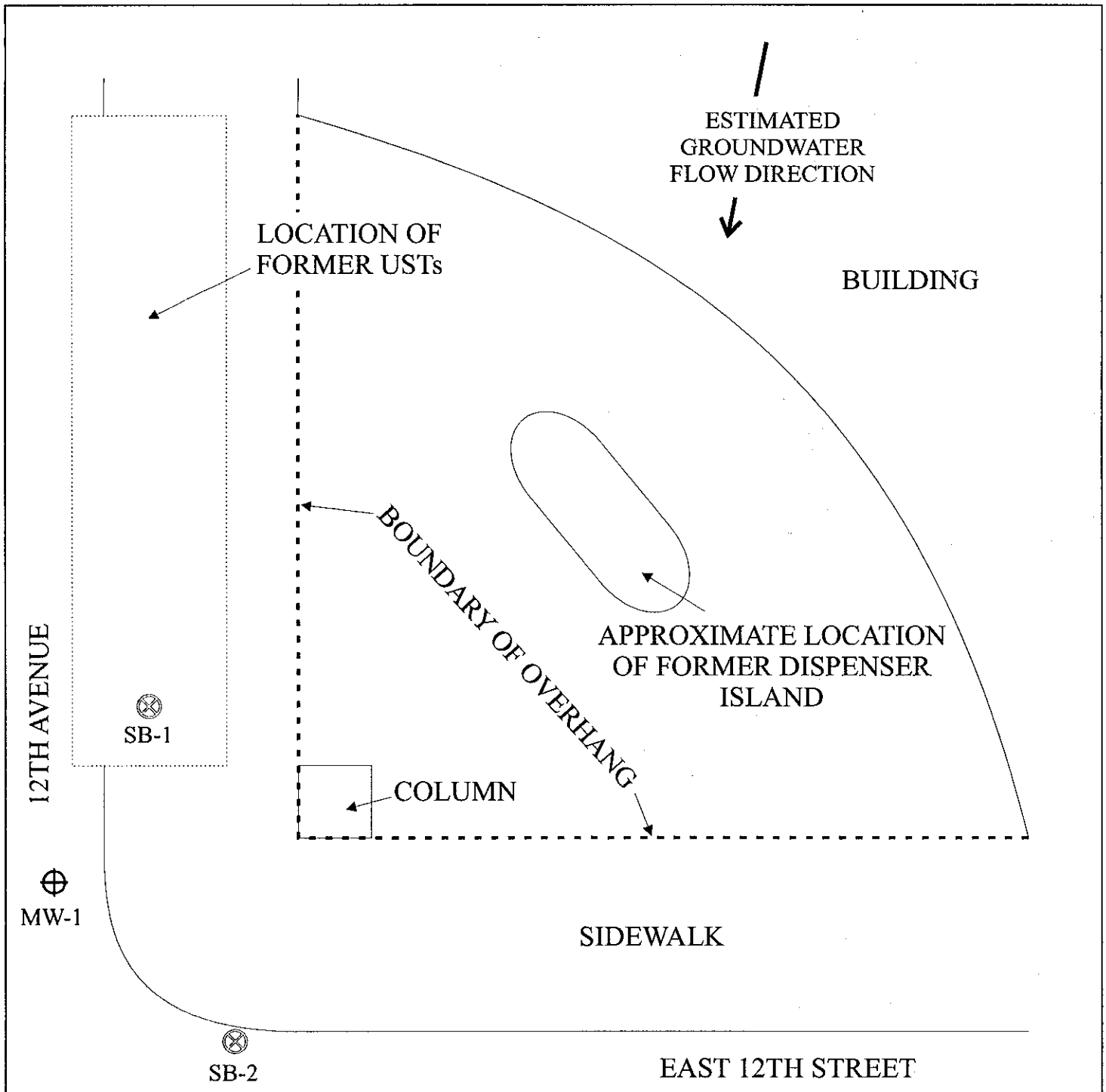
AEI CONSULTANTS

2500 CAMINO DIABLO, STE 200, WALNUT CREEK, CA

SITE LOCATION MAP

1200 East 12th Street
OAKLAND, CALIFORNIA

FIGURE 1
PROJECT NO. 8279



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⊕ GROUNDWATER MONITORING WELL LOCATION

⊗ PREVIOUS SOIL BORING LOCATIONS (9/18/99)

SCALE: 1 in. = 6 ft.

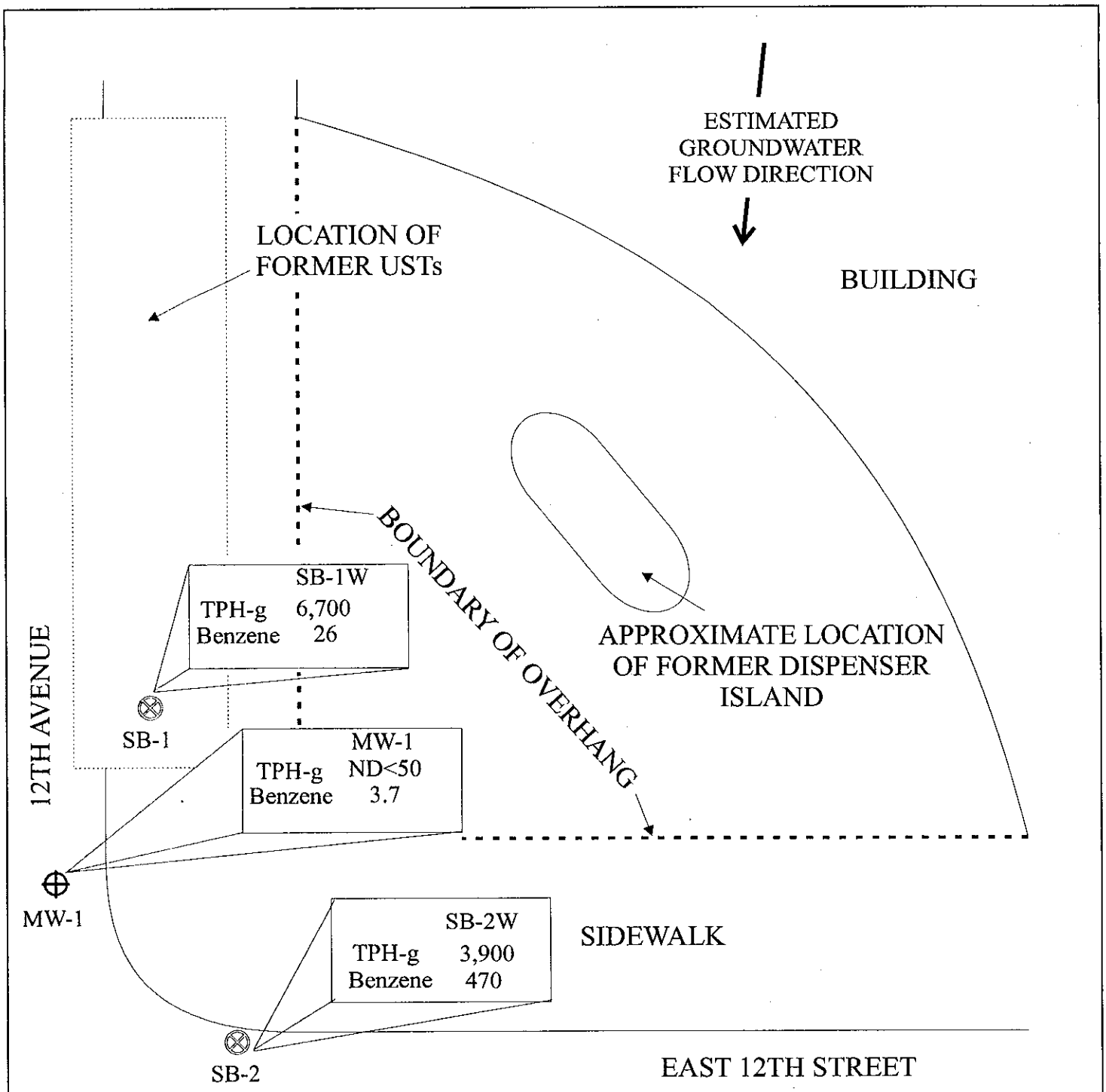
0' 3' 6'

AEI CONSULTANTS
2500 CAMINO DIABLO, STE 200, WALNUT CREEK, CA

SITE PLAN

1200 EAST 12TH STREET
OAKLAND, CALIFORNIA

FIGURE 2



⊕ GROUNDWATER MONITORING WELL LOCATION

⊗ PREVIOUS SOIL BORING LOCATIONS (9/18/99)

N

GROUNDWATER CONCENTRATIONS SHOWN IN MICROGRAMS PER LITER

SCALE: 1 in. = 6 ft.

0' 3' 6'

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2500 CAMINO DIABLO, STE 200, WALNUT CREEK, CA

SITE PLAN

1200 EAST 12TH STREET
OAKLAND, CALIFORNIA

FIGURE 3

Table 1 - 1200 East 12th Street, Oakland, CA
Groundwater Elevation Data

Well ID	Screen Interval (ft bgs)	Date	Depth to Water (ft toc)	Change in feet from previous episode
MW-1	**10-20**	05/21/04	11.51	-

ft bgs = feet below ground surface
ft toc = feet from the top of the well casing

Table 2 - 1200 East 12th Street, Oakland, CA
Groundwater Sample Analytical Data

Well ID	Date	TPH-g (µg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)
SB-1 W	09/18/99	6,700	ND	26	6.1	22	130
SB-2 W	09/18/99	3,900	ND	470	9.5	160	57
MW - 1	05/21/04	ND<50	ND<5.0	3.7	1.7	0.90	2.3
RL		50	5.0	0.5	0.5	0.5	0.5

Note:

TPH-g = Total petroleum hydrocarbons as gasoline

MTBE = Methyl tertiary-butyl ether

µg/l = Micrograms per liter

- = sample not analyzed

Please refer to Appendix C: Laboratory Analytical Data for more detailed lab information including dilution factors and reporting limits

Table 3 - 1200 East 12th Street, Oakland, CA
Soil Sample Analytical Data

Well ID	Date	TPH-g (µg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Xylenes (µg/L)
SB-1 14'	09/18/99	ND	ND	ND	ND	ND	ND
SB-2 14'	09/18/99	2.2	ND	0.13	ND	0.07	0.021
MW-1 10'	05/13/04	31	ND	ND	0.024	ND	0.021
MW-1 15'	05/13/04	ND	ND	ND	ND	ND	ND
RL		1	0.05	0.005	0.005	0.005	0.005

Note:

TPH-g = Total petroleum hydrocarbons as gasoline

MTBE = Methyl tertiary-butyl ether

µg/l = Micrograms per liter

mg/l = Miligrams per liter

- = sample not analyzed

Please refer to Appendix C: Laboratory Analytical Data for more detailed lab information including dilution factors and reporting limits

ALAMEDA COUNTY PUBLIC WORKS AGENCY

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

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

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 1200 East 12th Street Oakland, CA

CLIENT
Name Lawrence Qiu
Address 1200 East 12th St. Phone 510-532-1850
City Oakland Zip 94601

APPLICANT
Name Jeff Rosenberg / AEI Consultants Fax 925-944-2895
Address 2500 Camino Diablo, Ste. 200 Phone 925-283-6000
City Walnut Creek Zip 94597

TYPE OF PROJECT

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

PROPOSED WATER SUPPLY WELL USE

New Domestic	☐	Replacement Domestic	☐
Multiple	☐	Irrigation	☐
Industrial	☐	Other	☐

DRILLING METHOD:

Mud Rotary	☐	Air Rotary	☐	Auger	X
Cable	☐	Other	☐		

DRILLER'S NAME HEW
DRILLER'S LICENSE NO. 604987

WELL PROJECTS
Drill Hole Diameter 8 1/4 in. Maximum
Casing Diameter 2 in. Depth ~25 ft
Surface Seal Depth ~10 ft Owner's Well Number AEI-MW-1

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

STARTING DATE 5-13-04
COMPLETION DATE 5-13-04

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

APPLICANT'S SIGNATURE [signature] DATE 5-3-04
PLEASE PRINT NAME Jeff Rosenberg

Rev.9-18-02

FOR OFFICE USE

PERMIT NUMBER W04-0531
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

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

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

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

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

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

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

G. SPECIAL CONDITIONS — MW#1

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

APPROVED [signature] DATE 5-May

CITY OF OAKLAND • Community and Economic Development Agency
250 Frank H. Ogawa Plaza, 2nd Floor, Oakland, CA 94612 • Phone (510) 238-3443 • FAX (510) 238-2263

Job Site 1200 E 12TH ST Parcel# 020 -0117-014-01 Appl# X0401957

Descr one monitoring well on E 12TH STREET Permit Issued 05/03/04

Work Type EXCAVATION-PRIVATE P

USA # Util Co. Job # Acctg#:
Util Fund #:

		Applcnt	Phone#	Lic#	--License Classes--
Owner	SO TUNG & TRANS ANH				
Contractor	ALL ENVIRONMENTAL INC	X	(925)283-6000	654919	A
Arch/Engr	AEI CONSULTANTS		(925)944-6000		
Agent					

Applic Addr 2500 CAMINO DIABLO, WALNUT CREEK, CA, 94597

$291.84 TOTAL FEES PAID AT ISSUANCE

$51.00	Applic	$205.00	Permit
$.00	Process	$23.04	Rec Mgmt
$.00	Gen Plan	$.00	Invstg
$.00	Other	$12.80	Tech Enh

JOB SITE

DRESS:

DIST.

Date: 05/03/04 Amt Paid: $292.19

By: ANL Register R03 Receipt# 087020

CITY OF OAKLAND
Office of Planning and Building

EXCAVATION PERMIT

TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

CIVIL ENGINEERING

PAGE 2 of 2

Permit valid for 90 days from date of issuance.

PERMIT NUMBER	SITE ADDRESS/LOCATION
X0401957	1200 East 12th St 901 77th Avenue
APPROX. START DATE: 5-13-04 / APPROX. END DATE: 5-13-04	24-HOUR EMERGENCY PHONE NUMBER (Permit not valid without 24-Hour number): 925-285-8286
CONTRACTOR'S LICENSE # AND CLASS: ~~654957~~ 654919 A-HAZ	CITY BUSINESS TAX #:

ATTENTION:

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

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

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

OWNER/BUILDER

I hereby affirm that I am exempt from the Contractor's License Law for the following reason (Sec. 7031.5 Business and Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he is licensed pursuant to the provisions of the Contractor's License law Chapter 9 (commencing with Sec. 7000) of Division 3 of the Business and Professions Code, or that he is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than $500):

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

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

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

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

WORKER'S COMPENSATION

☐ I hereby affirm that I have a certificate of consent to self-insure, or a certificate of Worker's Compensation Insurance, or a certified copy thereof (Sec. 3700, Labor Code).

Policy # _____ Company Name _____

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

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

I hereby affirm that I am licensed under provisions of Chapter 9 of Division 3 of the Business and Professions Code and my license is in full force and effect (if contractor), that I have read this permit and agree to its requirements, and that the above information is true and correct under penalty of law.

Signature of Permittee: _____ ☐ Agent for ☒ Contractor ☐ Owner Date: 5-3-04

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

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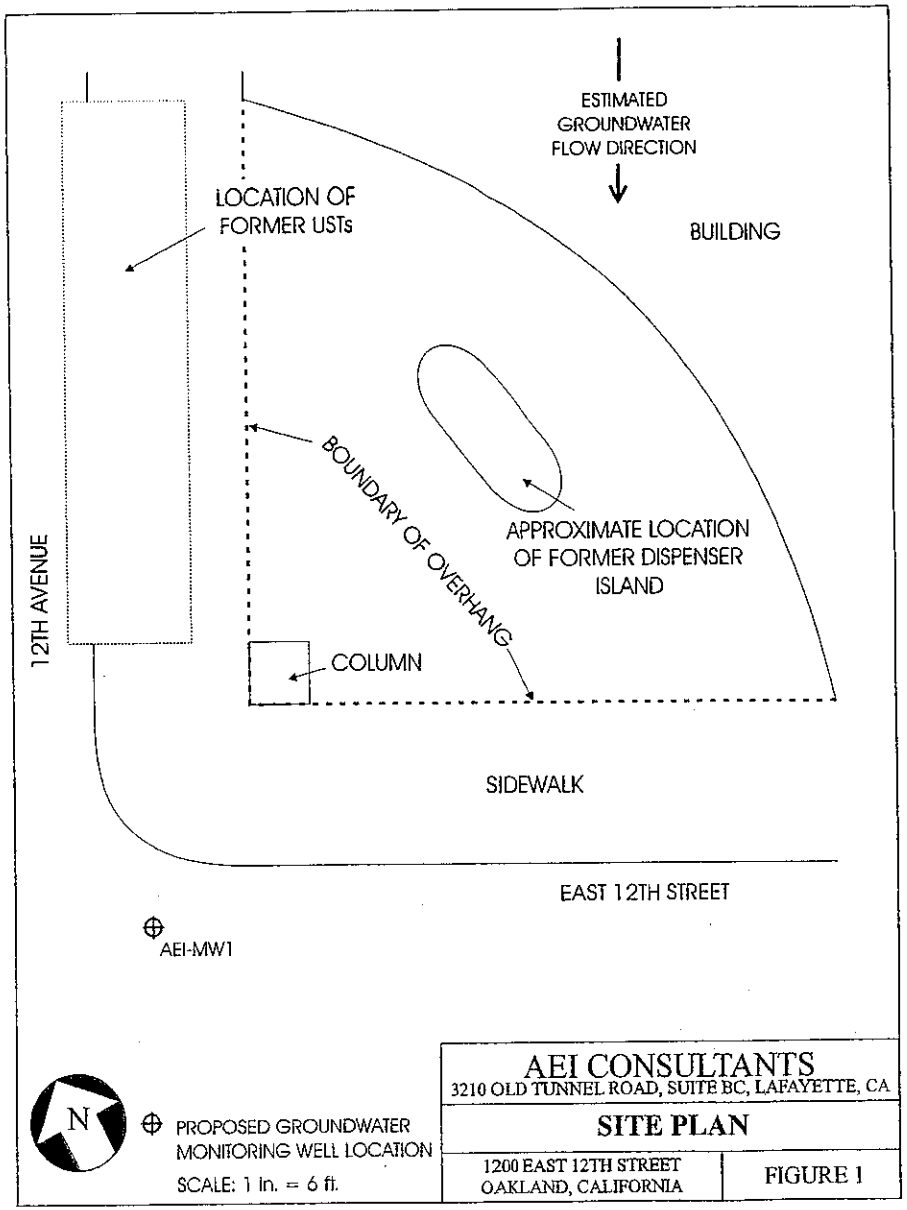

AEI CONSULTANTS
3210 OLD TUNNEL ROAD, SUITE BC, LAFAYETTE, CA

SITE PLAN

1200 EAST 12TH STREET
OAKLAND, CALIFORNIA

FIGURE 1

Project: Quality Auto Service
Project Location: 1200 East 12th Street
Project Number: 8279

Log of Boring MW-1

Sheet 1 of 1

Date(s) Drilled **May 13, 2003**	Logged By **JKR**	Checked By **RFF**
Drilling Method **Hollow Stem Auger**	Drill Bit Size/Type **8 1/4"**	Total Depth of Borehole **24 feet bgs**
Drill Rig Type **CME 75**	Drilling Contractor **HEW**	Approximate Surface Elevation **40**
Groundwater Level and Date Measured **Not Measured**	Sampling Method(s) **California**	Hammer Data **140 lb, 30" drop**
Borehole Backfill **Well Completion**	Permit:	

Elevation, feet	Depth, feet	Sample Type	Sample Number	Sampling Resistance, blows/foot	USCS Symbol	Graphic Log	MATERIAL DESCRIPTION	PID Reading, ppm	Well Log	REMARKS AND OTHER TESTS
39	0				AC		Asphalt/Fill			0-6 ft bgs - Cement Grout
					CL		Clay, cohesive, light olive brown - 2.5 Y 5/4			6-8 ft bgs - Bentonite
34	5		MW-1 15'		CL		Silty Clay, low plasticity, hydrocarbon odor noted, Gley 1 5/10 GY	~15		Screen Interval: 10 ft to 20 ft bgs 8-20 ft bgs - #2/12 Sand Hydrocarbon Odor
29	10		MW-1 10'		CL		Silty Clay, minor sand, moist, light olive brown - 2.5 Y 5/3	~170		Hydrocarbon Odor
24	15		MW-1 15'					~10		
19	20		MW-1 20'		CL		Silty Clay, with minor sand, stiff, dry, Gley 4/5 G	< 1		
			MW-1 25'					<1		
14	25						Bottom of Boring at 24 feet bgs			
9	30									

X:\PROJECTS\CHARACTERIZATION & REMEDIATION\CHARACTERIZATION\8279 WI (Quality Auto) Oakland - JR\MW-1.bgs IAEI well 2.tpll

AEI CONSULTANTS

GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-1

Project Name:	Quality Auto Service	Date of Sampling:	5/21/2004
Job Number:	8279	Name of Sampler:	AN
Project Address:	1200 East 12th Street		

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2		
Wellhead Condition	OK		
Elevation of Top of Casing (feet above msl)	NS		
Depth of Well	20.00		
Depth to Water (from top of casing)	11.51		
Water Elevation (feet above msl)	-		
Well Volumes Purged	3		
Gallons Purged: formula valid only for casing sizes of 2" (.16 gal/ft), 4" (.65 gal/ft), and 6" (1.44 gal/ft)	**4.1**		
Actual Volume Purged (gallons)	6.0		
Appearance of Purge Water	Initially light gray color, cleared quickly		
Free Product Present?	No	Thickness (ft):	

GROUNDWATER SAMPLES

Number of Samples/Container Size: Two 40-mL VOAs and one 1-liter amber bottle

Time	Vol Removed (gal)	Temperature (deg C)	pH	Conductivity (µ sec/cm)	DO (mg/L)	ORP (meV)	Comments
	2	18.44	7.18	1533	0.41	-190.4	
	4	18.56	7.11	1441	0.44	-193.4	
	6	18.64	7.12	1623	0.36	-194.9	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

All Environmental, Inc.	Client Project ID: #8279; Quality Auto	Date Sampled: 05/13/04
		Date Received: 05/13/04
2500 Camino Diablo, Ste. #200	Client Contact: Jeff Rosenberg	Date Extracted: 05/13/04
Walnut Creek, CA 94597	Client P.O.:	Date Analyzed: 05/14/04-05/15/04

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE*

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0405203

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
002A	MW-1 10'	S	31,g,m	ND	ND	0.024	ND	0.021	1	93.2
003A	MW-1 15'	S	ND	ND	ND	ND	ND	ND	1	88.0

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	NA	NA	NA	NA	NA	NA	1	ug/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	1	mg/Kg

* water and vapor samples and all TCLP & SPLP extracts are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.

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Website: www.mccampbell.com E-mail: main@mccampbell.com

QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: S WorkOrder: 0405203

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 11538 Spiked Sample ID: 0405197-018A

	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(btex)£	ND	0.60	101	102	0.802	98.2	101	2.94	70	130
MTBE	ND	0.10	92.2	107	14.5	91.8	95	3.48	70	130
Benzene	ND	0.10	102	111	8.50	100	106	5.48	70	130
Toluene	ND	0.10	89.3	92.6	3.63	87.9	92.8	5.45	70	130
Ethylbenzene	ND	0.10	110	111	0.950	108	107	1.26	70	130
Xylenes	ND	0.30	100	100	0	96.3	107	10.2	70	130
%SS:	99.8	0.10	96.1	103	6.93	107	104	2.84	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644

QA/QC Officer

McCampbell Analytical, Inc.
110 Second Avenue South, #D7
Pacheco, CA 94553-5560
(925) 798-1620

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0405203 **ClientID: AEL**

Report to:
Jeff Rosenberg
All Environmental, Inc.
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597

TEL: (925) 283-6000
FAX: (925) 283-6121
ProjectNo: #8279; Quality Auto
PO:

Bill to:
Lesliegh Alderman
All Environmental, Inc.
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597

Requested TAT: 5 days
Date Received: 5/13/04
Date Printed: 5/13/04

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0405203-002	MW-1 10'	Soil	5/13/04	☐	A														
0405203-003	MW-1 15'	Soil	5/13/04	☐	A														

Test Legend:

1 G-MBTEX_S	2	3	4	5
6	7	8	9	10
11	12	13	14	15

Prepared by: Melissa Valles

Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

AEI

J405203

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAY

EDF Required? ☐ Yes ☒ No

Report To: Jeff Rosenberg Bill To: Same

Company: AEI Consultants

2500 Camino Diablo, Suite 200

Walnut Creek, CA 94597 E-Mail:

Tele: (925) 944-2899 Fax: (925) 944-2895

Project #: 279 Project Name: Quality Auto

Project Location: 1720 E 12th St. Oakland

Sampler Signature: [signature]

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED Ice	METHOD PRESERVED HCl	METHOD PRESERVED HNO_3	METHOD PRESERVED Other
MW-1 5'		5-13		1	Brass		X				X			
MW-1 10'				1										
MW-1 15'				1										
MW-1 20'				1										
MW-1 25'				1										

Analysis Request

BTEX & TPH as Gas (602/8020 + 8015)/MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8080	EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI
X														
X														

Other: Hold

Comments:

Relinquished By:	Date:	Time:	Received By:
[signature]	5-20		[signature]
[signature]	5/13/04	1244	[signature]

ICE/t° ✓ VOAS | O&G | METALS | OTHER

GOOD CONDITION ✓ PRESERVATION

HEAD SPACE ABSENT ____ APPROPRIATE

DECHLORINATED IN LAB ____ CONTAINERS ✓

PERSERVED IN LAB ____

McCampbell Analytical, Inc.

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Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

All Environmental, Inc. 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: 1200 E. 12 Street, Oakland	Date Sampled: 05/21/04
		Date Received: 05/21/04
	Client Contact: Jeff Rosenberg	Date Extracted: 05/24/04-05/26/04
	Client P.O.:	Date Analyzed: 05/24/04-05/26/04

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE*

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0405349

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-1	W	ND	ND	3.7	1.7	0.90	2.3	1	96.9
Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	1	µg/L
	S	NA	NA	NA	NA	NA	NA	1	mg/Kg

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W WorkOrder: 0405349

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 11634 Spiked Sample ID: 0405353-002A

	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
TPH(btex) £	ND	60	105	104	1.23	104	103	0.360	70	130
MTBE	ND	10	116	116	0	105	105	0	70	130
Benzene	ND	10	113	113	0	110	108	1.70	70	130
Toluene	ND	10	108	109	0.318	116	101	14.3	70	130
Ethylbenzene	ND	10	114	114	0	114	111	3.01	70	130
Xylenes	ND	30	103	100	3.28	100	100	0	70	130
%SS:	101	10	107	108	0.442	104	104	0	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) if that specific sample matrix interferes with spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not applicable or not enough sample to perform matrix spike and matrix spike duplicate.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644

QA/QC Officer

McCampbell Analytical, Inc.
110 Second Avenue South, #D7
Pacheco, CA 94553-5560
(925) 798-1620

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0405349 **ClientID: AEL**

Report to:
Jeff Rosenberg
All Environmental, Inc.
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
TEL: (925) 283-6000
FAX: (925) 283-6121
ProjectNo: 1200 E. 12 Street, Oakland
PO:

Bill to:
Lesliegh Alderman
All Environmental, Inc.
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597

Requested TAT: 5 days
Date Received: 5/21/04
Date Printed: 5/21/04

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)														
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0405349-001	MW-1	Water	5/21/04	☐	A														

Test Legend:

1	G-MBTEX_W	2		3		4		5	
6		7		8		9		10	
11		12		13		14		15	

Prepared by: Melissa Valles

Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

0405349

McCAMPBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HR ☐ 48 HR ☐ 72 HR ☒ 5 DAY

EDF Required? ☐ Yes ☒ No

Report To: Jeff Rosenberg	Bill To:
Company: AEI Consultants	
2500 Camino Diablo, Suite 200	
Walnut Creek, CA 94597	E-Mail:
Tele: (925) 944-2899	Fax: (925) 944-2895
Project #:	Project Name:
Project Location: 1200 E. 12 ST Oakland	
Sampler Signature: Adrian Nieto	

SAMPLE ID (Field Point Name)	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	Soil	Air	Sludge	Other	METHOD PRESERVED Ice	HCl	HNO_3	Other	BTEX & TPH as Gas (602/8020 + 8015)/MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8080	EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Other	Comments
MW-1		5/21/04		4	VOA	X					X	X			X																

Analysis Request | Other | Comments

Relinquished By:	Date:	Time:	Received By:
Adrian Nieto	5/21	3:45	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

	VOAS	O&G	METALS	OTHER
ICE/t° ✓	PRESERVATION ✓			
GOOD CONDITION ✓	APPROPRIATE			
HEAD SPACE ABSENT ✓	CONTAINERS ✓			
DECHLORINATED IN LAB _____	PERSERVED IN LAB _____			