AEI CONSULTANTS
Environmental & Civil Engineering

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

June 17, 2003

Mr. Barney Chan
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Subject: **245 8th Street**
Oakland, California
AEI Project No. 5404

Dear Mr. Chan:

Enclosed here is the Soil and Groundwater Investigation Report, prepared by AEI for the fuel release case at the above referenced property.

I look forward to discussing this case with you. Please call me at (925) 283-6000, extension 104, if you have any questions or need any additional information.

Sincerely,

Peter McIntyre
Project Manager, Geologist

June 17, 2003

SOIL AND GROUNDWATER INVESTIGATION REPORT

245 8th Street
Oakland, California 94607

Project No. 5404

Prepared For

Mr. Victor Lum
Vic's Automotive
245 8th Street
Oakland, CA 94607

Prepared By

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

AEI

TABLE OF CONTENTS

1.0 INTRODUCTION

AEI Consultants (AEI) has prepared this report on behalf of Mr. Vic Lum, which documents the site investigation performed at the property located at 245 8th Street in Oakland, California (Figure 1: Site Location Map). The investigation was conducted under the direction of the Alameda County Health Care Services Agency (ACHCSA) to further characterize the extent of the release of fuel hydrocarbons that occurred at the property. Soil, soil vapor, and groundwater samples were collected from fourteen (14) borings advanced on and around the property.

2.0 SITE DESCRIPTION

The property, hereafter referred to as the 'subject property' or 'site' is located on the southern corner of 8th Street and Alice Street in a mixed commercial and residential area of the City of Oakland. Vic's Automotive, an auto repair and gasoline retail business currently occupies the site. The property is approximately 9,400 square feet in area and is bounded by residential properties to the south and east and by 8th Street and Alice Street to the north and west, respectively. One structure currently exists centrally on the site, a single story 3,000 square feet building utilized for auto repair and office space.

3.0 SITE BACKGROUND

3.1 Tank Removal Activities

Between June 1993 and August 1994, AEI removed seven (7) USTs from the property. The tanks consisted of four (4) 1,000 gallon and two (2) 6,000 gallon gasoline tanks, and one (1) 250 gallon waste oil tank. Impacted soil was removed from beneath the former tank area. Groundwater was encountered beneath the former 6,000-gallon tanks. Approximately 1760 cubic yards of hydrocarbon-impacted soil were transported to a landfill facility. Light non-aqueous phase liquid (LNAPL) gasoline product was observed on the water table beneath the southern tank. The excavation was backfilled with clean fill material. A new tank system was installed just west of the dispenser island. Refer to Figure 2 for the locations of the former and current USTs.

3.2 Investigative Activities

Two groundwater-monitoring wells (MW-1 and MW-2) were installed in July 1995. The first two episodes of monitoring revealed total petroleum hydrocarbons as gasoline (TPH-g) and benzene up to 210,000 µg/l and 720 µg/l, respectively, in MW-2. Floating gasoline LNAPL, was discovered in MW-1, which had an apparent thickness ranging from 1.20 to 4.39 feet between 1995 and March 1996.

Three soil borings (SB-1 through SB-3) were advanced in August 1996 (Figure 2). Groundwater samples, collected from each of the borings, contained TPH-g and benzene ranging from 120,000 to 140,000 µg/l and from 12,000 to 19,000 µg/l, respectively. Methyl tertiary butyl ether (MTBE) was also present in all three samples, up to 27,000 µg/l. Although LNAPL was not observed in the field, qualitative laboratory observations indicated immiscible sheen. Manual bailing and pumping of LNAPL from MW-1 and monitoring of MW-2 occurred intermittently through 1998.

Two additional groundwater-monitoring wells (MW-3 and MW-4) were installed in May 2001. A free product recovery pump was installed in MW-1 in June 2001. Approximately 265 gallons of LNAPL had been removed.

4.0 ENVIRONMENTAL SETTING

4.1 Geology and Hydrology

According to logs of soil borings advanced at the site, the native soils generally consist of fine to medium grained sands with clay present to at least 28 feet below ground surface (bgs). Logs of recently advanced borings are included in Appendix B.

The site is located at approximately 29 feet above mean sea level (msl). The site is flat; however, the topography of the area slopes gently to the southwest. The depth to water relative to the tops of the well casings has ranged from approximately 13 to 18 feet bgs, corresponding to a water table elevation of between approximately 11 and 15 feet above mean sea level (amsl). Based on water level measurements, groundwater flow has generally been to the south-southeast; however, during several episodes a northeasterly or northwesterly direction has been observed. The hydraulic gradient has ranged from 10^{-3} to 10^{-2} ft/ft. Refer to Table 1 for a summary of water table elevation data and flow directions.

4.2 Sensitive Receptor Survey

At the request of the ACHCSA, a survey of the vicinity has been performed to identify potential human and environmental receptors with ~~to~~ potential of being impacted by the release.

4.2.1 Groundwater Exposure Pathways

The site is located approximately equidistant from Lake Merrit and Alameda Harbor, both approximately 2,000 feet from the site. No reservoirs or other surface water bodies were identified within 2,000 feet of the site.

A review of well logs for a ½ mile radius of the site was requested from the Department of Water Resources (DWR). This review revealed only one production well in the area. This well was constructed in 1990 and is located on 11th Street between Clay Street and Broadway, approximately 1800 feet northwest of the site. This well was reported as being constructed of six inch diameter plastic casing screened from 180 to 470 feet bgs. Due to the distance and direction from the site, and depth of screen interval of this well, it will not be considered potentially impacted by this release unless further information to the contrary becomes available.

A reconnaissance of the northern portion of the block bounded by 7th and 8th Streets and Alice Street was performed to confirm the absence of wells. Due to the small size of the lots and density of buildings, all yards could easily be observed from the subject property and street. No wells, well heads, or suspect well sheds were observed on any of these properties.

4.2.2 Soil and Soil Vapor Exposure Pathways

Impacted soil beneath the site is present beneath building footprints and asphaltic or concrete surfacing, therefore no direct exposure pathway exists to impacted soils. Despite this, volatile organic compounds exist the vapor phase in the void volume of the sandy soil beneath the site. Vapor intrusion into onsite and off-site buildings does constitute a potentially complete exposure pathway, as does vapor diffusion to outdoor air.

5.0 FIELD ACTIVITIES

Prior to mobilization, a drilling permit was obtained from Alameda County Public Works Agency (permit # WO3-0170). Three encroachment permits were obtained from the City of Oakland for work in the public right-of-way (permits # X030-0222, -0223, and –0224). Permitting documentation is included in Appendix A. Underground Service Alert (USA) North was notified to identify underground utilities in the areas of the borings.

On April 2 and 3, 2003, fourteen (14) soil borings were advanced (SB-4 through SB-17). Please refer to Figure 2 for locations of the soil borings. The borings were advanced with direct push Geoprobe® drill rig. A limited access rig was used for borings SB-9 through SB-11 and SB-16 and SB-17 due to the narrow access way into the 708 Alice Street property. The borings were drilled to depths ranging from 18 and 20 feet bgs. Sampling rods and equipment were washed between samples and boreholes to minimize the potential for cross contamination.

Following sample collection described below, all temporary casing and sampling rods were removed and each boring was backfilled with neat cement grout.

5.1 Soil Sample Collection

Soil was continuously collected and logged from each boring within 3 or 4 foot long acrylic liners, depending on the drilling equipment. Soils were screened in the field with a photo ionizing detector (PID) and qualitative field observations for the presence of hydrocarbons. The soil screening data and observations are presented on the borings logs (Attachment A). Soil samples were cut from the lines at selected depths. Two to three samples were collected from each boring. Samples were sealed with Teflon tape and plastic end caps and stored over ice.

5.2 Groundwater Sample Collection

Saturated soils were observed in each boring at approximately 16 to 18 feet bgs in each boring. To collect groundwater samples, the drill rods were removed and temporary ¾" PVC well casing was installed, with 5 feet of factory slotted screen. Samples were then collected from the temporary well with either a bailer or a drop tube. One groundwater sample was collected from each boring.

Groundwater samples were collected into 40-mL volatile organic analysis (VOA) vials. The groundwater samples were capped so that there was no headspace or visible air bubbles within the vials, then placed in a cooler with wet ice to await transportation to the laboratory.

5.3 Vapor Sample Collection

Vapor samples were collected from borings SB-4, SB-7, SB-8, SB-16 and SB-17, with the vapor inlet exposed from approximately 4 to 4.5 feet bgs for each sample. The original scope of work called for the collection of additional vapor samples from just above the water table; however, due to soil moisture and the finer grained nature of the soils and this depth, vapor could not be recovered. In addition, vapor recovery was not possible from borings SB-9 and SB-11 in the 4-foot depth range. Based on this, vapor samples were collected at two additional locations, SB-16 and SB-17 (see Figure 2).

The vapor sample was collected using the post run tubing (PRT) system. The sample was drawn through a disposable point, through an adapter, and into the sample tubing. The tubing was purged and the soil vapor was collected using a portable vacuum pump that was connected to the tubing. The samples were collected into 1-liter Tedlar® bags. The sample bags were labeled and stored over ice.

6.0 SAMPLE ANALYSES

On April 2, 2003 and April 3, 2003, the samples were transported to McCampbell Analytical Inc. (Department of Health Services Certification #1644) under chain of custody protocol for analysis. Analytical results and chain of custody documents are included as Attachment C.

A total of 15 soil samples, 5 soil vapor samples, and 12 groundwater samples were selected for analysis. The selected samples were analyzed for TPH-g (EPA Method 8015C), benzene, toluene, ethylbenzene, and xylenes (BTEX) (EPA Method 8021B) and MTBE (EPA Method 8021B). Additionally, groundwater samples were analyzed for selected fuel additives [di-isopropyl ether (DIPE), ethyl tert butyl ether (ETBE), MTBE, tert-amyl methyl ether (TAME), tert-Butyl alcohol (TBA), 1,2-dibromomethane (EDB), and 1,2 dichloroethane (1,2 DCA) by EPA Method 8260B. Any remaining soil samples were placed on hold at the laboratory.

6.1 Soil

Petroleum hydrocarbons were detected in soil samples collected from three of the borings, SB-4, SB-7, and SB-11. The highest concentrations were in SB-7, with TPH-g and benzene concentrations detected at 4,900 mg/kg and 65 mg/kg, respectively at 18 feet bgs. Sample SB-11 16' had significant levels of TPH-g and benzene at 2,700 mg/kg and 29 mg/kg, respectively. Toluene, ethyl benzene, and xylenes were also detected at high concentration in samples from these three borings. Soil samples analyzed from SB-5, SB-6, SB-8 through SB-10, and SB-12 through SB-15 did not contain detectable levels of hydrocarbon constituents. Soil sample analytical data is included in Table 2.

6.3 Groundwater

Groundwater samples SB-4 W and SB-7 W contained the highest concentrations of TPH-g, with concentrations detected at 310,000 µg/L and 240,000 µg/L, respectively. BTEX compounds were found to be highest in SB-4 with concentrations of 45,000 µg/L, 65,000 µg/L, 4,500 µg/L, and 23,000 µg/L, respectively. MTBE was found in water sample SB-7 at a concentration of 52,000 µg/L (EPA method 8260) and SB-4 at 14,000 µg/L (EPA method 8260). TAME was detected in two groundwater samples, SB-8 W and SB-10 W, at 14 µg/L and 110 µg/L, respectively. TBA was also detected two samples, SB-5 W and SB-9 W, at 790 µg/L and 68 µg/L, respectively. Sample SB-15 did not contain any detectable concentrations of petroleum hydrocarbons or constituents above the laboratory limits. The groundwater sample analytical data are summarized in Tables 4 and 5 and on Figure 4.

6.2 Soil Vapor

No concentrations of petroleum hydrocarbons or constituents were detected above laboratory limits in any of the soil vapor samples collected during this investigation. Please refer to Table 3 for details of the soil vapor sample analytical results.

7.0 SUMMARY AND CONCLUSIONS

AEI collected soil, soil vapor, and groundwater samples from 14 additional borings advanced on and around the property. The investigation was performed under the direction of the ACHCSA to further characterize the release of fuel hydrocarbons from the former USTs.

Soil sample analytical data from borings SB-4, SB-7, and SB-11 indicate that significant source material is present in these areas. The high dissolved hydrocarbon concentrations detected in the water samples from these borings along with those from SB-9, SB-10, and MW-2 indicate that fuel product NAPL has migrated to these locations. This direction of contaminant movement is consistent with the prevailing groundwater flow direction that has been observed at the site.

Because this investigation has confirmed that a significant contaminant mass is present and migrating offsite, active interim removal action should be implemented in a timely manner. Although no contaminant concentrations were detected in the shallow vapor samples analyzed during this project, the presence of free phase and dissolved phase contaminants beneath residential structures represents a potential threat to human health.

As recommended in the original work plan approved by the ACHCSA, additional monitoring and extraction wells will be necessary. Interim removal should be implemented from onsite well locations while evaluation and design of a long-term remedial approach is underway. AEI recommends the preparation of a plan recommending the locations of additional monitoring and extraction wells, a proposal for interim contaminant removal, and a scope of work for data collection and evaluation for long-term remedial action system design.

8.0 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 construction field that existed at the time and location of the work.

Sincerely,

Peter McIntyre
Project Manager, Geologist

Technical Review by:

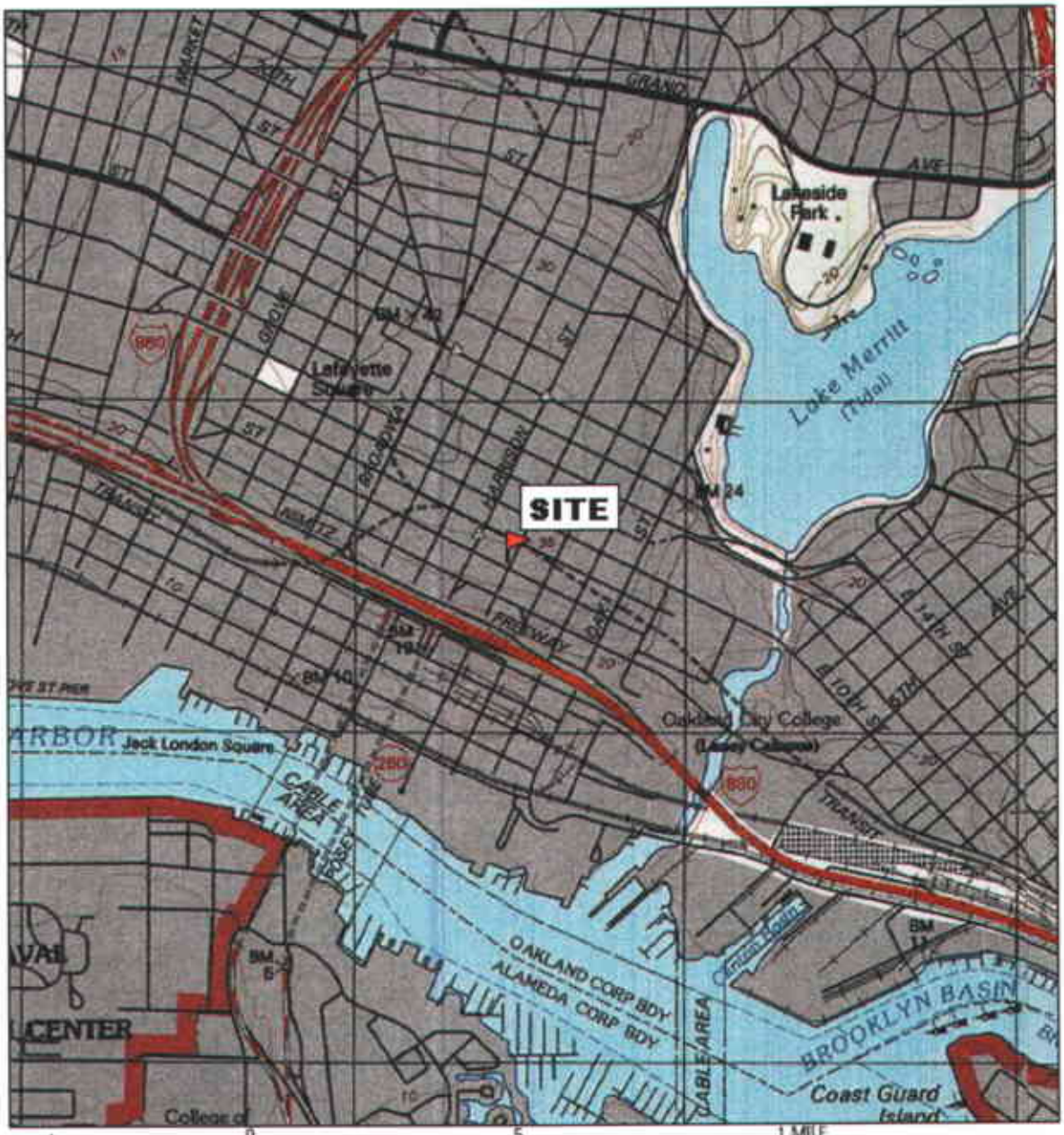
L. M. Sawyer #4450

Lorraine M. Sawyer
Registered Geologist

Distribution:

Mr. Victor Lum
Vic's Automotive
245 8th Street
Oakland, CA 94607

Mr. Barney Chan
ACHCSA
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502



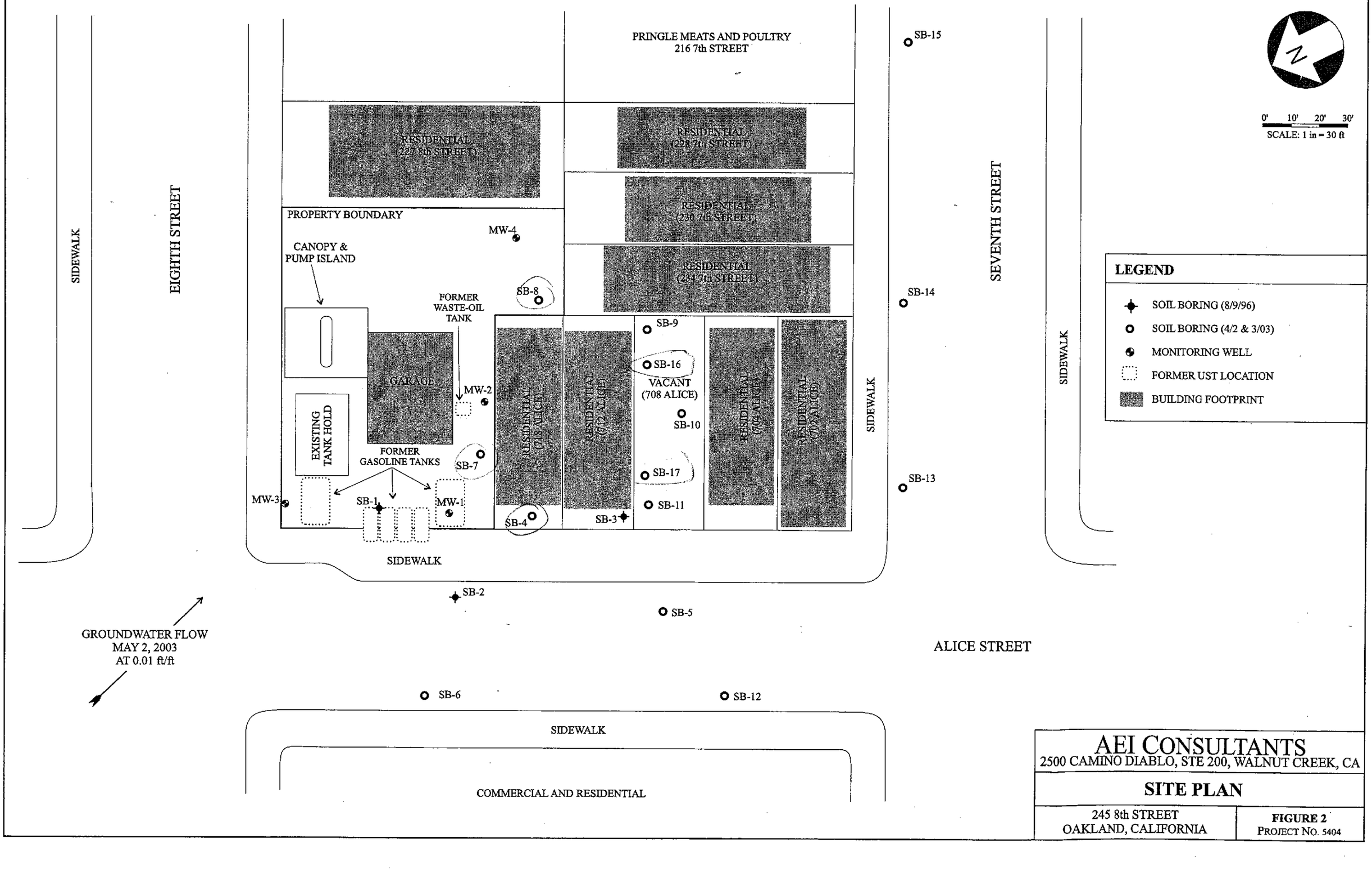
Printed from TOPO! ©2001 National Geographic Holdings (www.topo.com)

AEI CONSULTANTS

2500 CAMINO DIABLO BLVD, STE 200, WALNUT CREEK

SITE LOCATION MAP

245 8th STREET OAKLAND, CALIFORNIA	**FIGURE 1** PROJECT NO. 5404

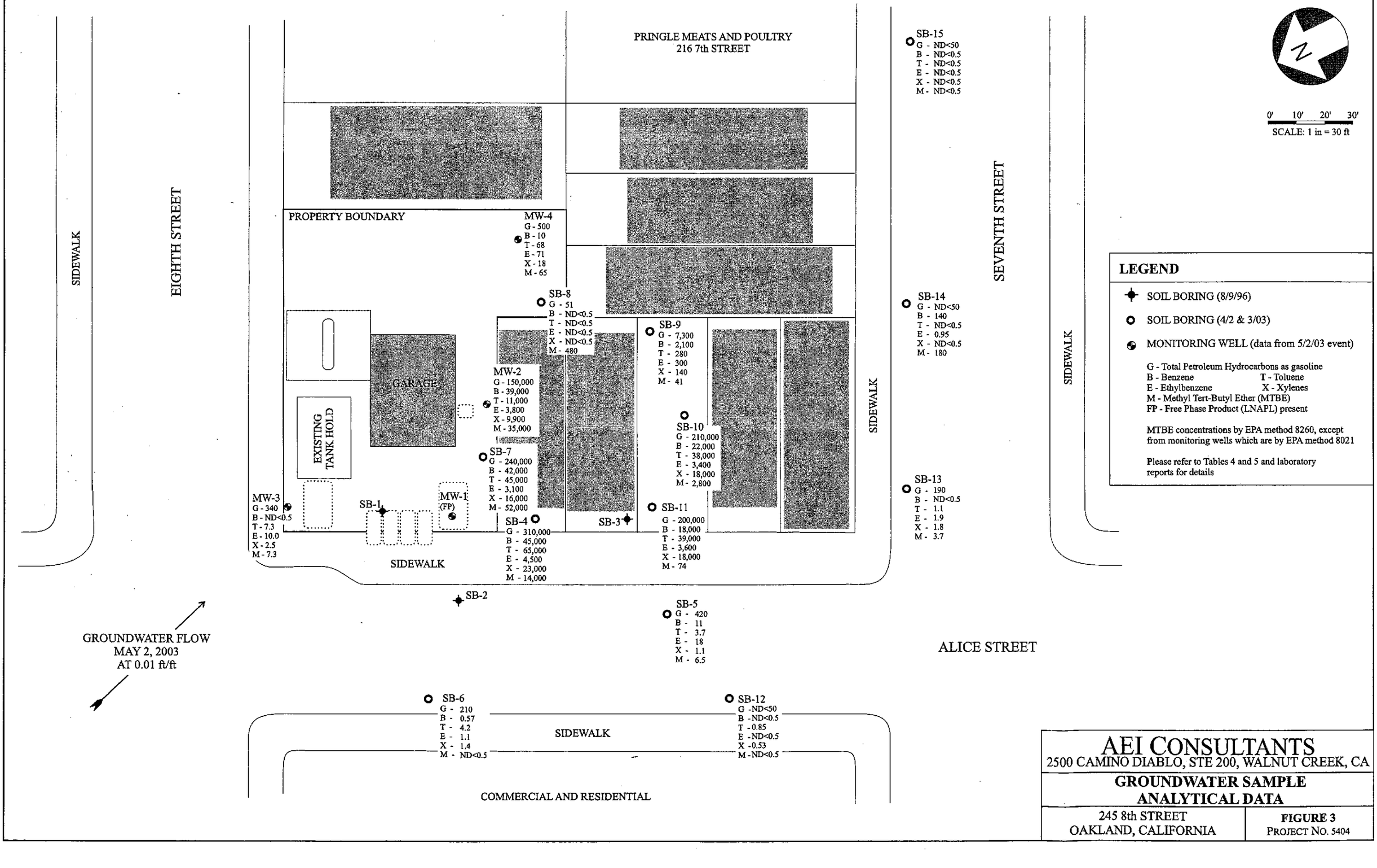


AEI CONSULTANTS
2500 CAMINO DIABLO, STE 200, WALNUT CREEK, CA

SITE PLAN

245 8th STREET
OAKLAND, CALIFORNIA

FIGURE 2
PROJECT NO. 5404



LEGEND

- SOIL BORING (8/9/96)
- SOIL BORING (4/2 & 3/03)
- MONITORING WELL (data from 5/2/03 event)

G - Total Petroleum Hydrocarbons as gasoline
B - Benzene
T - Toluene
E - Ethylbenzene
X - Xylenes
M - Methyl Tert-Butyl Ether (MTBE)
FP - Free Phase Product (LNAPL) present

MTBE concentrations by EPA method 8260, except from monitoring wells which are by EPA method 8021

Please refer to Tables 4 and 5 and laboratory reports for details

AEI CONSULTANTS

2500 CAMINO DIABLO, STE 200, WALNUT CREEK, CA

GROUNDWATER SAMPLE ANALYTICAL DATA

245 8th STREET
OAKLAND, CALIFORNIA

FIGURE 3
PROJECT NO. 5404

Table 1
Water Table Elevation Data

Well ID	Screen Interval in ft bgs (diameter)	Date Collected	Well Elevation (ft msl)	Depth to Water (ft)	Groundwater Elevation (ft amsl)	Depth to LNAPL (ft)	Apparent LNAPL Thickness (ft)
MW-1	**8-28 (4")**	7/21/95	27.73	NA	NA	NA	2.22
		6/29/01	27.73	16.52	16.52*	14.89	1.63
		10/10/01	27.73	15.45	15.45*	15.37	0.08
		1/9/02	27.73	12.61	15.12*	-	<0.01
		4/24/02	27.73	13.35	14.38*	-	<0.01
		7/24/02	27.73	14.19	13.44*	-	<0.01
		11/5/02	27.73	14.85	12.88*	-	<0.01
		2/4/03	27.73	14.91	12.82*	-	<0.01
		5/2/03	27.73	14.43	13.30*	13.22	0.08
MW-2	**8-28 (2")**	7/21/95	28.16	17.21	10.95	-	-
		6/29/01	28.16	16.14	12.02	-	-
		10/10/01	28.16	16.43	11.73	-	-
		1/9/02	28.16	13.50	14.66	-	-
		4/24/02	28.16	14.40	13.76	-	-
		7/24/02	28.16	14.91	13.25	-	-
		11/5/02	28.16	16.96	11.20	-	-
		2/4/03	28.16	15.42	12.74	-	-
		5/2/03	28.16	15.24	12.92	-	-
MW-3	**10-25 (4")**	6/29/01	29.21	16.60	12.61	-	-
		10/10/01	29.21	16.92	12.29	-	-
		1/9/02	29.21	14.20	15.01	-	-
		4/24/02	29.21	15.07	14.14	-	-
		7/24/02	29.21	16.40	12.81	-	-
		11/5/02	29.21	16.47	12.74	-	-
		2/4/03	29.21	16.92	12.29	-	-
		5/2/03	29.21	15.45	13.76	-	-
MW-4	**10-25 (4")**	6/29/01	29.38	17.71	11.67	-	-
		10/10/01	29.38	18.00	11.38	-	-
		1/9/02	29.38	15.02	14.36	-	-
		4/24/02	29.38	15.74	13.64	-	-
		7/24/02	29.38	16.69	12.69	-	-
		11/5/02	29.38	17.64	11.74	-	-
		2/4/03	29.38	16.02	13.36	-	-
		5/2/03	29.38	16.72	12.66	-	-

* = Measured groundwater level affected by LNAPL and/or pump presence, not used to calculate water table elevation

All well elevations are measured from the top of the casing

- = not applicable

ft msl = feet above mean sea level

LNAPL = light non-aqueous phase liquid (floating free product)

Note: Historical groundwater elevation and quality data for wells MW-1 and MW-2 was not available

Episode #	Date	Average Water Table Elevation**	Change from Previous Episode	Flow direction (gradient)
1	6/29/01	12.10	-	SSE (0.0074)
2	10/10/01	11.80	-0.30	SSE (0.0071)
3	1/9/02	14.68	2.88	SE (0.0054)
4	4/24/02	13.85	-0.83	SSW (0.005)
5	7/24/02	12.92	-0.93	NE (0.021)
6	11/5/02	11.89	-1.02	SW (0.019)
7	2/4/03	12.80	0.90	NNW (0.01)
8	**5/2/03**	**8.81**	**-3.99**	**SSE (0.01)**

** MW-2 through MW-4 only

Table 2
Soil Sample Analytical Data

Sample ID	Date Collected	TPHg mg/kg	TOG mg/kg	MTBE mg/kg	Benzene mg/kg	Toluene mg/kg	Ethylbenzene mg/kg	Xylenes mg/kg
MW-1 (6')	7/14/95	390	-	-	0.280	0.290	0.290	0.620
MW-1 (11')	7/14/95	370	-	-	0.240	0.240	0.230	0.610
MW-2 (6')	7/14/95	ND	24	-	ND	ND	ND	ND
MW-2 (11')	7/14/95	300	38	-	0.300	0.230	0.240	0.630
SB-1 (18')	8/18/96	9,100	-	47.0	57	580	190	1,000
SB-1 (24')	8/18/96	30	-	0.20	0.37	1.4	0.52	2.5
SB-2 (24')	8/18/96	1.1	-	0.032	0.11	0.17	0.018	0.099
SB-2 (24')	8/18/96	16	-	4.7	1.6	2.5	0.21	0.95
MW-3 15'	5/25/01	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
MW-3 20'	5/25/01	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
MW-4 15'	5/25/01	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
MW-4 20'	5/25/01	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB-4 12'	4/2/03	25	-	ND<0.5	0.41	1.0	0.2	1.3
SB-4 15'	4/2/03	260	-	ND<1.7	3.5	15	4.5	23
SB-5 11'	4/3/03	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB-6 16'	4/2/03	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB-7 12'	4/2/03	700	-	ND<10	6.0	25	9.3	50
SB-7 18'	4/2/03	4,900	-	ND<25	65	260	77	400
SB-8 17'	4/2/03	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB-9 16'	4/3/03	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB-10 12'	4/3/03	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB-11 12'	4/3/03	1.4	-	ND<0.05	0.12	0.10	0.026	0.066
SB-11 16'	4/3/03	2,700	-	ND<30	29	170	49.0	250
SB-12 15'	4/2/03	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB-13 14'	4/3/03	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB-14 14'	4/3/03	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
SB-15 14'	4/3/03	ND<1.0	-	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005

ND - not detected

mg/kg - milligrams per kilogram

TPHg - total petroleum hydrocarbons as gasoline

MTBE - methy tertiary butyl ether

TOG - Total Oil and Grease

Please refer to Laboratory Analytical Data for further detailed lab information including lab reporting limits and dilution factors

Table 3

Soil Vapor Sample Analytical Data

Sample ID	Date Collected	TPHg µg/L	MTBE µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L
SB-4 4' V	4/2/03	ND<25	ND<2.5	ND<0.25	ND<0.25	ND<0.25	ND<0.25
SB-7 4' V	4/2/03	ND<25	ND<2.5	ND<0.25	ND<0.25	ND<0.25	ND<0.25
SB-8 4' V	4/2/03	ND<25	ND<2.5	ND<0.25	ND<0.25	ND<0.25	ND<0.25
SB-16 4' V	4/2/03	ND<25	ND<2.5	ND<0.25	ND<0.25	ND<0.25	ND<0.25
SB-17 4' V	4/2/03	ND<25	ND<2.5	ND<0.25	ND<0.25	ND<0.25	ND<0.25

ND - not detected

µg/L - micrograms per liter

TPHg - total petroleum hydrocarbons as gasoline

MTBE - methyl tertiary butyl ether

Please refer to Laboratory Analytical Data for further detailed lab information including lab reporting limits and dilution factors

Table 4

Groundwater Sample Analytical Data: Hydrocarbons, BTEX, and MTBE

Well/Sample ID	Date Collected	Apparent LNAPL thichness (ft)	TPHg µg/L	MTBE µg/L	Benzene µg/L	Toluene µg/L	Ethylbenzene µg/L	Xylenes µg/L
SB-1 W	8/18/96	-	140,000	480	12,000	30,000	3,900	19,000
SB-2 W	8/18/96	-	130,000	2,300	15,000	20,000	2,800	15,000
SB-3 W	8/18/96	-	120,000	27,000	19,000	29,000	1,900	9,500
SB-4 W	4/2/03	-	310,000	17,000	45,000	65,000	4,500	23,000
SB-5 W	4/3/03	-	420	ND<5.0	11	3.7	18	1.1
SB-6 W	4/2/03	-	210	ND<5.0	0.57	4.2	1.1	1.4
SB-7 W	4/2/03	-	240,000	69,000	42,000	45,000	3,100	16,000
SB-8 W	4/2/03	-	51	360	ND<0.5	ND<0.5	ND<0.5	ND<0.5
SB-9 W	4/3/03	-	7,300	ND<100	2,100	280	300	140
SB-10 W	4/3/03	-	210,000	ND<5000	22,000	38,000	3,400	18,000
SB-11 W	4/3/03	-	200,000	ND<2000	18,000	39,000	3,600	18,000
SB-12 W	4/2/03	-	ND<50	ND<5.0	ND<0.5	0.85	ND<0.5	0.53
SB-13 W	4/3/03	-	190	ND<20	ND<0.5	1.1	1.9	1.8
SB-14 W	4/3/03	-	ND<50	140	ND<0.5	0.95	ND<0.5	1.3
SB-15 W	4/3/03	-	ND<50	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
MW-1	7/21/95	2.22	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp
	6/29/01	1.63	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp
	10/10/01	0.08	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp
	1/9/02	<0.01	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp
	4/24/02	<0.01	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp
	7/24/02	~0.01	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp
	11/5/02	~0.01	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp
	2/4/03	~0.01	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp
	5/2/03	**0.08**	**ns/fp**	**ns/fp**	**ns/fp**	**ns/fp**	**ns/fp**	**ns/fp**
MW-2	7/21/95	Sheen	68,000	-	480	240	110	350
	6/29/01	0.0	69,000	4,100	7,200	6,100	1,500	7,000
	10/10/01	0.0	87,000	14,000	22,000	12,000	2,700	9,100
	1/9/02	0.0	130,000	11,000	30,000	19,000	3,800	14,000
	4/24/02	Sheen	210,000	32,000	38,000	23,000	4,600	19,000
	7/24/02	Sheen	170,000	36,000	48,000	12,000	3,700	8,600
	11/5/02	Sheen	190,000	36,000	45,000	25,000	4,600	16,000
	2/4/03	Sheen	150,000	27,000	51,000	24,000	4,200	14,000
	5/2/03	**Sheen**	**150,000**	**35,000**	**39,000**	**11,000**	**3,800**	**9,900**
MW-3	6/29/01	0.0	550	ND<5.0	ND<0.5	3.1	3.2	1.2
	10/10/01	0.0	470	ND<5.0	0.77	5.3	3.3	5.9
	1/9/02	0.0	1,000	ND<5.0	0.90	7.6	7.8	25
	4/24/02	0.0	1,500	ND<5.0	0.64	7.2	12	14
	7/24/02	0.0	1,200	ND<5.0	10.00	17.0	11	25
	11/5/02	0.0	1,800	ND<25	33	43.0	18	31
	2/4/03	0.0	450	ND<5.0	ND<0.5	5.0	ND<0.5	0.77
	5/2/03	**0.0**	**340**	**ND<5.0**	**7.3**	**10.0**	**2.5**	**7.3**
MW-4	6/29/01	0.0	ND<50	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	10/10/01	0.0	ND<50	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	1/9/02	0.0	ND<50	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	4/24/02	0.0	ND<50	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	7/24/02	0.0	ND<50	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	11/5/02	0.0	ND<50	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	2/4/03	0.0	ND<50	ND<5.0	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	5/2/03	**0.0**	**500**	**10**	**68**	**71**	**18**	**65**

ND - not detected

µg/L - micrograms per liter

TPHg - total petroleum hydrocarbons as gasoline

MTBE - methyl tertiary butyl ether

BTEX - Benzene, ethylbenzene, toluene, and xylenes

ns/fp - not sampled / free product

Please refer to Laboratory Analytical Data for further detailed lab information including lab reporting limits and dilution factors

Note: Historical Groundwater elevation and quality data for wells MW-1 and MW-2 was not available

Table 5

Groundwater Sample Analtyical Data: Selected Volatile Organics by EPA method 8260

Well/Sample ID	Date Collected	DIPE µg/L	ETBE µg/L	MTBE µg/L	TAME µg/L	TBA µg/L	EDB µg/L	1,2-DCA µg/L
MW-1	7/24/02	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp	ns/fp
MW-2	7/24/02	ND<1,000	ND<1,000	43,000	ND<1,000	ND<10,000	ND<1,000	ND<1,000
MW-3	7/24/02	ND<0.5	ND<0.5	1.3	ND<0.5	ND<5.0	ND<0.5	ND<0.5
MW-4	7/24/02	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	ND<0.5	ND<0.5
SB-4 W	4/2/03	ND<500	ND<500	14,000	ND<500	ND<5000	ND<500	ND<500
SB-5 W	4/3/03	ND<5.0	ND<5.0	6.5	ND<5.0	790	ND<5.0	ND<5.0
SB-6 W	4/2/03	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	ND<0.5	ND<0.5
SB-7 W	4/2/03	ND<1,200	ND>1,200	52,000	ND<1,200	ND<12,000	ND<1,200	ND<1,200
SB-8 W	4/2/03	ND<10	ND<10	480	14	ND<100	ND<10	ND<10
SB-9 W	4/3/03	ND<5.0	ND<5.0	41	ND<5.0	68	ND<5.0	ND<5.0
SB-10 W	4/3/03	ND<50	ND<50	2,800	110	ND<500	ND<50	ND<50
SB-11 W	4/3/03	ND<50	ND<50	74	ND<50	ND<500	ND<50	ND<50
SB-12 W	4/2/03	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	ND<0.5	ND<0.5
SB-13 W	4/3/03	ND<0.5	ND<0.5	3.7	ND<0.5	ND<5.0	ND<0.5	ND<0.5
SB-14 W	4/3/03	ND<2.5	ND<2.5	180	ND<2.5	ND<25	ND<2.5	ND<2.5
SB-15 W	4/3/03	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0	ND<0.5	ND<0.5

µg/L - micrograms per liter
ns/fp - not sampled / free product
DIPE - Diisopropyl ether
ETBE - Ethyl tert-butyl ether
MTBE - Methyl tert-butyl ether
TAME - tert-Amyl methyl ether
TBA - t-Butyl Alcohol
EDB - 1,2-Dibromomethane
1,2-DCA - 1,2-Dichloroethane

Please refer to Laboratory Analytical Data for further detailed lab information including lab reporting limits and dilution factors

CITY OF OAKLAND
Office of Planning and Building

EXCAVATION PERMIT

TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

CIVIL ENGINEERING

Permit valid for 90 days from date of issuance.

PERMIT NUMBER	SITE ADDRESS/LOCATION
X 0 3 0 0223	245 8th St.
APPROX. START DATE / APPROX. END DATE	24-HOUR EMERGENCY PHONE NUMBER (Permit not valid without 24-Hour number) (AT NORTH SIDE OF ALICE
CONTRACTOR'S LICENSE # AND CLASS 654919	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.

Peter McMillan — 3/5/03

Signature of Permittee ☐ Agent for ☒ Contractor ☐ Owner — Date

ATE 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 3-5-03	

CITY OF OAKLAND
Office of Planning and Building

EXCAVATION PERMIT

TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

CIVIL ENGINEERING

Permit valid for 90 days from date of issuance.

PERMIT NUMBER	SITE ADDRESS/LOCATION
X 0 3 0 0222	245 8th ST.
APPROX. START DATE / APPROX. END DATE	24-HOUR EMERGENCY PHONE NUMBER (Permit not valid without 24-Hour number) (ON 4th ST.)
CONTRACTOR'S LICENSE # AND CLASS 654919	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 3/5/03

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 3/5/03	

CITY OF OAKLAND
Office of Planning and Building

EXCAVATION PERMIT

TO EXCAVATE IN STREETS OR OTHER SPECIFIED WORK

CIVIL ENGINEERING

Permit valid for 90 days from date of issuance.

PERMIT NUMBER	SITE ADDRESS/LOCATION
X 0 3 0 0224	245 8th ST.
APPROX. START DATE / APPROX. END DATE	24-HOUR EMERGENCY PHONE NUMBER (Permit not valid without 24-Hour number) (S/O AUG)
CONTRACTOR'S LICENSE # AND CLASS 654 914	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 3/5/03

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 3-5-03	

forms/ops/excavate.pg2 (04/98)

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) ~~670-5554 MARLON MAGALLANES/FRANK CODD (510) 670-5785~~
FAX (510)782-1939 Sines Yoo (510) 670-6633

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 2145 9th Street and 7th Street and Alice Street (see Plan) Oakland

CLIENT
Name Victor Lum
Address 2145 9th St Phone 510 832-9014
City Oakland CA Zip 94607

APPLICANT
Name AEI Consultants
Attn: Peter McIntyre Fax 925/283-6121
Address 2500 Camino Diablo Phone 925/283-6000
City Walnut Creek CA Zip 94597
→ new Address

TYPE OF PROJECT

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

PROPOSED WATER SUPPLY WELL USE

New Domestic	☐	Replacement Domestic	☐
Municipal	☐	Irrigation	☐
Industrial	☐	Other ______	☐

DRILLING METHOD:
Mud Rotary ☐ Air Rotary ☐ Auger ☐
Cable ☐ Other Direct Push

DRILLER'S NAME Vironex

DRILLER'S LICENSE NO. C57 705 927

WELL PROJECTS
Drill Hole Diameter ______ in. Maximum
Casing Diameter ______ in. Depth ______ ft.
Surface Seal Depth ______ ft. Owner's Well Number ______

GEOTECHNICAL PROJECTS
Number of Borings 12 Maximum
Hole Diameter 2 in. Depth 20 ft.

ESTIMATED STARTING DATE 3/11/03
ESTIMATED COMPLETION DATE 3/13/03

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

APPLICANT'S SIGNATURE [signature] DATE 3/4/03

PLEASE PRINT NAME Robert McIntyre Rev.5-13-00

FOR OFFICE USE

PERMIT NUMBER W03-0170
WELL NUMBER ______
APN ______

PERMIT CONDITIONS
Circled Permit Requirements Apply

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

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

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

D. ~~GEOTECHNICAL~~ Contamination
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind. ~~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 — SC#3 Attached

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

APPROVED [signature] DATE 3-6-03

Project No: 5404

Sheet: 1 of 1

Project Name: Vics Automotive

Client: Vic Lum

Location: 245 8th Street

Log of Borehole: SB-4

Depth	USCS Symbol	USCS Label	Subsurface Description	Sample Label	Type	Blow/ft	Recovery	Well Data	Remarks
0			Ground Surface						Start Drill at 2:45
2		SW	***Sand*** fine to medium grain loose brown no hydrocarbon odor						
4				SB-4 4' V	V				
6				SB-4 6'	C				
8			increasing clay brown/orange color						
10									
12				SB-4 12'	C				
14									Hydrocarbon odor present
16		SC	***Clayey Sand*** very fine to fine grain grayish color at 15 feet	SB-4 15'	C			▼	Strong hydrocarbon odor Temp PVC w/ 5' scr. to 18.5' 4 VOAs (SB-4 W) LNAPL present in sample
18									C = Core Sample
20			End of Borehole						V = Vapor Sample

Drill Date 4/2/03

Drill Method: Direct Push

Total Depth: 19

Depth to Water: 15.5

Reviewed by: LMS

Logged by: PJM

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

Project No: 5404

Sheet: 1 of 1

Project Name: Vics Automotive

Client: Vic Lum

Location: 245 8th Street

Log of Borehole: SB-5

Depth	USCS Symbol	USCS Label	Subsurface Description	Sample Label	Type	Blow/ft	Recovery	Well Data	Remarks
0			Ground Surface						
			Fill						Hand Auger 0-5 feet
2		SW	***Sand*** loose clean sand very fine to medium grain						
4									
6									
8		SP	silt and clay increasing downward brown fewer fines (loose)						
10			color change to olive at 10.5 feet	SB-5 11'	C				Mild hydrocarbon odor
									PID 1.9 ppm
12									
14								▼	
			Silty Clayey Sand very fine to medium grain wet	SB-5 15'	C				Temp PVC w/ 5' scr to 19'
16		SC							
									4 VOAs (SB-5 W)
18									
			End of Borehole						
20									

Drill Date 4/3/03

Drill Method: Direct Push

Total Depth: 19

Depth to Water: 14.2

Reviewed by: LMS

Logged by: PJM

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

Project No: 5404

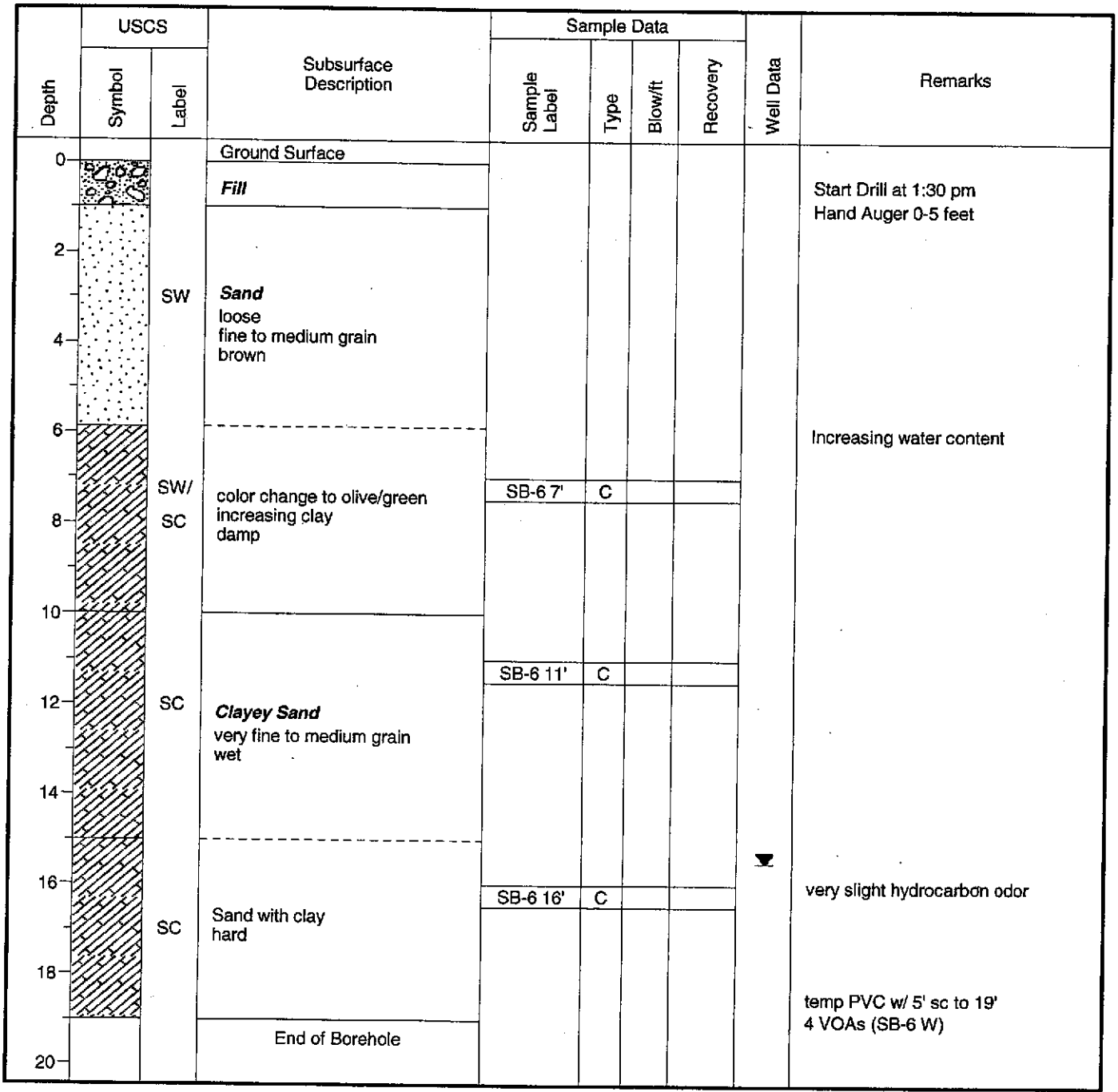
Sheet: 1 of 1

Project Name: Vics Automotive

Client: Vic Lum

Location: 245 8th Street

Log of Borehole: SB-6



Drill Date 4/2/03

Drill Method: Direct Push

Total Depth: 19

Depth to Water: 15.5

Reviewed by: LMS

Logged by: PJM

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

Project No: 5404

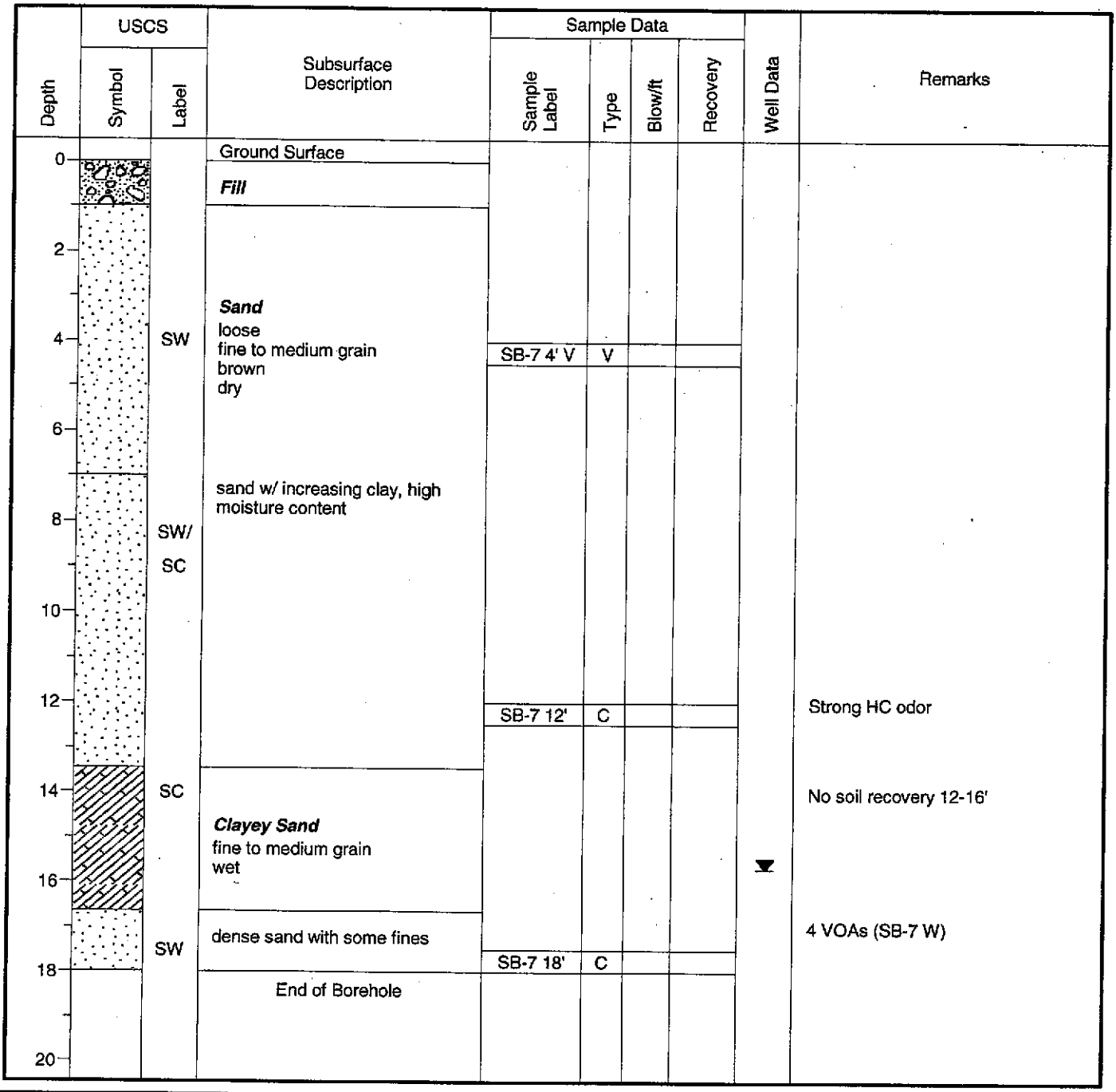
Sheet: 1 of 1

Project Name: Vics Automotive

Client: Vic Lum

Location: 245 8th Street

Log of Borehole: SB-7



Drill Date 4/2/03

Drill Method: Direct Push

Total Depth: 18

Depth to Water: 15.7

Reviewed by: LMS

Logged by: PJM

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

Project No: 5404

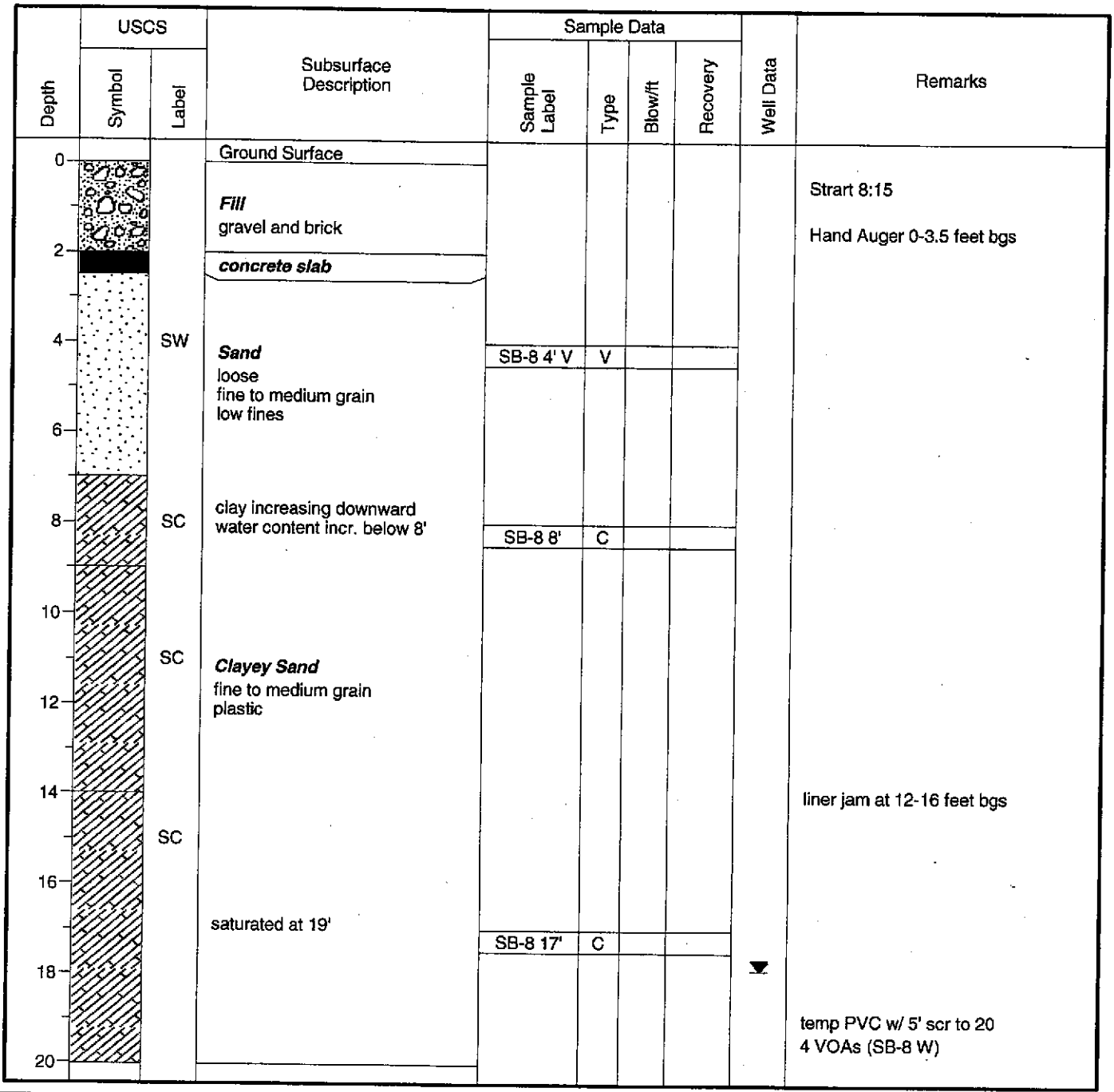
Sheet: 1 of 1

Project Name: Vics Automotive

Client: Vic Lum

Location: 245 8th Street

Log of Borehole: SB-8



Drill Date 4/2/03

Drill Method: Direct Push

Total Depth: 20

Depth to Water: 17.9

Reviewed by: LMS

Logged by: PJM

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

Project No: 5404

Sheet: 1 of 1

Project Name: Vics Automotive

Client: Vic Lum

Location: 245 8th Street

Log of Borehole: SB-9

Depth	USCS Symbol	USCS Label	Subsurface Description	Sample Label	Type	Blow/ft	Recovery	Well Data	Remarks
0			Ground Surface						
2			***Sand*** loose well sorted light and dark reddish brown low fines high moisture at 7 feet bgs						20% recovery 0-3 feet bgs
4		SW							
				SB-9 5'	C				PID <1.0 ppm
6									
8									
10			very compact at 10'						
12				SB-9 12'	C				PID <1.0 ppm No hydrocarbon odor
14		SW							
16			greenish/olive color locally	SB-9 16'	C			▼	PID <1.0 ppm
18									temp PVC w/ 5' scr to 21'
20									4 VOAs (SB-9 W)

Drill Date 4/3/03

Drill Method: Direct Push

Total Depth: 20

Depth to Water: 15.5

Reviewed by: LMS

Logged by: BKR & PJM

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

Project No: 5404 **Sheet: 1 of 1**

Project Name: Vics Automotive

Client: Vic Lum

Location: 245 8th Street

Log of Borehole: SB-10

Depth	USCS Symbol	USCS Label	Subsurface Description	Sample Label	Type	Blow/ft	Recovery	Well Data	Remarks
0			Ground Surface						
			Sand loose dark brown/reddish color low subangular gravels (<5%) medium to coarse grain						25% recovery 0-3 feet bgs
2		SW							
4									
				SB-10 5'	C				PID <1.0 ppm
6		SC	clay increasing below 6' damp to wet clayey sand 6-7'						
8									liner shattered 8-13 feet bgs
10									
12				SB-10 12'	C				PID 5.9 ppm
14		SW	greenish/olive in places moist compact little fines						
16				SB-10 16'	C			▼	Slight hydrocarbon odor PID 10.0 ppm
18									Strong hydrocarbon odor PID >500 ppm temp PVC w/ 5' scr to 19'
			End of Borehole						4 VOAs (SB-10 W)
20									

Drill Date 4/3/03

Drill Method: Direct Push

Total Depth: 19

Depth to Water: 16

Reviewed by: LMS

Logged by: BKR & PJM

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

Project No: 5404

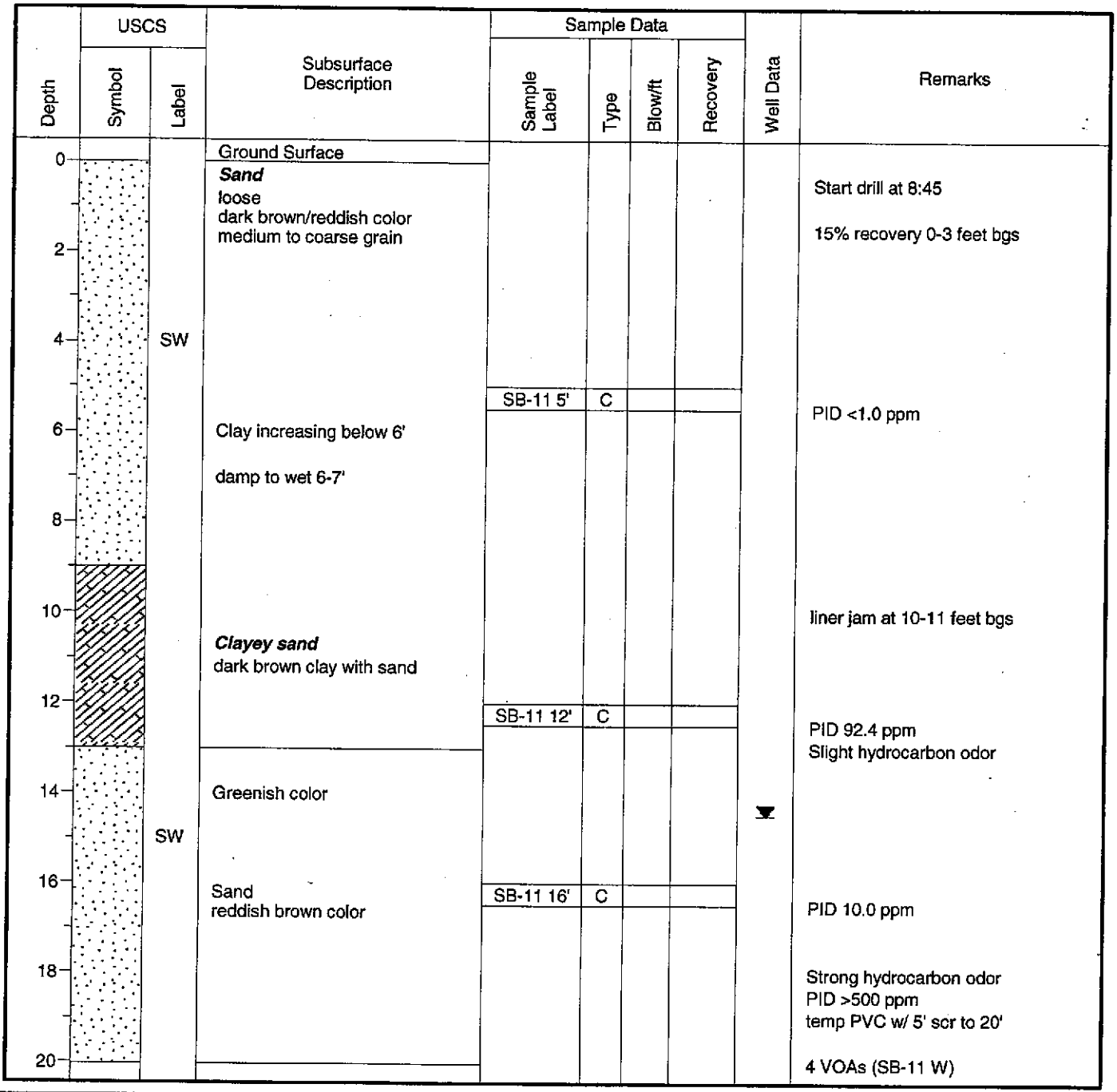
Sheet: 1 of 1

Project Name: Vics Automotive

Log of Borehole: SB-11

Client: Vic Lum

Location: 245 8th Street



Drill Date 4/3/03

Drill Method: Direct Push

Total Depth: 20

Depth to Water: 14.5

Reviewed by: LMS

Logged by: BKR & PJM

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

Project No: 5404

Sheet: 1 of 1

Project Name: Vics Automotive

Client: Vic Lum

Location: 245 8th Street

Log of Borehole: SB-12

Depth	USCS Symbol	USCS Label	Subsurface Description	Sample Label	Type	Blow/ft	Recovery	Well Data	Remarks
0			Ground Surface						
			Fill gravel w/ concrete						Start drill at 11:45
2									Hand auger 0-4.5 feet bgs
4		SW	***Sand*** loose brown/orange color slightly olive minor fines						
6				SB-12 6'	C				attempted vapor sample at 6.5' no vapor recovery
			damp below 5'						
8									
10									
			sand with minor silt and clay fine grain	SB-12 11'	C				
12									
14		SP	greenish / gray color						No hydrocarbon odor
				SB-12 15'	C				
16			clay increasing downward saturated					▼	
18			End of Borehole						PVC W/ 5' scr to 18'
									4 VOAs (SB-12 W)
20									

Drill Date 4/2/03

Drill Method: Direct Push

Total Depth: 18

Depth to Water: 17

Reviewed by: LMS

Logged by: PJM

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

Project No: 5404

Sheet: 1 of 1

Project Name: Vics Automotive

Client: Vic Lum

Location: 245 8th Street

Log of Borehole: SB-13

Depth	USCS Symbol	USCS Label	Subsurface Description	Sample Label	Type	Blow/ft	Recovery	Well Data	Remarks
0			Ground Surface						
2			***AC / Fill*** Asphalt and concrete to 1' underlain by baserock						Hand auger 0-5 feet bgs
4		SW	***Sand*** loose light brown color						
6			fine to medium grain minor clay						vapor samp. attempt no recovery
				SB-13 7'	C				
8			color change to olive/green at 8' damp						
10		SW	clay increase slightly at 12'						
				SB-13 11'	C				
12									
14				SB-13 14'	C			▼	No hydrocarbon odor slight sulfide odor
16		SP	fine sand with low clay saturated						temp PVC w/ 5' scr to 18' 4 VOAs (SB-13 W)
18			End of Borehole						
20									

Drill Date 4/3/03

Drill Method: Direct Push

Total Depth: 18

Depth to Water: 14.7

Reviewed by: LMS

Logged by: PJM

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

Project No: 5404

Sheet: 1 of 1

Project Name: Vics Automotive

Client: Vic Lum

Location: 245 8th Street

Log of Borehole: SB-14

Depth	USCS Symbol	USCS Label	Subsurface Description	Sample Label	Type	Blow/ft	Recovery	Well Data	Remarks
0			Ground Surface						
			AC / Fill Asphalt underlain by baserock						
2			***Sand*** loose clean sand light brown/tan color						Hand auger 0-5 feet bgs
4		SW							
6			minor clay below 6' damp						
8									
10			***Clayey sand*** fine grain sand with clay damp						No hydrocarbon odor
				SB-14 11'	C				
12			color change to greenish/olive at 11.5'						
14		SC		SB-14 14'	C				
16			sand with clay fine to medium grain saturated					▼	temp PVC w/ 5' scr to 18.5'
18									4 VOAs (SB-14 W)
			End of Borehole						
20									

Drill Date 4/3/03

Drill Method: Direct Push

Total Depth: 18.5

Depth to Water: 16.5

Reviewed by: LMS

Logged by: PJM

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

Project No: 5404

Sheet: 1 of 1

Project Name: Vics Automotive

Client: Vic Lum

Location: 245 8th Street

Log of Borehole: SB-15

Depth	USCS Symbol	USCS Label	Subsurface Description	Sample Label	Sample Type	Sample Blow/ft	Sample Recovery	Well Data	Remarks
0			Ground Surface						
			Fill						Start drill at 12:55 pm
			Sand loose poorly graded						Hand auger 0-5 feet bgs
2			very fine-medium silt and clay increasing downward						
4		SP							
			wet soils 6-7'						
6									
			greenish/olive at 9'						
8									
10				SB-15 10'	C				No hydrocarbon odor
12			***Clayey sand*** fine to medium grain damp/wet					▼	
		SP							
14				SB-15 14'	C				
16			less fines, clean						
			color change to orange at 17'						
18			saturated						PVC w/ 5' scr. to 18.5'
			End of Borehole						4 VOAs (SB-15 W)
20									

Drill Date 4/3/03

Drill Method: Direct Push

Total Depth: 18.5

Depth to Water: 13.6

Reviewed by: LMS

Logged by: PJM

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

McCampbell Analytical Inc.

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

All Environmental, Inc.	Client Project ID: #5404; Lum Pt 2	Date Sampled: 04/03/03
2500 Camino Diablo, Ste. #200		Date Received: 04/03/03
Walnut Creek, CA 94597	Client Contact: Peter McIntyre	Date Reported: 04/10/03
	Client P.O.:	Date Completed: 04/10/03

WorkOrder: 0304062

April 10, 2003

Dear Peter:

Enclosed are:

1). the results of **17** analyzed samples from your **#5404; Lum Pt 2 project,**

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Angela Rydelius, Lab Manager

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

All Environmental, Inc.	Client Project ID: #5404; Lum Pt 2	Date Sampled: 04/03/03
2500 Camino Diablo, Ste. #200		Date Received: 04/03/03
Walnut Creek, CA 94597	Client Contact: Peter McIntyre	Date Extracted: 04/04/03
	Client P.O.:	Date Analyzed: 04/04/03

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0304062

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	SB-16 4' V	A	ND	ND	ND	ND	ND	ND	1	101
002A	SB-17 4' V	A	ND	ND	ND	ND	ND	ND	1	101
		Air								
Reporting Limit for DF =1; ND means not detected at or above the reporting limit		A	25	2.5	0.25	0.25	0.25	0.25	1	µg/L
		S	NA	NA	NA	NA	NA	NA	1	mg/Kg

*water and vapor samples are reported in µg/L, soil and sludge samples in mg/kg, wipe samples in µg/wipe, and TCLP extracts in µg/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 ~2 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
http://www.mccampbell.com E-mail: main@mccampbell.com

All Environmental, Inc.	Client Project ID: #5404; Lum Pt 2	Date Sampled: 04/03/03
2500 Camino Diablo, Ste. #200		Date Received: 04/03/03
Walnut Creek, CA 94597	Client Contact: Peter McIntyre	Date Extracted: 04/04/03-04/09/03
	Client P.O.:	Date Analyzed: 04/04/03-04/09/03

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0304062

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
003A	SB-5 W	W	420,a,i	ND	11	3.7	18	1.1	1	96.6
004A	SB-9 W	W	7300,a,i	ND<100	2100	280	300	140	20	105
005A	SB-10 W	W	210,000,a,i	ND<5000	22,000	38,000	3400	18,000	1000	98.3
006A	SB-11 W	W	200,000,a,i	ND<2000	18,000	39,000	3600	18,000	200	105
007A	SB-13 W	W	190,a,i	ND<20	ND	1.1	1.9	1.8	1	111
008A	SB-14 W	W	ND,i	140	ND	0.95	ND	1.3	1	101
009A	SB-15 W	W	ND,i	ND	ND	ND	ND	ND	1	98.6
010A	SB-5 11'	S	ND	ND	ND	ND	ND	ND	1	115
014A	SB-9 16'	S	ND	ND	ND	ND	ND	ND	1	98.3
016A	SB-10 12'	S	ND	ND	ND	ND	ND	ND	1	96.1
019A	SB-11 12'	S	1.4,a	ND	0.12	0.10	0.026	0.066	1	109
020A	SB-11 16'	S	2700,a	ND<30	29	170	49	250	200	—#
023A	SB-13 14'	S	ND	ND	ND	ND	ND	ND	1	101
025A	SB-14 14'	S	ND	ND	ND	ND	ND	ND	1	101
027A	SB-15 14'	S	ND	ND	ND	ND	ND	ND	1	102
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	1.0	0.05	0.005	0.005	0.005	0.005	1	mg/Kg

*water and vapor samples are reported in µg/L, soil and sludge samples in mg/kg, wipe samples in µg/wipe, and TCLP extracts in µg/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 ~2 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
http://www.mccampbell.com E-mail: main@mccampbell.com

All Environmental, Inc.	Client Project ID: #5404; Lum Pt 2	Date Sampled: 04/03/03
2500 Camino Diablo, Ste. #200		Date Received: 04/03/03
Walnut Creek, CA 94597	Client Contact: Peter McIntyre	Date Extracted: 04/04/03-04/07/03
	Client P.O.:	Date Analyzed: 04/04/03-04/07/03

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS*

Extraction Method: SW5030B Analytical Method: SW8260B Work Order: 0304062

Lab ID	0304062-003B	0304062-004B	0304062-005B	0304062-006B	Reporting Limit for DF =1	
Client ID	SB-5 W	SB-9 W	SB-10 W	SB-11 W		
Matrix	W	W	W	W		
DF	10	10	100	100	S	W
Compound	**Concentration**				ug/kg	µg/L
Diisopropyl ether (DIPE)	ND<5.0	ND<5.0	ND<50	ND<50	NA	0.5
Ethyl tert-butyl ether (ETBE)	ND<5.0	ND<5.0	ND<50	ND<50	NA	0.5
Methyl-t-butyl ether (MTBE)	6.5	41	2800	74	NA	0.5
tert-Amyl methyl ether (TAME)	ND<5.0	ND<5.0	110	ND<50	NA	0.5
t-Butyl alcohol (TBA)	790	68	ND<500	ND<500	NA	5.0
1,2-Dibromoethane (EDB)	ND<5.0	ND<5.0	ND<50	ND<50	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND<5.0	ND<5.0	ND<50	ND<50	NA	0.5
Surrogate Recoveries (%)						
%SS:	103	96.3	98.5	103		
Comments	i	i	i	i		

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

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) sample diluted due to high organic content.

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
http://www.mccampbell.com E-mail: main@mccampbell.com

All Environmental, Inc.	Client Project ID: #5404; Lum Pt 2	Date Sampled: 04/03/03
2500 Camino Diablo, Ste. #200		Date Received: 04/03/03
Walnut Creek, CA 94597	Client Contact: Peter McIntyre	Date Extracted: 04/04/03-04/07/03
	Client P.O.:	Date Analyzed: 04/04/03-04/07/03

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 0304062

					Reporting Limit for DF =1	
Lab ID	0304062-007B	0304062-008B	0304062-009B			
Client ID	SB-13 W	SB-14 W	SB-15 W			
Matrix	W	W	W			
DF	1	5	1		S	W
Compound	**Concentration**				ug/kg	µg/L
Diisopropyl ether (DIPE)	ND	ND<2.5	ND		NA	0.5
Ethyl tert-butyl ether (ETBE)	ND	ND<2.5	ND		NA	0.5
Methyl-t-butyl ether (MTBE)	3.7	180	ND		NA	0.5
tert-Amyl methyl ether (TAME)	ND	ND<2.5	ND		NA	0.5
t-Butyl alcohol (TBA)	ND	ND<25	ND		NA	5.0
1,2-Dibromoethane (EDB)	ND	ND<2.5	ND		NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND	ND<2.5	ND		NA	0.5
Surrogate Recoveries (%)						
%SS:	102	101	101			
Comments	i	i	i			

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

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) sample diluted due to high organic content.

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
http://www.mccampbell.com E-mail: main@mccampbell.com

QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: S WorkOrder: 0304062

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 6437 Spiked Sample ID: 0304059-002A

Compound	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(gas)	ND	0.60	98.6	103	4.03	96.8	97.2	0.441	80	120
MTBE	ND	0.10	84.8	88.3	3.97	98	101	3.02	80	120
Benzene	ND	0.10	97.7	98.4	0.631	98.6	103	4.54	80	120
Toluene	ND	0.10	87.4	88.2	0.952	93.6	98.6	5.18	80	120
Ethylbenzene	ND	0.10	95.4	97	1.63	93.4	96.4	3.09	80	120
Xylenes	ND	0.30	88.3	92	4.07	87.7	88.7	1.13	80	120
%SS:	98.6	100	101	100	0.420	90.1	93.3	3.46	80	120

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.

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.

% 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.

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

QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W WorkOrder: 0304062

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 6434 Spiked Sample ID: 0304062-003A

Compound	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(gas)	420	60	NR	NR	NR	102	104	2.19	80	120
MTBE	ND	10	120	120	0.0230	93.7	94	0.348	80	120
Benzene	11.5	10	128 ,F1	131 ,F1	1.02	98.6	100	1.79	80	120
Toluene	3.73	10	102	104	1.52	95	96.2	1.22	80	120
Ethylbenzene	18.12	10	118	123 ,F1	1.56	94.1	95.5	1.46	80	120
Xylenes	1.09	30	106	106	0	88.3	88.7	0.377	80	120
%SS:	96.6	100	120	106	12.2	88.5	91.7	3.56	80	120

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

NONE

F1 = MS / MSD exceed acceptance criteria. LCS - LCSD validate prep batch.

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

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.

% 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.

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

QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W WorkOrder: 0304062

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 6439 Spiked Sample ID: 0304084-001B

Compound	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(gas)	ND	60	106	112	5.68	102	103	0.864	80	120
MTBE	ND	10	88.1	100	12.8	97.6	98.6	0.950	80	120
Benzene	ND	10	103	109	5.31	92	92.7	0.768	80	120
Toluene	ND	10	101	105	4.01	92.8	93.9	1.16	80	120
Ethylbenzene	ND	10	101	98.8	2.13	92.8	93.2	0.425	80	120
Xylenes	ND	30	93.3	92.7	0.717	95.3	95.7	0.349	80	120
%SS:	102	100	92.8	99.8	7.26	99.7	100	0.638	80	120

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.

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.

% 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.

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

QC SUMMARY REPORT FOR SW8260B

Matrix: W WorkOrder: 0304062

EPA Method: SW8260B	Extraction: SW5030B	BatchID: 6430	Spiked Sample ID: 0304046-002B

Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Diisopropyl ether (DIPE)	ND	10	123	121	2.18	115	117	2.98	70	130
Ethyl tert-butyl ether (ETBE)	ND	10	106	105	1.13	103	104	0.332	70	130
Methyl-t-butyl ether (MTBE)	ND	10	110	109	1.25	106	107	0.163	70	130
tert-Amyl methyl ether (TAME)	ND	10	98.7	98.4	0.266	102	102	0.659	70	130
1,2-Dibromoethane (EDB)	ND	10	107	108	0.681	104	102	5.19	70	130
1,2-Dichloroethane (1,2-DCA)	ND	10	112	111	1.53	116	114	3.83	70	130
%SS:	98.8	100	102	102	0.238	97.8	98.2	60.5	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.

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.

% 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.

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0304062

Client:
All Environmental, Inc.
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597

TEL: (925) 283-6000
FAX: (925) 283-6121
ProjectNo: #5404; Lum Pt 2
PO:

Date Received: 4/3/03
Date Printed: 4/3/03

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests						
					8021B/8015	SW8260B					
0304062-001	SB-16 4' V	Air	4/3/03 12:00:00 PM	☐	A						
0304062-002	SB-17 4' V	Air	4/3/03 12:50:00 PM	☐	A						
0304062-003	SB-S W	Water	4/3/03 1:15:00 PM	☐	A	B					
0304062-004	SB-9 W	Water	4/3/03 1:00:00 PM	☐	A	B					
0304062-005	SB-10 W	Water	4/3/03 11:30:00 AM	☐	A	B					
0304062-006	SB-11 W	Water	4/3/03 10:00:00 AM	☐	A	B					
0304062-007	SB-13 W	Water	4/3/03 9:15:00 AM	☐	A	B					
0304062-008	SB-14 W	Water	4/3/03 12:30:00 PM	☐	A	B					
0304062-009	SB-15 W	Water	4/3/03 1:30:00 PM	☐	A	B					
0304062-010	SB-5 11'	Soil	4/3/03	☐	A						
0304062-014	SB-9 16'	Soil	4/3/03	☐	A						
0304062-016	SB-10 12'	Soil	4/3/03	☐	A						
0304062-019	SB-11 12'	Soil	4/3/03	☐	A						
0304062-020	SB-11 16'	Soil	4/3/03	☐	A						
0304062-023	SB-13 14'	Soil	4/3/03	☐	A						
0304062-025	SB-14 14'	Soil	4/3/03	☐	A						

Prepared by: Maria Venegas

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.

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0304062

Client:
All Environmental, Inc.
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597

TEL: (925) 283-6000
FAX: (925) 283-6121
ProjectNo: #5404; Lum Pt 2
PO:

Date Received: 4/3/03
Date Printed: 4/3/03

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests						
					8021B/8015	SW8260B					
0304062-027	SB-15 14'	Soil	4/3/03	☐	A						

Prepared by: Maria Venegas

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

030062

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: Peter McIntyre Bill To:
Company: AEI Consultants
2500 Camino Diablo, Suite 200
Walnut Creek, CA 94597 E-Mail:
Tele: ( )925/283-6000 Fax: ( ) 925/283-6121
Project #: 5404 Project Name: Lum pt 2
Project Location: 245 8th, Oakland
Sampler Signature:

	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 5 days + Pb Scav)	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
	SB-16 4'U		4/3/03	1700	1	Tedlar			X			X				X																
	SB-17 4'U			1210	1	"			X			X				X																
+5	SB-5 W			115	4	VOAs	X					X	X			X																
+75	SB-9 W			100	4		X					X	X			X								X								
+20	SB-10 W			1130	4		X					X	X			X								X								
+5	SB-11 W			1045	4		X					X	X			X								X								
+10	SB-13 W			915	4		X					X	X			X								X								
+2	SB-14 W			1230	4		X					X	X			X								X								
+20	SB-15 W			130	4		X					X	X			X								X								
	SB-5 11'				1	Plastic		X				X				X																Hold
	SB-5 15'				1			X				X																				Hold
	SB-9 5'				1			X				X																				Hold
	SB-9 12'				1			X				X																				
	SB-9 16'				1			X				X				X																

Pg 1/2

Relinquished By:	Date:	Time:	Received By:
	3/3/03	1800	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT
DECHLORINATED IN LAB
PRESERVED IN LAB

PRESERVATION APPROPRIATE ✓ CONTAINERS

VOAS	O&G	METALS	OTHER

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: Peter McIntyre **Bill To:**

Company: AEI Consultants
2500 Camino Diablo, Suite 200
Walnut Creek, CA 94597 **E-Mail:**

Tele: ( )925/283-6000 **Fax:** ( ) 925/283-6121

Project #: 5404 **Project Name:** Cum pt 2

Project Location: 345 8th Oakland

Sampler 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
SB-10 5'				1	Acet		X				X			
SB-10 12'				1			X				X			
SB-10 16'				1			X				X			
SB-11 5'				1			X				X			
SB-11 12'				1			X				X			
SB-11 16'				1			X				X			
SB-13 7'				1			X				X			
SB-13 11'				1			X				X			
SB-13 14'				1			X				X			
SB-14 11'				1			X				X			
SB-14 14'				1			X				X			
SB-15 10'				1			X				X			
SB-15 14'				1	V		X				X			

Analysis Request																	Other				Comments
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																					Hold
																					Hold
																					Hold
X																					
																					Hold
																					Hold
X																					Hold

Relinquished By:	Date:	Time:	Received By:
	5/05	4:30	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

ICE/t° ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT
DECHLORINATED IN LAB
PRESERVATION APPROPRIATE ✓
CONTAINERS
PERSERVED IN LAB

VOAS	O&G	METALS	OTHER

McCampbell Analytical Inc.

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

All Environmental, Inc. 2500 Camino Diablo, Ste. #200 Walnut Creek, CA 94597	Client Project ID: #5404; LUM	Date Sampled: 04/02/03
		Date Received: 04/02/03
	Client Contact: Peter McIntyre	Date Reported: 04/08/03
	Client P.O.:	Date Completed: 04/08/03

WorkOrder: 0304040

April 08, 2003

Dear Peter:

Enclosed are:

1). the results of **15** analyzed samples from your **#5404; LUM project,**

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Angela Rydelius, Lab Manager

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

All Environmental, Inc.	Client Project ID: #5404; LUM	Date Sampled: 04/02/03
2500 Camino Diablo, Ste. #200		Date Received: 04/02/03
Walnut Creek, CA 94597	Client Contact: Peter McIntyre	Date Extracted: 04/03/03-04/05/03
	Client P.O.:	Date Analyzed: 04/03/03-04/05/03

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0304040

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
004A	SB-4 W	W	310,000,a,h,i	17,000	45,000	65,000	4500	23,000	200	110
005A	SB-6 W	W	210,a,i	ND	0.57	4.2	1.1	1.4	1	---#
006A	SB-7 W	W	240,000,a,h,i	69,000	42,000	45,000	3100	16,000	200	96.3
007A	SB-8 W	W	51,f,i	360	ND	ND	ND	ND	1	97.8
008A	SB-12 W	W	ND,i	ND	ND	0.85	ND	0.53	1	98.9
010A	SB-4 12'	S	25,a	ND<0.5	0.41	1.0	0.20	1.3	3.3	---#
011A	SB-4 15'	S	260,a	ND<1.7	3.5	15	4.5	23	33	---#
014A	SB-6 16'	S	ND	ND	ND	ND	ND	ND	1	98.3
015A	SB-7 12'	S	700,a	ND<10	6.0	25	9.3	50	200	117
016A	SB-7 18'	S	4900,a	ND<25	65	260	77	400	200	92.1
018A	SB-8 17'	S	ND	ND	ND	ND	ND	ND	1	114
021A	SB-12 15'	S	ND	ND	ND	ND	ND	ND	1	99.7
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	1.0	0.05	0.005	0.005	0.005	0.005	1	mg/Kg

*water and vapor samples are reported in µg/L, soil and sludge samples in mg/kg, wipe samples in µg/wipe, and TCLP extracts in µg/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 ~2 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
http://www.mccampbell.com E-mail: main@mccampbell.com

All Environmental, Inc.	Client Project ID: #5404; LUM	Date Sampled: 04/02/03
2500 Camino Diablo, Ste. #200		Date Received: 04/02/03
Walnut Creek, CA 94597	Client Contact: Peter McIntyre	Date Extracted: 04/03/03
	Client P.O.:	Date Analyzed: 04/03/03

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

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0304040

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	SB-4 4' V	A	ND	ND	ND	ND	ND	ND	1	100
002A	SB-7 4' V	A	ND	ND	ND	ND	ND	ND	1	104
003A	SB-8 4' V	A	ND	ND	ND	ND	ND	ND	1	112
Reporting Limit for DF =1; ND means not detected at or above the reporting limit		A	25	2.5	0.25	0.25	0.25	0.25	1	µg/L
		S	NA	NA	NA	NA	NA	NA	1	mg/Kg

*water and vapor samples are reported in µg/L, soil and sludge samples in mg/kg, wipe samples in µg/wipe, and TCLP extracts in µg/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 ~2 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
http://www.mccampbell.com E-mail: main@mccampbell.com

All Environmental, Inc.	Client Project ID: #5404; LUM	Date Sampled: 04/02/03
2500 Camino Diablo, Ste. #200		Date Received: 04/02/03
Walnut Creek, CA 94597	Client Contact: Peter McIntyre	Date Extracted: 04/05/03
	Client P.O.:	Date Analyzed: 04/05/03

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 0304040

Lab ID	0304040-004B	0304040-005B	0304040-006B	0304040-007B	Reporting Limit for DF =1	
Client ID	SB-4 W	SB-6 W	SB-7 W	SB-8 W		
Matrix	W	W	W	W		
DF	1000	1	2500	20	S	W
Compound	**Concentration**				ug/kg	µg/L
Diisopropyl ether (DIPE)	ND<500	ND	ND<1200	ND<10	NA	0.5
Ethyl tert-butyl ether (ETBE)	ND<500	ND	ND<1200	ND<10	NA	0.5
Methyl-t-butyl ether (MTBE)	14,000	ND	52,000	480	NA	0.5
tert-Amyl methyl ether (TAME)	ND<500	ND	ND<1200	14	NA	0.5
t-Butyl alcohol (TBA)	ND<5000	ND	ND<12,000	ND<100	NA	5.0
1,2-Dibromoethane (EDB)	ND<500	ND	ND<1200	ND<10	NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND<500	ND	ND<1200	ND<10	NA	0.5
Surrogate Recoveries (%)						
%SS:	91.2	102	93.9	100		
Comments	h,i	i	h,i	i		

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

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) sample diluted due to high organic content.

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
http://www.mccampbell.com E-mail: main@mccampbell.com

All Environmental, Inc.	Client Project ID: #5404; LUM	Date Sampled: 04/02/03
2500 Camino Diablo, Ste. #200		Date Received: 04/02/03
Walnut Creek, CA 94597	Client Contact: Peter McIntyre	Date Extracted: 04/05/03
	Client P.O.:	Date Analyzed: 04/05/03

Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS*

Extraction Method: SW5030B | Analytical Method: SW8260B | Work Order: 0304040

					Reporting Limit for DF =1	
Lab ID	0304040-008B					
Client ID	SB-12 W					
Matrix	W					
DF	1				S	W
Compound	**Concentration**				ug/kg	µg/L
Diisopropyl ether (DIPE)	ND				NA	0.5
Ethyl tert-butyl ether (ETBE)	ND				NA	0.5
Methyl-t-butyl ether (MTBE)	ND				NA	0.5
tert-Amyl methyl ether (TAME)	ND				NA	0.5
t-Butyl alcohol (TBA)	ND				NA	5.0
1,2-Dibromoethane (EDB)	ND				NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND				NA	0.5
Surrogate Recoveries (%)						
%SS:	98.6					
Comments	i					

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

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~2 vol. % sediment; j) sample diluted due to high organic content.

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
http://www.mccampbell.com E-mail: main@mccampbell.com

QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: S WorkOrder: 0304040

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 6417 Spiked Sample ID: 0304023-004A

Compound	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(gas)	ND	0.60	96.2	108	11.1	117	115	0.908	80	120
MTBE	ND	0.10	92.2	87.7	5.09	86.3	88.9	2.94	80	120
Benzene	ND	0.10	107	89.6	18.1	99.7	101	1.12	80	120
Toluene	ND	0.10	97.6	93.2	4.58	103	103	0.0380	80	120
Ethylbenzene	ND	0.10	98.5	89.1	9.98	107	108	0.0319	80	120
Xylenes	ND	0.30	103	90.3	13.4	110	110	0	80	120
%SS:	102	100	102	93.1	8.92	101	101	0.514	80	120

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.

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.

% 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.

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

QC SUMMARY REPORT FOR SW8021B/8015Cm

Matrix: W WorkOrder: 0304040

EPA Method: SW8021B/8015Cm Extraction: SW5030B BatchID: 6419 Spiked Sample ID: 0304032-004A

Compound	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(gas)	ND	60	103	105	1.15	101	105	3.41	80	120
MTBE	12.24	10	30.2 ,F1	42 ,F1	7.44	96	91	5.38	80	120
Benzene	ND	10	101	108	6.45	106	102	3.53	80	120
Toluene	ND	10	97.2	101	4.15	100	97	3.48	80	120
Ethylbenzene	ND	10	95.2	98.1	2.99	96.6	96.3	0.343	80	120
Xylenes	ND	30	88.7	92.3	4.05	88.7	88.7	0	80	120
%SS:	98.1	100	89.6	94.9	5.80	94.7	91	4.00	80	120

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

NONE

F1 = MS / MSD exceed acceptance criteria. LCS - LCSD validate prep batch.

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

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.

% 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.

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

QC SUMMARY REPORT FOR SW8260B

Matrix: W WorkOrder: 0304040

EPA Method: SW8260B	Extraction: SW5030B			BatchID: 6408		Spiked Sample ID: N/A				
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
tert-Amyl methyl ether (TAME)	N/A	10	N/A	N/A	N/A	97.4	101	3.63	70	130
1,2-Dibromoethane (EDB)	N/A	10	N/A	N/A	N/A	125	130	3.41	70	130
1,2-Dichloroethane (1,2-DCA)	N/A	10	N/A	N/A	N/A	95.8	97.4	1.65	70	130
Methyl-t-butyl ether (MTBE)	N/A	10	N/A	N/A	N/A	82.9	85.8	3.41	70	130
Diisopropyl ether (DIPE)	N/A	10	N/A	N/A	N/A	102	105	3.49	70	130
Ethyl tert-butyl ether (ETBE)	N/A	10	N/A	N/A	N/A	85.7	88.7	3.48	70	130
%SS1:	N/A	100	N/A	N/A	N/A	79.8	77.2	3.33	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.

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.

% 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.

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0304040

Client:
All Environmental, Inc.
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597

TEL: (925) 283-6000
FAX: (925) 283-6121
ProjectNo: #5404; LUM
PO:

Date Received: 4/2/03
Date Printed: 4/2/03

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests						
					8021B/8015	SW8260B					
0304040-001	SB-4 4' V	Air	4/2/03 2:45:00 PM	☐	A						
0304040-002	SB-7 4' V	Air	4/2/03 9:20:00 AM	☐	A						
0304040-003	SB-8 4' V	Air	4/2/03 10:55:00 AM	☐	A						
0304040-004	SB-4 W	Water	4/2/03 3:40:00 PM	☐	A	B					
0304040-005	SB-6 W	Water	4/2/03 2:30:00 PM	☐	A	B					
0304040-006	SB-7 W	Water	4/2/03 11:35:00 AM	☐	A	B					
0304040-007	SB-8 W	Water	4/2/03 10:00:00 AM	☐	A	B					
0304040-008	SB-12 W	Water	4/2/03 3:00:00 PM	☐	A	B					
0304040-009	SB-4 6'	Soil	4/2/03	☑	A						
0304040-010	SB-4 12'	Soil	4/2/03	☐	A						
0304040-011	SB-4 15'	Soil	4/2/03	☐	A						
0304040-012	SB-6 7'	Soil	4/2/03	☑	A						
0304040-013	SB-6 11'	Soil	4/2/03	☑	A						
0304040-014	SB-6 16'	Soil	4/2/03	☐	A						
0304040-015	SB-7 12'	Soil	4/2/03	☐	A						
0304040-016	SB-7 18'	Soil	4/2/03	☐	A						

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.

AUL

0204040

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: Peter McIntyre Bill To:
Company: AEI Consultants
2500 Camino Diablo, Suite 200
Walnut Creek, cA 94597 E-Mail: -
Tele: ( )925/283-6000 Fax: ( ) 925/283-6121
Project #: 5464 Project Name: Chm
Project Location: 245 8th Oakland
Sampler Signature:

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
SB-4 4'V		4/2/03	245	1	tedlar			X			X			
SB-7 4'V			925	1				X			X			
SB-8 4'V			1053	1	↓			X			X			
+20 SB-4 W			3 PM	4	liters	X					X	X		
+10 SB-6 W			2 PM	4		X					X	X		
+3 SB-7 W			1135	2		X					X	X		
+10 SB-8 W			1000	4		X					X	X		
+C SB-12 W			300	4	↓	X					X	X		
SB-4 6'				1	4oz jar		X				X			
SB-4 12'				1			X				X			
SB-4 15'				1			X				X			
SB-6 7'				1			X				X			
SB-6 11'				1			X				X			
SB-6 16'		↓		1	↓		X				X			

Relinquished By:	Date:	Time:	Received By:
	4/2/03	542	Meli Valle
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

Analysis Request															Other	Comments
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) Oxys + Pb Scav	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															Pg 1/2
X	X															
X	X															
X	X							X								Free phase HC
X	X							X								
X	X							X								
X	X							X								
X	X							X								
X																Hold
X																
X																
X																Hold
X																Hold
X																

ICE/t° ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT
DECHLORINATED IN LAB
PRESERVED IN LAB

PRESERVATION APPROPRIATE ✓ CONTAINERS ✓

VOAS	O&G	METALS	OTHER
✓			

03040

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: Peter McIntyre Bill To:
Company: AEI Consultants
2500 Camino Diablo, Suite 200
Walnut Creek, cA 94597 E-Mail:
Tele: ( )925/283-6000 Fax: ( ) 925/283-6121
Project #: 5404 Project Name: LUM
Project Location: 245 8th Oakland
Sampler Signature:

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
SB-7 12'		4/2/07		1	Acetate		X				X				X																pg 2/2
SB-7 18'				1			X				X				X																[redacted]
SB-8 8'				1			X				X																				
SB-8 17'				1			X				X				X																Hold
SB-12 6'				1			X				X																				
SB-12 11'				1			X				X																				Hold
SB-12 15'		V		1	V		X				X				X																Hold

Relinquished By:	Date:	Time:	Received By:
	4/2/07	5:00	
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

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