WORK PLAN

GATZKE / HOOSHI'S AUTO SERVICE
1499 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

FUEL LEAK CASE NO: RO0000516

Prepared by:
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DECEMBER 23, 2008
REF. NO. 120741 (3)
This report is printed on recycled paper.

TABLE OF CONTENTS

LIST OF FIGURES
(Following Text)

LIST OF TABLES
(Following Text)

LIST OF APPENDICES

1.0 INTRODUCTION

On behalf of our client Mrs. Naomi Gatzke, Conestoga-Rovers & Associates (CRA) has prepared the following *Work Plan* for the above referenced site. This Work Plan is in response to the September 2, 2008 letter (Appendix A), from Alameda County Health Care Services Agency, Environmental Health Services (ACEH), requesting additional assessment of the site. The site is referenced under ACEH Fuel Leak Case No. RO0000516. Following is a brief discussion of the site and the proposed approach for additional characterization.

Following the text are figures, tables, and appendices. Figure 1 is a vicinity map. Figure 2 is a site map with sampling and monitoring locations. Figures 3 and 4 present 2006 soil and grab groundwater results. Figure 5 is the October 2008 groundwater results and contour. Figure 6 presents the 2007 soil vapor sampling results. Figure 7 are the proposed monitoring well and soil vapor sampling locations. Table 1 presents well construction details. Table 2 provides recent and historic groundwater level measurements, elevations, and hydro-chemical analytical results. Table 3 presents soil analytical results. Table 4 has soil vapor sampling results. Appendix A is agency correspondence. Appendices B and C are general guidance for installation and sampling the proposed monitoring well and soil vapor probe, respectively.

2.0 SITE BACKGROUND

2.1 SITE DESCRIPTION

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

2.2 GEOLOGY AND HYDROGEOLOGY

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

The site is located to the west of the Oakland-Berkeley Hills on the East Bay Plain, which generally slopes gently to the west towards San Francisco Bay. The San Francisco Bay is located in a broad depression in the Franciscan bedrock resulting from an east-west expansion between the San Andreas and Hayward fault systems. Unconsolidated sediments in the East Bay Plain vary in thickness, with some areas up 1,000 ft thick. From oldest to youngest, the unconsolidated sediments are 1/ Santa Clara Formation, 2/ Alameda Formation, 3/ Temescal Formation, and 4/ artificial fill. The Early Pleistocene Santa Clara Formation consists of alluvial fan deposits inter-fingered with lake, swamp, river channel, and flood plain deposits, ranging from 300 to 600 ft thick. The Late Pleistocene Alameda Formation was deposited primarily in an estuarine environment and consists of alluvial fan deposits bound by mud deposits on the top and bottom of the formation. The Alameda Formation ranges from 26 to 245 ft thick and is subdivided into the Yerba Buena Mud, San Antonio, Merritt, and Young Bay Mud Members. The Early Holocene Temescal Formation is an alluvial fan deposit consisting primarily of silts and clays with some gravel layers. The Temescal Formation ranges from 1 to 50 ft thick, thinning toward the bay. Based on the Department of the Interior U.S. Geological Survey, *Geologic Map of the Hayward Fault Zone, 1995,* the site geology consists of

undifferentiated Quaternary surficial deposits. Under the fill, the shallow unconsolidated sediments at the site are probably Temescal Formation.

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

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

Throughout most of the East Bay Plain in the region of the site, water level contours show that the general direction of groundwater flow is east to west, towards San Francisco Bay. Groundwater flow direction typically correlates to topography.
Based on the regional topography and the results from years of groundwater monitoring, the groundwater beneath the site flows in a southwesterly direction, towards the San Francisco Bay. According to the California Regional Water Quality Control Board San Francisco Bay Region's Water Quality Control Plan (1995), this groundwater basin has been designated as existing beneficial use for municipal and domestic, industrial process, industrial service, and agricultural water supplies.

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

3.0 PROPOSED SCOPE OF WORK

The September 2, 2008 letter from ACEH (in Appendix A) recommends the following scope of work:

Concrete Vault: Apparently, the three former underground storage tanks were within an underground concrete vault. ACEH is asking for the following information: 1/ confirmation on whether the concrete vault remains in place, 2/ if the concrete vault has a bottom, and 3/ the depth of the concrete vault. To attempt to acquire this information we proposed to review the agency file for any additional information not currently in CRA's project file, review the existing CRA project file, and discuss this issue with the client and facility manager for additional information. At this time, we do not propose any field work to answer the questions poised by ACEH.

Downgradient Water Quality: ACEH request adding an additional monitoring well, beyond the retaining wall, in the general area of soil vapor sample SG-9. Installation of the monitoring well is addressed in the following section. The proposed location is presented in Figure 7.

Sewer Easement: According to ACEH, a sewer easement exist to the south of the retaining wall, in the general area identified as the "vacant lot" on the Figure 2 *Site Plan.* ACEH requests that the type and depths of utilities within the sewer easement be placed on a site map. To identify any utilities within the sewer easement, we proposed to review city records, discuss this issue with the property owner and facility manager, and, if necessary, use a private utility search firm to identify the location(s) and hopefully the depth(s) of any utilities in this easement. This information will be placed on a site map.

Soil Vapor Sampling: ACEH requests a soil vapor sample above the subsurface concrete vault. They also request that we collect a round of soil vapor samples from existing probes. Previously, nine (9) soil vapor samples were collected and documented in the March 1, 2007 *Supplemental Site Characterization Report.* After the additional soil vapor probe is installed above the concrete vault, during Spring or Summer when soil moisture is low, all soil vapor probes will be sampled for analysis. Installation of the soil vapor probe and sampling is addressed in the following section. The existing soil vapor probes are presented in Figure 6. The proposed location of the additional soil vapor probe is presented in Figure 7.

4.0 SCOPE OF WORK – MONITORING WELL & SOIL VAPOR SAMPLING

The proposed scope of field work is to 1/ install one monitoring well in the vacant lot (Figure 2), in the general area of SG-9 and 2/ install a new soil vapor probe and sample all soil vapor probes. Figure 7 presents the proposed locations of the monitoring well and new soil vapor probe. Figure 6 present the locations of the existing soil vapor probes.

4.1 PRE-FIELD ACTIVATES

Permit: A drilling permit will be obtained from the required agency.

Health and Safety Plan: A site specific Health and Safety Plan will be prepared for fieldwork.

Utility Clearance: The proposed drilling locations will be marked and the locations cleared through Underground Service Alert and a private utility locating service prior to drilling.

4.2 MONITORING WELL INSTALLATION AND SAMPLING

After pre-field activities have been performed, one 2-inch well will be drilled and installed in the general area of SG-9. The general location for installation of this monitoring well is presented on Figure 7. The screening depth will be based on the depth of encountered groundwater during drilling. The goal is to have a portion of the screen above the groundwater levels. It is currently anticipated at a 15 foot screen will be installed. CRA's standard operating procedures are included in Appendix B and provide a general guidance. These procedures may be modified, as necessary. Following the completion of the well installation, CRA proposes to have the well surveyed for location and elevation.

This monitoring well will be included in upcoming monitoring events.

4.3 SOIL VAPOR PROBE AND SAMPLING

After pre-sampling preparations are complete, the field program will be initiated. Assuming the absence of subsurface obstructions and groundwater is below 5 feet (ft)

below ground surface (bgs), CRA currently anticipates that a soil gas sample will be collected from approximately 5 ft bgs, using soil vapor point. The proposed location of the soil vapor probe is presented in Figure 7. A hand auger will be used to advance a borehole to install each temporary soil gas point (probe). Appendix C presents standard field procedures for installation a soil vapor (gas) point and sampling.

Following installation of the new soil vapor probe, during Spring or Summertime for periods of low moisture, all the available soil vapor probes will be analyzed for the Total Petroleum Hydrocarbons as gasoline (TPHg); Benzene, Ethylbenzene, Toluene, and Xylenes; and for leak detection compounds. The following Table 1 presents soil gas analysis, sampling containers, preservation, detection limit, and holding time.

Table 1

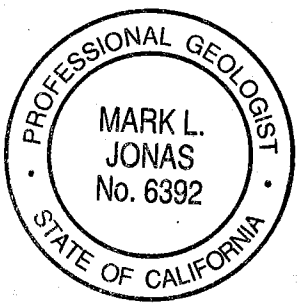
Soil Gas Analysis, Sampling Containers, Preservatives, Detection Limits, and Holding Times

Analysis and Method	*Sampling Containers*	*Preservatives*	*Detection Limit ($\mu g/m^3$)*	*Holding Times*
TPHg (Method TO-3)	Summa Canister	None	100	30 days
Benzene, Ethylbenzene, Toluene, Xylenes (Method TO-15)	Summa Canister	None	2, 2, 2, 2	30 days
Butane, Isobutane, Propane (Method TO-15, TIC) - For leak detection.	Summa Canister	None	6, 6, 4.5	30 days

4.4 REPORT PREPARATION

Following installation of the monitoring well and soil vapor probe, a brief letter report will be prepared presenting a summary of the field activities. Analytical results for all sampled monitoring wells will be presented in periodic groundwater monitoring reports. Since we may need to wait for low moisture conditions, soil vapor sampling and results will be presented in a brief soil vapor analytical report.

All of Which is Respectfully Submitted,
CONESTOGA-ROVERS & ASSOCIATES



Mark Jonas, P.G.

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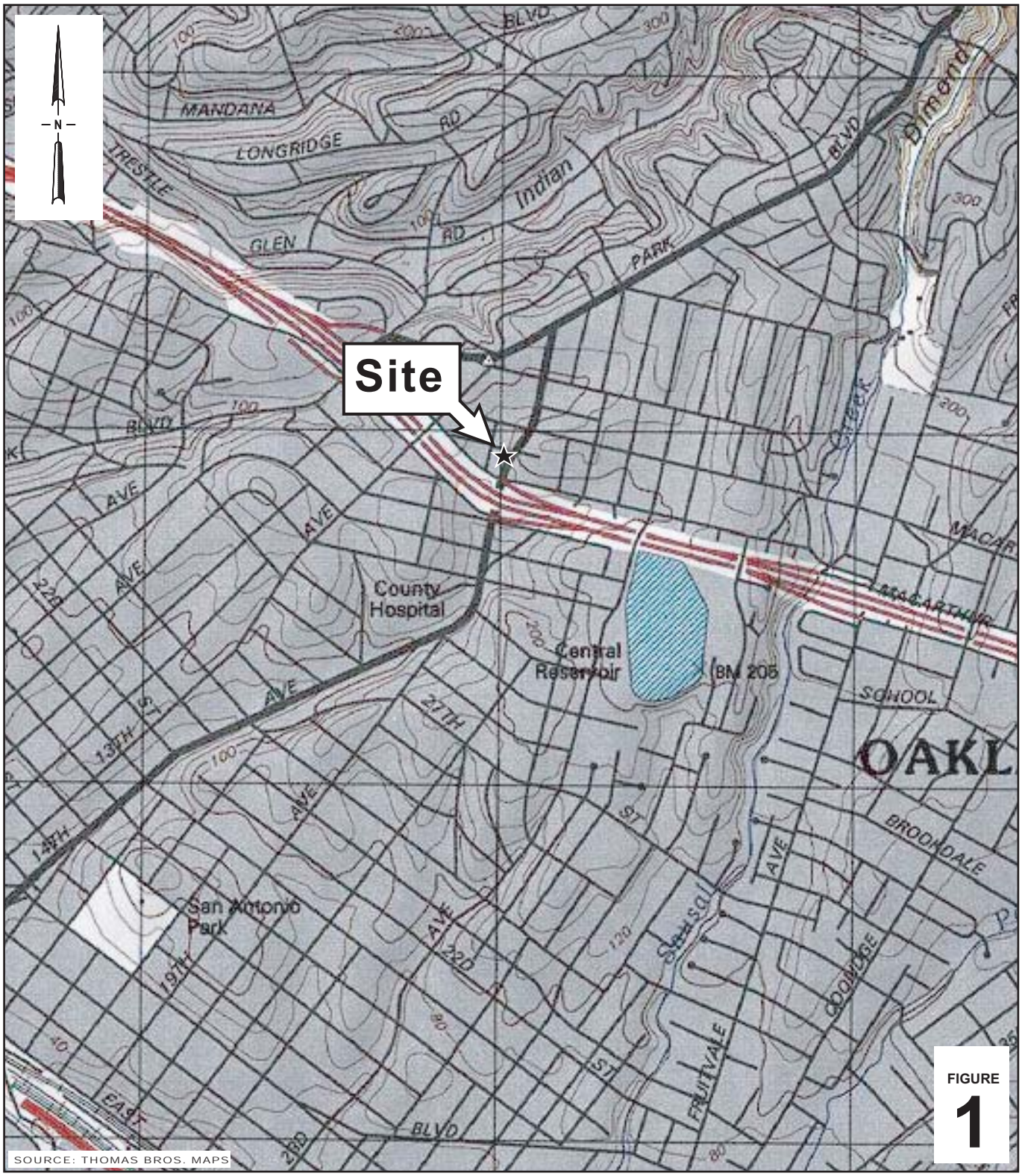
FIGURES

07/08/04



H:\NELLA OIL\255 PARR\FIGURES\VICINITY-MAP.AI

FIGURE 1

0 1/8 1/4 1/2 1

SCALE : 1" = 1/4 MILE

Hooshi's Auto Service

1499 MacArthur Boulevard

Oakland, California

CONESTOGA-ROVERS & ASSOCIATES

Vicinity Map

FIGURE 2

SITE PLAN
HOOSHI'S AUTO SERVICE
1499 MacARTHUR BOULEVARD
Oakland, California

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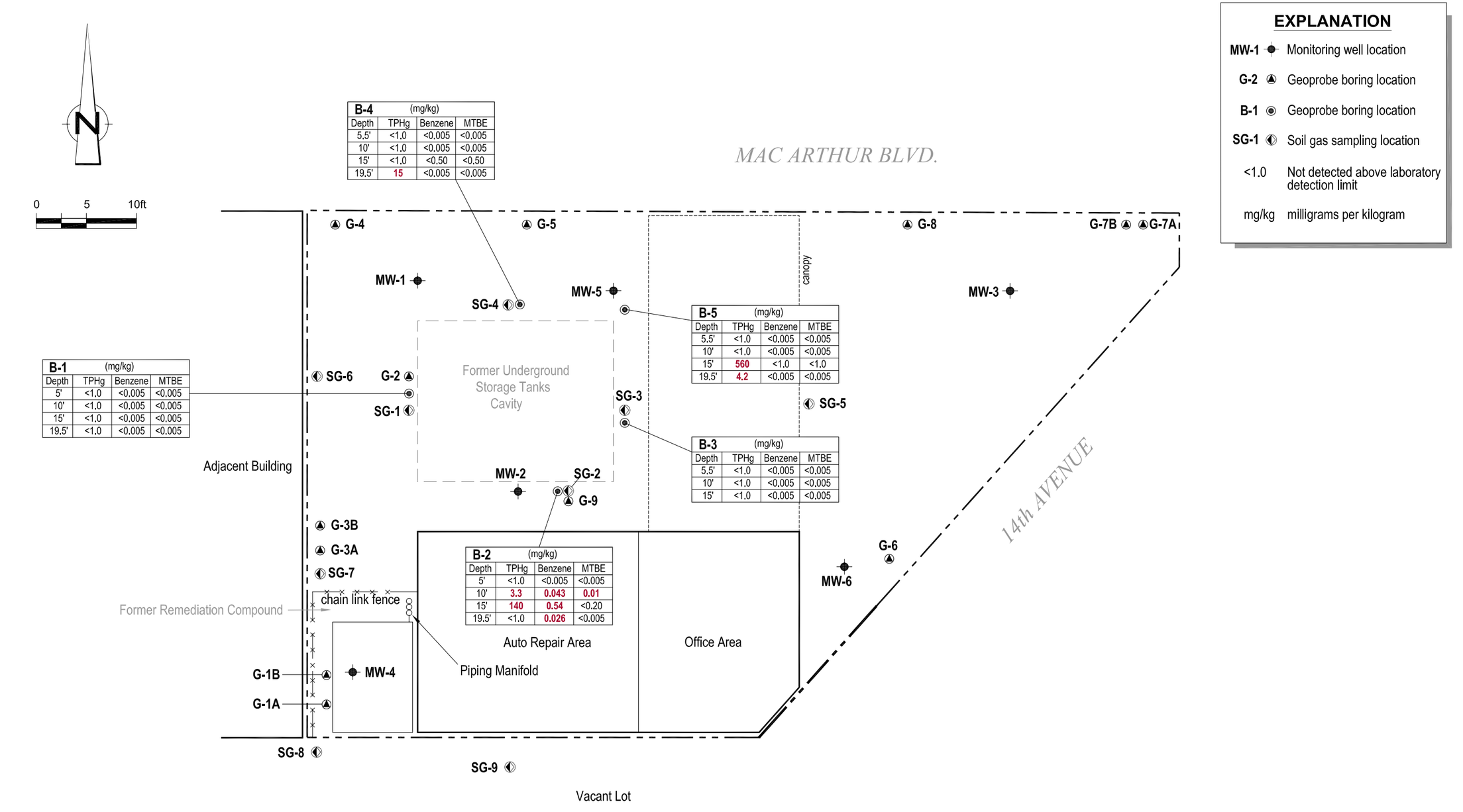

FIGURE 3

SOIL SAMPLING RESULTS
HOOSHI'S AUTO SERVICE
1499 MacARTHUR BOULEVARD
Oakland, California
December 21 and 22, 2006

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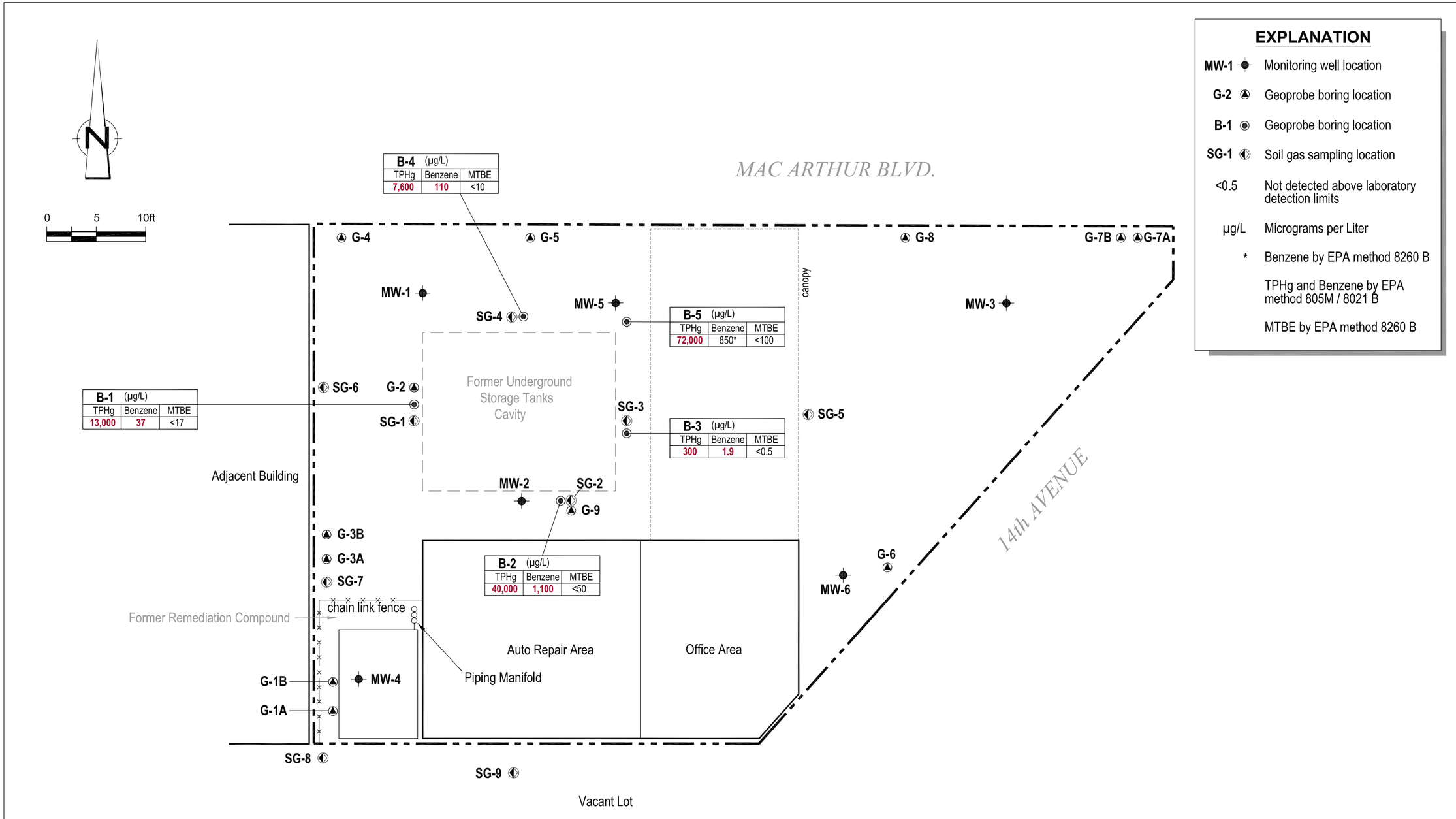

FIGURE 4

GRAB GROUNDWATER SAMPLING RESULTS
HOOSHI'S AUTO SERVICE
1499 MacARTHUR BOULEVARD
Oakland, California
December 21, 2006

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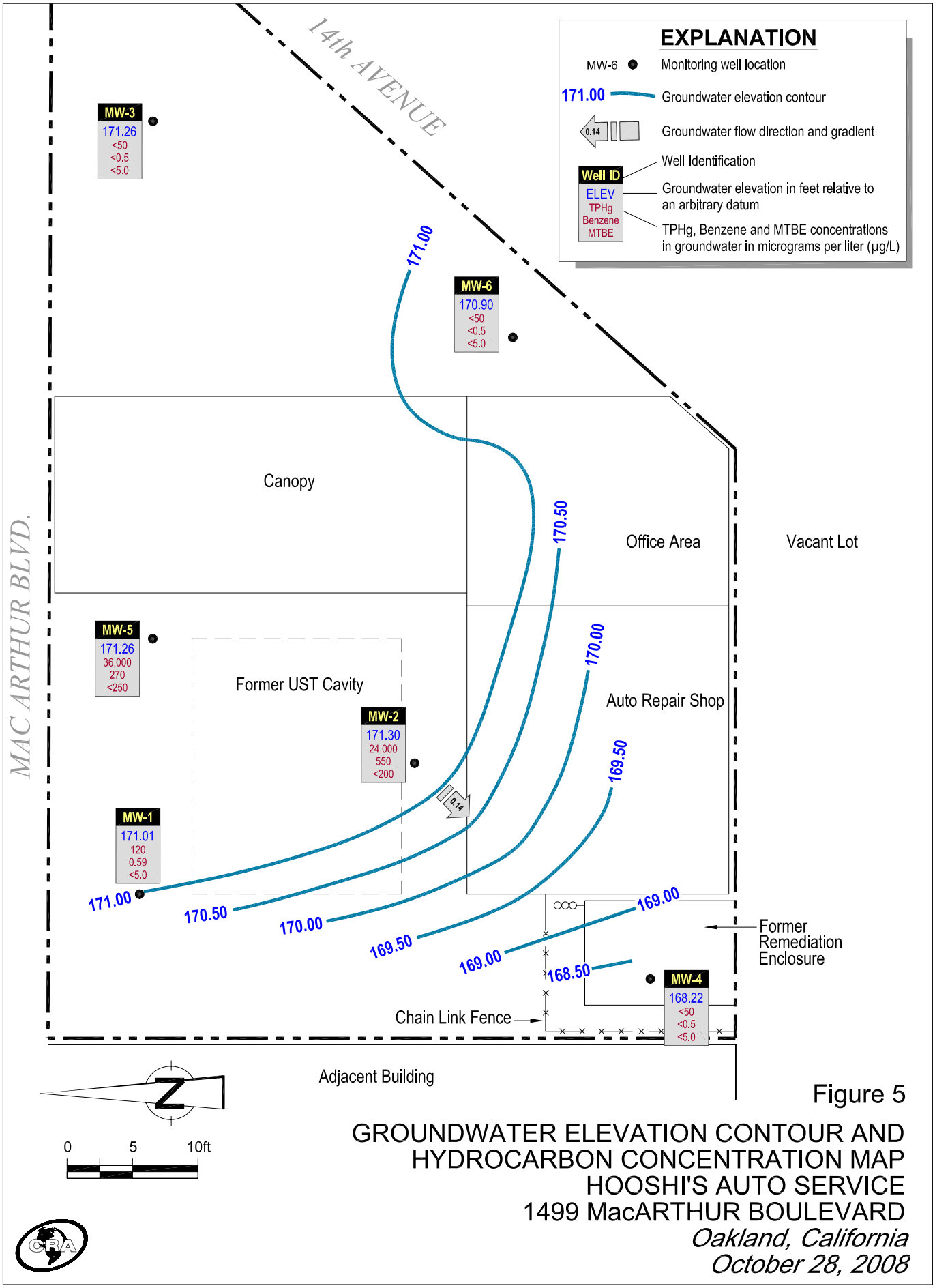

Figure 5

GROUNDWATER ELEVATION CONTOUR AND HYDROCARBON CONCENTRATION MAP
HOOSHI'S AUTO SERVICE
1499 MacARTHUR BOULEVARD
Oakland, California
October 28, 2008

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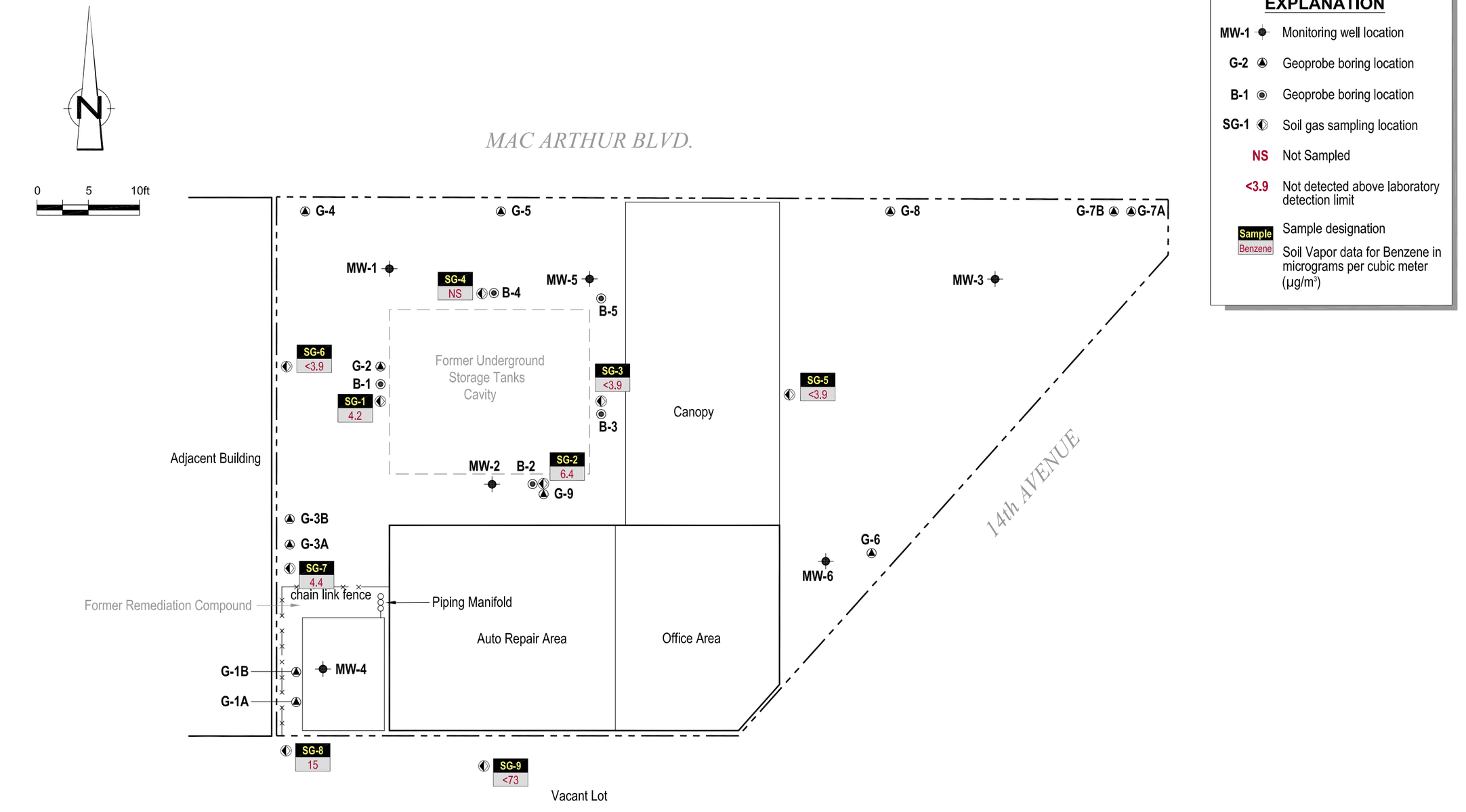

FIGURE 6

SOIL VAPOR SAMPLING RESULTS
HOOSHI'S AUTO SERVICE
1499 MacARTHUR BOULEVARD
Oakland, California
January 18 and 19, 2007

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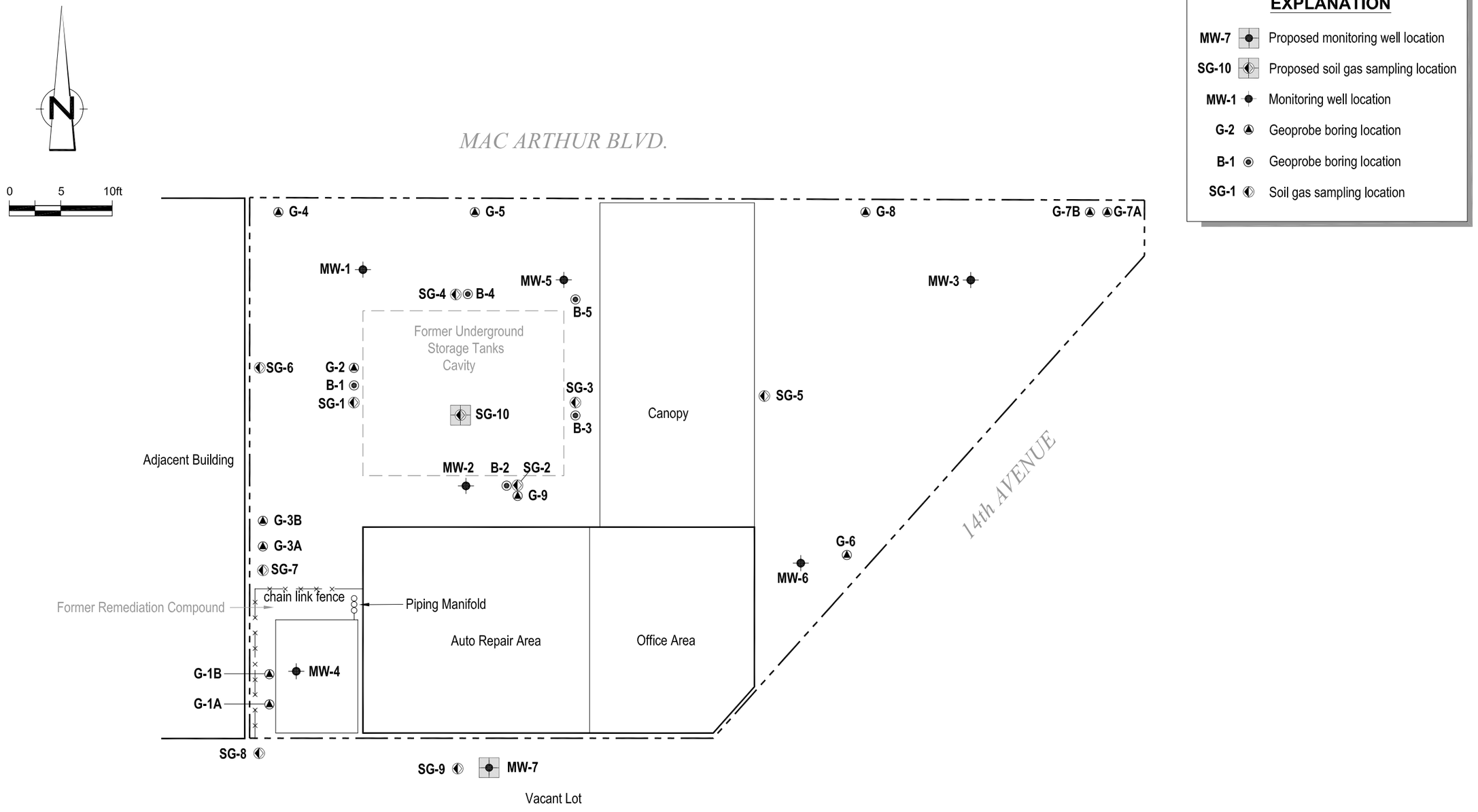

FIGURE 7

PROPOSED MONITORING WELL AND SOIL GAS SAMPLE LOCATIONS
HOOSHI'S AUTO SERVICE
1499 MacARTHUR BOULEVARD
Oakland, California

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TABLES

TABLE 1

MONITORING WELL CONSTRUCTION DETAILS
GATZKE / HOOSHI'S AUTO SERVICE
1499 MACARTHUR BOULEVARD, OAKLAND, CALIFORNIA

Well ID	*Former ID*	*Date Installed*	*Date Destroyed*	*Borehole diameter* (in)	*Depth of borehole* (ft)	*Casing diameter* (in)	*Screened interval* (ft bgs)	*Filter Pack* (ft bgs)	*Bentonite seal* (ft bgs)	*Cement* (ft bgs)	*TOC elevation* (ft above msl)
MW-1	B1	1/7/1993	--		20*	2					180.83
MW-2	B2	1/7/1993	--		20*	2					180.24
MW-3	B3	1/7/1993	--		20*	2					179.55
MW-4	--	6/27/1996	--		20	2	4.5 - 19	3.5 - 19	2.5 - 3.5	1 - 2.5	180.12
MW-5	--	6/27/1996	--		20	2	4.5 - 19	3.5 - 19	2.5 - 3.5	1 - 2.5	180.09
MW-6	--	6/27/1996	--		20	2	4.5 - 19	3.5 - 19	2.5 - 3.5	1 - 2.5	179.63

Abbreviations / Notes

ft = feet
in = inches
ft bgs = feet below grade surface
ft above msl = feet above mean sea level
TOC = top of casing
Elevations surveyed by Virgil Chavez Land Surveying.
* = Depth assume by downhole measurement.

TABLE 2

GROUNDWATER ELEVATION AND ANALYTICAL DATA
GATZKE / HOOSHI'S AUTO SERVICE
1499 MACARTHUR BOULEVARD, OAKLAND, CALIFORNIA

Well ID	*Date*	*TOC Depth to Groundwater*	*Groundwater Elevation*	*SPH Thickness*	*TPHg*	*Benzene*	*Toluene*	*Ethylbenzene*	*Xylenes*	*MTBE*
TOC (ft)*		*(ft)*	*(ft msl**)*	*(ft)*	←			*(µg/L)*		→
2006 Grab Groundwater Analytical Data										
B-1*	12/21/2006	--	--	--	13,000	37 / 28	32 / ND<17	380 / 520	1,100 / 1,300	ND<17
B-2*	12/21/2006	--	--	--	40,000	1,100 / 1,100	1,300 / 1,300	990 / 840	6,400 / 5,900	ND<50
B-3*	12/21/2006	--	--	--	300	1.9 / 3.2	1.0 / 0.98	0.76 / 1.4	0.62 / 1.2	ND<0.5
B-4*	12/21/2006	--	--	--	7,600	110 / 87	32 / 22	470 / 520	520 / 450	ND<10
B-5*	12/22/2006	--	--	--	72,000	-- / 850	-- / 3,100	-- / 2,800	-- / 16,000	ND<100
Monitoring Well Groundwater Analytical Data										
MW-1	1/4/1993	--	--	--	539	130	12	22	13	--
181.00	4/22/1993	--	--	--	1,130	75	8.0	38	11	--
	12/27/1994	--	--	--	770	22	6.6	14	21	--
	6/27/1996	14.11	166.89	--	3,300	260	34	59	170	80
	12/10/1996	13.71	167.29	--	1,500	84	11	22	32	34
	5/8/1998	13.85	167.15	--	3,200	300	12	62	36	ND<120
	8/17/1998	14.11	166.89	--	1,700	160	18	32	27	39
	11/4/1998	14.28	166.72	--	1,100	11	4.3	3.6	6.5	ND<50
	2/17/1999	13.41	167.59	--	320	200	47	72	75	57
	5/27/1999	14.16	166.84	--	2,500	81	12	29	41	ND<80
	8/19/1999	14.18	166.82	--	780	19	ND<0.5	5.7	4.5	28
180.83	11/23/1999	14.43	166.40	--	1,300	24	0.64	1.8	3.3	ND<100
	2/17/2000	13.85	166.98	--	1,300	60	9.1	22	19	22/16
	5/9/2000	14.01	166.82	--	2,700	55	13	19	25	34/29
	8/15/2000	14.24	166.59	--	--	--	--	--	--	--
	12/1/2000	8.75	172.08	--	480	6.4	5.9	1.1	3.9	18 (21)
180.63	2/8/2001	8.49	172.14	--	64	ND<0.5	ND<0.5	ND<0.5	ND<0.5	6.1/5.6
	4/9/2001	8.71	171.92	--	--	--	--	--	--	--
	4/24/2001	7.90	172.73	--	77	ND<0.5	ND<0.5	ND<0.5	ND<0.5	5.6/3.7
	8/6/2001	8.83	171.80	--	140	1.7	0.55	ND<0.5	0.63	5.8/4.0
	10/22/2001	8.91	171.72	--	120	0.92	ND<0.5	ND<0.5	0.59	11(10)
	2/1/2002	8.15	172.48	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	4/19/2002	8.63	172.00	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	7/16/2002	8.79	171.84	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	10/3/2002	8.90	171.73	--	110	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	1/10/2003	7.93	172.70	--	ND<50	ND<0.5	0.74	ND<0.5	ND<0.5	ND<5.0
	4/21/2003	8.17	172.46	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	7/9/2003	8.92	171.71	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	10/7/2003	9.13	171.50	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	1/22/2004	8.20	172.43	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	4/2/2004	7.09	173.54	--	110	0.52	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	12/29/2004	6.15	174.48	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	1/27/2005	7.15	173.48	--	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	4/6/2005	6.84	173.79	--	140	ND<0.5	0.55	ND<0.5	0.70	ND<5.0
	7/28/2005	7.36	173.27	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	10/14/2005	7.51	173.12	--	220	1.2	ND<0.5	0.56	0.75	ND<5.0
	1/30/2006	6.80	173.83	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	4/11/2006	6.60	174.03	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	7/14/2006	7.53	173.10	--	170	0.65	0.60	ND<0.5	ND<0.5	ND<5.0
	10/13/2006	7.47	173.16	--	200	0.93	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	1/12/2007	7.40	173.23	--	92	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	4/20/2007	7.14	173.49	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	7/30/2007	7.81	172.82	--	130	0.52	ND<0.5	ND<0.5	0.61	ND<10

TABLE 2

GROUNDWATER ELEVATION AND ANALYTICAL DATA
GATZKE / HOOSHI'S AUTO SERVICE
1499 MACARTHUR BOULEVARD, OAKLAND, CALIFORNIA

Well ID	*Date*	*TOC Depth to Groundwater*	*Groundwater Elevation*	*SPH Thickness*	*TPHg*	*Benzene*	*Toluene*	*Ethylbenzene*	*Xylenes*	*MTBE*
TOC (ft)*		*(ft)*	*(ft msl**)*	*(ft)*	←			*(µg/L)*		→
	10/24/2007	8.15	172.48	--	150	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
MW-1 cont'd	1/15/2008	7.79	172.84	--	86	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	4/17/2008	8.64	171.99	--	100	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	7/9/2008	9.09	171.54	--	140	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	10/28/2008	**9.62**	**171.01**	--	**120**	**0.59**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<5.0**
MW-2	1/4/1993	--	--	--	149,000	21,700	25,000	ND	7,760	--
180.45	4/22/1993	--	--	--	136,300	9,900	15,870	15,300	2,190	--
	12/27/1994	--	--	--	94,000	11,000	18,000	2,700	16,000	--
	6/27/1996	12.61	168.64	1.00	--	--	--	--	--	--
	12/10/1996	11.10	169.55	0.25	--	--	--	--	--	--
	5/8/1998	10.81	169.66	0.03	--	--	--	--	--	--
	8/17/1998	12.16	168.31	0.02	--	--	--	--	--	--
	11/4/1998	12.61	167.86	0.02	--	--	--	--	--	--
	2/17/1999	9.82	170.66	0.04	--	--	--	--	--	--
	5/27/1999	11.07	169.48	0.13	--	--	--	--	--	--
	8/19/1999	12.79	167.68	0.02	--	--	--	--	--	--
180.24	11/23/1999	12.14	168.20	0.12	--	--	--	--	--	--
	2/17/2000	10.01	170.37	0.18	--	--	--	--	--	--
	5/9/2000	10.88	169.38	0.03	--	--	--	--	--	--
	8/15/2000	12.28	167.97	0.01	--	--	--	--	--	--
	12/1/2000	8.03	172.21	Sheen [Field]	260,000	1,100	5,000	1,900	17,000	ND<100
	2/8/2001	7.86	172.38	Sheen [Field]	2,900	1.7	14	5.0	140	ND<5.0
	4/9/2001	7.95	172.29	Sheen [Field]	--	--	--	--	--	--
	4/24/2001	6.90	173.34	Sheen [Lab]	56,000	360	980	1,000	4,700	ND<5.0
	8/6/2001	8.15	172.09	Sheen [Field & Lab]	54,000	680	1,900	1,500	7,800	ND<200/ND<10
	10/22/2001	8.22	172.02	Sheen [Field & Lab]	32,000	420	770	1,100	4,100	ND<250
	2/1/2002	8.07	172.17	--	26,000	310	490	920	1,600	ND<1,000
	4/19/2002	8.60	171.64	--	16,000	300	240	1,000	990	ND<100
	7/16/2002	8.21	172.03	--	5,700	120	18	340	15	ND<50
	10/3/2002	8.14	172.10	--	4,400	44	16	68	20	ND<25
	1/10/2003	6.98	173.26	Sheen [Lab]	16,000	300	320	580	830	ND<100
	4/21/2003	7.25	172.99	--	12,000	350	260	610	380	ND<50
	7/9/2003	7.99	172.25	--	3,300	51	7.4	47	2.8	ND<17
	10/7/2003	8.21	172.03	--	2,400	93	11	34	22	ND<50
	1/22/2004	7.24	173.00	--	5,900	240	130	350	200	ND<50
	4/2/2004	6.29	173.95	--	37,000	840	1,500	1,300	5,900	ND<500
	12/29/2004	5.37	174.87	--	9,300	240	230	330	880	ND<50
	1/27/2005	6.38	173.86	Sheen [Field]	37,000	1,200	1,400	1,300	5,200	<250
	4/6/2005	5.88	174.36	--	21,000	400	340	780	1,700	ND<100
	7/28/2005	6.61	173.63	--	35,000	690	1,200	1,200	5,200	ND<500
	10/14/2005	6.80	173.44	Sheen [Field & Lab]	14,000	380	120	780	1,200	ND<100
	1/30/2006	5.91	174.33	Sheen [Field & Lab]	22,000	310	140	1,300	2,800	ND<50
	4/11/2006	5.65	174.59	Sheen [Field & Lab]	18,000	280	170	780	1,400	ND<250
	7/14/2006	6.76	173.48	Sheen [Field & Lab]	49,000	340	140	1,600	4,800	ND<500
	10/13/2006	6.74	173.50	Sheen [Field & Lab]	21,000	490	73	600	1,100	ND<110
	1/12/2007	6.55	173.69	Sheen [Field]	16,000	320	170	600	2,100	ND<250
	4/20/2007	6.39	173.85	Sheen [Field & Lab]	15,000	340	160	420	1,700	ND<120
	7/30/2007	7.09	173.15	Sheen [Field]	17,000	430	170	740	2,100	ND<100
	10/24/2007	7.40	172.84	Sheen [Field & Lab]	14,000	370	40	240	490	ND<100 (8.3)
	1/15/2008	6.90	173.34	Sheen [Field]	13,000	440	180	510	1,700	ND<250

TABLE 2

GROUNDWATER ELEVATION AND ANALYTICAL DATA
GATZKE / HOOSHI'S AUTO SERVICE
1499 MACARTHUR BOULEVARD, OAKLAND, CALIFORNIA

Well ID	*Date*	*TOC Depth to Groundwater*	*Groundwater Elevation*	*SPH Thickness*	*TPHg*	*Benzene*	*Toluene*	*Ethylbenzene*	*Xylenes*	*MTBE*
TOC (ft)*		*(ft)*	*(ft msl**)*	*(ft)*	←			*(µg/L)*		→
	4/17/2008	7.89	172.35	Sheen [Field]	29,000	410	200	830	2,700	ND<130
MW-2 cont'd	7/9/2008	8.39	171.85	Sheen [Field]	21,000	370	170	760	2,200	ND<120
	10/28/2008	**8.94**	**171.30**	**Sheen [Field]**	**24,000**	**550**	**140**	**810**	**1,600**	**ND<200**
MW-3	1/4/1993	--	--	--	1,610	772	14	11	ND	--
179.94	4/22/1993	--	--	--	3,040	980	34	19	16	--
	12/27/1994	--	--	--	2,600	180	9.0	7.2	13	--
	6/27/1996	13.20	166.74	--	2,000	22	2.9	11	7.4	56
	12/10/1996	13.13	166.81	--	970	ND<0.5	ND<0.5	ND<0.5	ND<0.5	24
	5/8/1998	13.03	166.91	--	780	3.7	2.1	1.1	2.4	ND<32
	8/17/1998	13.22	166.72	--	870	2.8	ND<0.5	ND<0.5	3.7	ND<5.0
	11/4/1998	13.31	166.63	--	770	1.6	4.4	2.0	6.9	ND<30
	2/17/1999	12.89	167.05	--	650	6.2	3.4	1.5	2.6	ND<5.0
	5/27/1999	12.32	167.62	--	570	1.5	1.2	0.72	1.1	ND<20
	8/19/1999	13.19	166.75	--	830	ND<0.5	1.9	ND<0.5	1.3	ND<20
179.55	11/23/1999	13.26	166.29	--	900	ND<0.5	1.8	0.56	1.4	ND<20
	2/17/2000	12.78	166.77	--	250	ND<0.5	1.5	ND<0.5	0.62	ND<5.0
	5/9/2000	12.92	166.63	--	690	ND<0.5	2.1	0.85	1.6	ND<5.0
	8/15/2000	13.19	166.36	--	610	ND<0.5	2.3	0.75	1.2	ND<5.0
	12/1/2000	7.50	172.05	--	120	ND<0.5	0.90	0.65	0.62	ND<5.0
	2/8/2001	7.20	172.35	--	87	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	4/9/2001	7.33	172.22	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	8/6/2001	7.61	171.94	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	10/22/2001	7.58	171.97	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	2/1/2002	7.53	172.02	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	8.5/8.5
	4/19/2002	7.95	171.60	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	9.0/11
	7/16/2002	7.68	171.87	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	20/30
	10/3/2002	7.78	171.77	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	1/10/2003	6.91	172.64	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	19/16
sampled annually	4/21/2003	7.21	172.34	--	--	--	--	--	--	--
	7/9/2003	8.05	171.50	--	--	--	--	--	--	--
	10/7/2003	8.19	171.36	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	1/22/2004	7.13	172.42	--	--	--	--	--	--	--
	4/2/2004	5.73	173.82	--	--	--	--	--	--	--
	12/29/2004	4.88	174.67	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	1/27/2005	5.80	173.75	--	--	--	--	--	--	--
	4/6/2005	5.49	174.06	--	--	--	--	--	--	--
	7/28/2005	6.02	173.53	--	--	--	--	--	--	--
	10/14/2005	6.11	173.44	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	1/30/2006	5.45	174.10	--	--	--	--	--	--	--
	4/11/2006	5.22	174.33	--	--	--	--	--	--	--
	7/14/2006	6.15	173.40	--	--	--	--	--	--	--
	10/13/2006	6.03	173.52	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	1/12/2007	5.98	173.57	--	--	--	--	--	--	--
	4/20/2007	5.76	173.79	--	--	--	--	--	--	--
	7/30/2007	6.44	173.11	--	--	--	--	--	--	--
	10/24/2007	6.82	172.73	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	1/15/2008	6.45	173.10	--	--	--	--	--	--	--
	4/17/2008	7.30	172.25	--	--	--	--	--	--	--

TABLE 2

GROUNDWATER ELEVATION AND ANALYTICAL DATA
GATZKE / HOOSHI'S AUTO SERVICE
1499 MACARTHUR BOULEVARD, OAKLAND, CALIFORNIA

Well ID	*Date*	*TOC Depth to Groundwater*	*Groundwater Elevation*	*SPH Thickness*	*TPHg*	*Benzene*	*Toluene*	*Ethylbenzene*	*Xylenes*	*MTBE*
TOC (ft)*		*(ft)*	*(ft msl**)*	*(ft)*	←			*(µg/L)*		→
	7/8/2008	7.79	171.76	--	--	--	--	--	--	--
	10/28/2008	**8.29**	**171.26**	--	**ND<50**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<5.0**
MW-4	6/27/1996	17.03	163.51	--	720	2	0.5	2.5	23	3.2
180.54	12/10/1996	8.50	172.04	--	80	2.4	ND<0.5	ND<0.5	6.6	ND<2.0
	5/8/1998	11.46	169.08	--	ND<50	0.60	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	8/17/1998	13.98	166.56	--	ND<50	ND<0.5	ND<0.5	ND<0.5	0.5	ND<5.0
	11/4/1998	14.36	166.18	--	96	9.7	8.1	4.8	18	ND<5.0
	2/17/1999	8.39	172.15	--	ND<50	ND<0.5	ND<0.5	ND<0.5	0.5	ND<5.0
	5/27/1999	12.80	167.74	--	ND<50	ND<0.5	1.0	ND<0.5	2.9	ND<5.0
	8/19/1999	14.42	166.12	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
180.12	11/23/1999	14.63	165.49	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	2/17/2000	8.15	171.97	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	5/9/2000	12.81	167.31	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	8/15/2000	14.29	165.83	--	ND<50	2.1	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	12/1/2000	12.80	167.32	--	81	6.0	8.4	1.0	5.6	ND<5.0
	2/8/2001	12.57	167.55	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	4/9/2001	12.50	167.62	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	8/6/2001	14.00	166.12	--	59	1.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	10/22/2001	14.05	166.07	--	130	6.3	ND<0.5	0.88	ND<0.5	ND<5.0
	2/1/2002	13.47	166.65	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	4/19/2002	13.55	166.57	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	7/16/2002	14.05	166.07	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	10/3/2002	13.09	167.03	--	77	2.1	0.51	ND<0.5	ND<0.5	ND<5.0
	1/10/2003	12.04	168.08	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	20/15
sampled annually	4/21/2003	12.15	167.97	--	--	--	--	--	--	--
	7/9/2003	12.90	167.22	--	--	--	--	--	--	--
	10/7/2003	13.15	166.97	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	1/22/2004	12.09	168.03	--	--	--	--	--	--	--
	4/2/2004	8.97	171.15	--	--	--	--	--	--	--
	12/29/2004	7.85	172.27	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	1/27/2005	8.28	171.84	--	--	--	--	--	--	--
	4/6/2005	8.07	172.05	--	--	--	--	--	--	--
	7/28/2005	10.83	169.29	--	--	--	--	--	--	--
	10/14/2005	11.49	168.63	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	1/30/2006	8.04	172.08	--	--	--	--	--	--	--
	4/11/2006	8.03	172.09	--	--	--	--	--	--	--
	7/14/2006	10.72	169.40	--	--	--	--	--	--	--
	10/13/2006	11.25	168.87	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	1/12/2007	8.89	171.23	--	--	--	--	--	--	--
	4/20/2007	9.22	170.90	--	--	--	--	--	--	--
	7/30/2007	11.29	168.83	--	--	--	--	--	--	--
	10/24/2007	10.08	170.04	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	1/15/2008	8.26	171.86	--	--	--	--	--	--	--
	4/17/2008	10.84	169.28	--	--	--	--	--	--	--
	7/9/2008	10.08	170.04	--	--	--	--	--	--	--
	10/28/2008	**11.90**	**168.22**	--	**ND<50**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<5.0**
MW-5	6/27/1996	13.62	166.74	0.16	--	--	--	--	--	--

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GROUNDWATER ELEVATION AND ANALYTICAL DATA
GATZKE / HOOSHI'S AUTO SERVICE
1499 MACARTHUR BOULEVARD, OAKLAND, CALIFORNIA

Well ID	*Date*	*TOC Depth to Groundwater*	*Groundwater Elevation*	*SPH Thickness*	*TPHg*	*Benzene*	*Toluene*	*Ethylbenzene*	*Xylenes*	*MTBE*
TOC (ft)*		*(ft)*	*(ft msl**)*	*(ft)*	←			*(µg/L)*		→
180.23	12/10/1996	13.26	167.77	1.00	--	--	--	--	--	--
	5/8/1998	13.15	167.11	0.04	--	--	--	--	--	--
	8/17/1998	13.36	166.89	0.02	--	--	--	--	--	--
MW-5 cont'd	11/4/1998	13.52	166.73	0.02	--	--	--	--	--	--
	2/17/1999	13.02	167.23	0.02	--	--	--	--	--	--
	5/27/1999	13.80	166.71	0.35	--	--	--	--	--	--
	8/19/1999	13.45	166.86	0.10	--	--	--	--	--	--
180.09	11/23/1999	14.03	166.35	0.36	--	--	--	--	--	--
	2/17/2000	13.28	167.02	0.26	--	--	--	--	--	--
	5/9/2000	13.55	166.77	0.29	--	--	--	--	--	--
	8/15/2000	13.58	166.54	0.04	--	--	--	--	--	--
	12/1/2000	8.00	172.09	0.00	54,000	240	1,700	870	1,000	ND<300
180.04	2/8/2001	7.88	172.16	Sheen [Lab]	33,000	63	420	120	4,500	ND<50
	4/9/2001	7.97	172.07	0.00	--	--	--	--	--	--
	4/24/2001	7.00	173.04	0.00	3,200	ND<1.0	11	7	260	ND<5.0
	8/6/2001	8.17	171.87	--	2,700	11	40	21	240	ND<5.0
	10/22/2001	8.15	171.89	Sheen [Lab]	20,000	200	1,200	330	2,900	ND<100
	2/1/2002	8.07	171.97	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	4/19/2002	8.51	171.53	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	7/16/2002	8.40	171.64	--	ND<50	ND<0.5	ND<0.5	ND<0.5	1.7	ND<5.0
	10/3/2002	8.18	171.86	--	15,000	94	830	460	2,200	ND<500
	1/10/2003	6.95	173.09	--	290	ND<0.5	1.8	ND<0.5	17	ND<5.0
	4/21/2003	7.18	172.86	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	7/9/2003	7.95	172.09	--	ND<50	ND<0.5	ND<0.5	ND<0.5	2.7	ND<5.0
	10/7/2003	8.22	171.82	--	9,800	120	340	180	2,000	ND<50
	1/22/2004	7.18	172.86	--	250	ND<0.5	0.82	ND<0.5	29	ND<5.0
	4/2/2004	6.23	173.81	--	4,300	6.3	18	59	750	ND<25
	12/29/2004	5.27	174.77	--	72	ND<0.5	0.78	ND<0.5	6.5	ND<5.0
	1/27/2005	6.25	173.79	--	3,300	<5.0	22	18	320	<50
	4/6/2005	5.90	174.14	Sheen [Field]	3,100	1.3	6.9	7.2	100	ND<10
	7/28/2005	6.50	173.54	--	18,000	53	230	130	2,100	ND<500
	10/14/2005	6.65	173.39	Sheen [Field & Lab]	23,000	140	370	240	2,100	ND<500
	1/30/2006	5.96	174.08	Sheen [Field & Lab]	2,500	1.0	8.7	ND<1.0	130	ND<10
	4/11/2006	5.63	174.41	Sheen [Field]	1,200	1.3	3.1	1.7	54	ND<5.0
	7/14/2006	6.65	173.39	Sheen [Field & Lab]	13,000	27	66	30	480	ND<50
	10/13/2006	6.60	173.44	Sheen [Field & Lab]	23,000	170	390	260	2,500	ND<250
	1/12/2007	6.50	173.54	Sheen [Field & Lab]	17,000	72	130	70	1,600	ND<250
	4/20/2007	6.22	173.82	Sheen [Field & Lab]	10,000	55	120	37	620	ND<50
	7/30/2007	6.95	173.09	Sheen [Field]	41,000	120	580	270	3,100	ND<250
	10/24/2007	7.27	172.77	Sheen [Field & Lab]	31,000	210	440	300	2,500	ND<200 (ND<5.0)
	1/15/2008	6.89	173.15	Sheen [Field & Lab]	14,000	87	120	39	1,400	ND<100
	4/17/2008	7.80	172.24	Sheen [Field & Lab]	21,000	35	150	71	1,100	ND<80
	7/9/2008	8.24	171.80	Sheen [Field & Lab]	30,000	130	600	290	4,000	ND<180
	10/28/2008	**8.78**	**171.26**	**Sheen [Field & Lab]**	**36,000**	**270**	**780**	**530**	**4,600**	**ND<250**
MW-6	6/27/1996	18.55	161.48	--	ND	ND	ND	ND	ND	--
180.03	12/10/1996	11.79	168.24	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<2.0
	5/8/1998	11.62	168.41	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	8/17/1998	12.66	167.37	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0

TABLE 2

GROUNDWATER ELEVATION AND ANALYTICAL DATA
GATZKE / HOOSHI'S AUTO SERVICE
1499 MACARTHUR BOULEVARD, OAKLAND, CALIFORNIA

Well ID	*Date*	*TOC Depth to Groundwater*	*Groundwater Elevation*	*SPH Thickness*	*TPHg*	*Benzene*	*Toluene*	*Ethylbenzene*	*Xylenes*	*MTBE*
TOC (ft)*		*(ft)*	*(ft msl**)*	*(ft)*	←			*(µg/L)*		→
	11/4/1998	13.56	166.47	--	68	3.8	3.7	2.8	11	ND<5.0
	2/17/1999	12.91	167.12	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	5/27/1999	13.03	167.00	--	ND<50	1.0	1.7	0.82	4.9	ND<5.0

TABLE 2

GROUNDWATER ELEVATION AND ANALYTICAL DATA
GATZKE / HOOSHI'S AUTO SERVICE
1499 MACARTHUR BOULEVARD, OAKLAND, CALIFORNIA

Well ID	*Date*	*TOC Depth to Groundwater*	*Groundwater Elevation*	*SPH Thickness*	*TPHg*	*Benzene*	*Toluene*	*Ethylbenzene*	*Xylenes*	*MTBE*
TOC (ft)*		*(ft)*	*(ft msl**)*	*(ft)*	←			*(µg/L)*		→
MW-6 cont'd	8/19/1999	13.10	166.93	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
179.63	11/23/1999	13.58	166.05	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	2/17/2000	10.72	168.91	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	5/9/2000	11.71	167.92	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	8/15/2000	12.49	167.14	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	12/1/2000	8.64	170.99	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	2/8/2001	8.20	171.43	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	4/9/2001	8.53	171.10	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	8/6/2001	8.69	170.94	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	10/22/2001	8.75	170.88	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	2/1/2002	8.31	171.32	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	4/19/2002	8.62	171.01	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	7/16/2002	8.84	170.79	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	10/3/2002	8.71	170.92	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	1/10/2003	6.99	172.64	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	19 (16)
sampled annually	4/21/2003	7.15	172.48	--	--	--	--	--	--	--
	7/9/2003	7.98	171.65	--	--	--	--	--	--	--
	10/7/2003	8.28	171.35	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	1/22/2004	7.15	172.48	--	--	--	--	--	--	--
	4/2/2004	6.56	173.07	--	--	--	--	--	--	--
	12/29/2004	5.63	174.00	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	1/27/2005	6.66	172.97	--	--	--	--	--	--	--
	4/6/2005	6.25	173.38	--	--	--	--	--	--	--
	7/28/2005	6.71	172.92	--	--	--	--	--	--	--
	10/14/2005	6.86	172.77	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	1/30/2006	6.35	173.28	--	--	--	--	--	--	--
	4/11/2006	5.89	173.74	--	--	--	--	--	--	--
	7/14/2006	6.80	172.83	--	--	--	--	--	--	--
	10/13/2006	6.75	172.88	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	1/12/2007	6.61	173.02	--	--	--	--	--	--	--
	4/20/2007	6.45	173.18	--	--	--	--	--	--	--
	7/30/2007	6.98	172.65	--	--	--	--	--	--	--
	10/24/2007	7.30	172.33	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	1/15/2008	6.93	172.70	--	--	--	--	--	--	--
	4/17/2008	7.78	171.85	--	--	--	--	--	--	--
	7/9/2008	8.22	171.41	--	--	--	--	--	--	--
	10/28/2008	**8.73**	**170.90**	--	**ND<50**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<0.5**	**ND<5.0**
Trip Blank	5/8/1998	--	--	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	11/4/1998	--	--	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	5/27/1999	--	--	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	11/23/1999	--	--	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0
	12/1/2000	--	--	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5.0

TABLE 2

GROUNDWATER ELEVATION AND ANALYTICAL DATA
GATZKE / HOOSHI'S AUTO SERVICE
1499 MACARTHUR BOULEVARD, OAKLAND, CALIFORNIA

Well ID	*Date*	*TOC Depth to Groundwater*	*Groundwater Elevation*	*SPH Thickness*	*TPHg*	*Benzene*	*Toluene*	*Ethylbenzene*	*Xylenes*	*MTBE*
TOC (ft)*		*(ft)*	*(ft msl**)*	*(ft)*	←			*(µg/L)*		→

Abbreviations and Methods:

TOC = Top of casing elevation

ft = Measured in feet

ft msl = elevation in feet mean sea level.

SPH = Separate phase hydrocarbons

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

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

MTBE = Methyl tertiary butyl ether by EPA Method SW8021B or SW8260B in parenthesis.

µg/L = Micrograms per liter

-- = Not sampled, not analyzed, not applicable, or no SPH measured or observed.

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

x.x/y.y = Result of EPA Method SW8021B / Result of EPA Method SW8260B

TOC Depth to Groundwater = Groundwater depth measured in feet below TOC

Sheen = A sheen was observed on the water's surface.

Field = Observed in the field

Lab = Observed in analytical laboratory

Analytical Laboratory Notes:

a - Unmodified or weakly modified gasoline is significant.

b - Lighter than water immiscible sheen is present.

c - No recognizable pattern on laboratory chromatogram.

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

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

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

j - Sample diluted due to high organic content.

* = 2006 grab groundwater samples collected from 20 ft bgs.

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

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

TABLE 2

GROUNDWATER ELEVATION AND ANALYTICAL DATA
GATZKE / HOOSHI'S AUTO SERVICE
1499 MACARTHUR BOULEVARD, OAKLAND, CALIFORNIA

Notes
a,i
a,i
a,i
a,i
a,b
a
a
a
a
a
a
a
a,b
a
a
a,c
c
a
a
f
a
c
a
a
a
c,i
a,c

TABLE 2

GROUNDWATER ELEVATION AND ANALYTICAL DATA
GATZKE / HOOSHI'S AUTO SERVICE
1499 MACARTHUR BOULEVARD, OAKLAND, CALIFORNIA

Notes
c
c
c
c
a
a
c,d
a,b
a,b,j
a,b
a
a
a
a
a,b
a
a
a
a
a
a
a
a
a
a, b
a,b,i
a,b,i
a,b
a,b,i
a,i
a,b
a
a,b
a,i

TABLE 2

GROUNDWATER ELEVATION AND ANALYTICAL DATA
GATZKE / HOOSHI'S AUTO SERVICE
1499 MACARTHUR BOULEVARD, OAKLAND, CALIFORNIA

Notes
a
a
a
a
b,c
c
b,c
a
c,d
c,d
d
a
c,d
c,d
c,d

TABLE 2

GROUNDWATER ELEVATION AND ANALYTICAL DATA
GATZKE / HOOSHI'S AUTO SERVICE
1499 MACARTHUR BOULEVARD, OAKLAND, CALIFORNIA

Notes
i
a
a
a
a
a
a

TABLE 2

GROUNDWATER ELEVATION AND ANALYTICAL DATA
GATZKE / HOOSHI'S AUTO SERVICE
1499 MACARTHUR BOULEVARD, OAKLAND, CALIFORNIA

Notes
c,d
a,b
c,d
a
a,b
a
a
a
d
a
d
a
c,d
a
a, b
b,c,d
a
a,b
a,b
a,b,i
a,b
a
a,b,j
a,b
a,b
a,b
a,b

TABLE 2

GROUNDWATER ELEVATION AND ANALYTICAL DATA
GATZKE / HOOSHI'S AUTO SERVICE
1499 MACARTHUR BOULEVARD, OAKLAND, CALIFORNIA

Notes

a

TABLE 2

GROUNDWATER ELEVATION AND ANALYTICAL DATA
GATZKE / HOOSHI'S AUTO SERVICE
1499 MACARTHUR BOULEVARD, OAKLAND, CALIFORNIA

Notes

TABLE 2

GROUNDWATER ELEVATION AND ANALYTICAL DATA
GATZKE / HOOSHI'S AUTO SERVICE
1499 MACARTHUR BOULEVARD, OAKLAND, CALIFORNIA

Notes

TABLE 3

SOIL ANALYTICAL DATA
HOOSHI'S AUTO SERVICE
1499 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

Sample ID	*Sample Depth (ft)*	*Sample Date*	*TPHg*	*Benzene*	*Toluene*	*Ethylbenzene*	*Xylenes*	*MTBE*	*Notes*
			←			*(mg/kg)*		→	
B-1-5	5	12/21/06	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	
B-1-10	10	12/21/06	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	
B-1-15	15	12/21/06	ND<1.0	ND<0.005	ND<0.005	ND<0.005	**0.011**	ND<0.005	
B-1-19.5	19.5	12/21/06	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	
B-2-5	5	12/21/06	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	
B-2-10	10	12/21/06	**3.3**	**0.043**	ND<0.005	ND<0.005	ND<0.005	**0.01**	a
B-2-15	15	12/21/06	**140**	**0.54**	**0.74**	**0.83**	**6.1**	<0.20	a
B-2-19.5	19.5	12/21/06	ND<1.0	**0.026**	ND<0.005	ND<0.005	ND<0.005	ND<0.005	
B-3-5.5	5.5	12/21/06	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	
B-3-10	10	12/21/06	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	
B-3-15	15	12/21/06	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	
B-4-5.5	5.5	12/21/06	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	
B-4-10	10	12/21/06	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	
B-4-15	15	12/21/06	ND<1.0	<0.050	**0.060**	**1.2**	**2.7**	ND<0.050	
B-4-19.5	19.5	12/21/06	**15**	ND<0.005	ND<0.005	**0.0057**	**0.0097**	ND<0.005	b,m
B-5-5.5	5.5	12/22/06	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	
B-5-10	10	12/22/06	ND<1.0	ND<0.005	ND<0.005	ND<0.005	ND<0.005	ND<0.005	
B-5-15	15	12/22/06	**560**	ND<1.0	**3.2**	**9.6**	**69**	ND<1.0	a
B-5-19.5	19.5	12/22/06	**4.2**	ND<0.005	ND<0.005	**0.017**	**0.12**	ND<0.005	b,m
(MW-1) B1-5.0	5	01/07/93	ND	ND	ND	ND	ND	--	
(MW-1) B1-10.0	10	01/07/93	ND	ND	ND	ND	ND	--	
(MW-1) B1-15.0	15	01/07/93	ND	ND	ND	ND	ND	--	
(MW-1) B1-20.0	20	01/07/93	ND	ND	ND	ND	ND	--	
(MW-2) B2-5.0	5	01/07/93	**5.5**	ND	ND	ND	ND	--	
(MW-2) B2-10.0	10	01/07/93	**1,460**	ND	**6.44**	ND	**63.1**	--	
(MW-2) B2-15.5	15.5	01/07/93	**17.8**	**0.849**	**0.125**	ND	**0.309**	--	
(MW-2) B2-20.5	20.5	01/07/93	ND	ND	ND	ND	ND	--	
(MW-3) B3-5.0	5	01/07/93	ND	ND	ND	ND	ND	--	
(MW-3) B3-10.0	10	01/07/93	ND	ND	ND	ND	ND	--	
(MW-3) B3-15.0	15	01/07/93	ND	ND	ND	ND	ND	--	
(MW-3) B3-20.0	20	01/07/93	ND	ND	ND	ND	ND	--	
MW-4-10	10	06/26/96	ND<1.0	ND<0.0025	ND<0.0025	ND<0.0025	ND<0.0025	--	
MW-5-10	10	06/26/96	ND<1.0	ND<0.0025	ND<0.0025	ND<0.0025	ND<0.0025	--	
MW-5-15	15	06/26/96	ND<1.0	**0.049**	**0.094**	**0.022**	**0.13**	--	
MW-6-10	10	06/26/96	ND<1.0	ND<0.0025	ND<0.0025	ND<0.0025	ND<0.0025	--	

TABLE 3

SOIL ANALYTICAL DATA
HOOSHI'S AUTO SERVICE
1499 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

Sample ID	*Sample Depth (ft)*	*Sample Date*	*TPHg*	*Benzene*	*Toluene*	*Ethylbenzene*	*Xylenes*	*MTBE*	*Notes*
			←			*(mg/kg)*		→	
G-2-10	10	06/24/96	ND	ND	ND	ND	ND	--	
G-2-15	15	06/24/96	ND	**0.006**	**0.009**	ND	**0.025**	--	
G-3B-10	10	06/24/96	ND	ND	ND	ND	ND	--	
G-3B-14.5	14.5	06/24/96	**1.5**	**0.14**	**0.012**	**0.052**	**0.18**	--	
G-4-10	10	06/24/96	ND	ND	ND	ND	ND	--	
G-5-7	7	06/24/96	ND	ND	ND	ND	ND	--	
G-5-12	12	06/24/96	ND	ND	ND	ND	ND	--	
G-6-10	10	06/24/96	ND	ND	ND	ND	ND	--	
G-7B-5	5	06/24/96	ND	ND	ND	ND	ND	--	
G-7B-10	10	06/24/96	ND	ND	ND	ND	ND	--	
G-8-10	10	06/24/96	ND	ND	ND	ND	ND	--	
G-9-11.5	11.5	06/24/96	**98**	**0.079**	**0.064**	**1.3**	**4.2**	--	
G-9-12.5	12.5	06/24/96	**860**	**3.1**	**11**	**14**	**97**	--	

Notes:

TPHg = Total petroleum hydrocarbons as gasoline.

Benzene, toluene, ethylbenzene, xylenes (BTEX), and methyl tertiary butyl ether (MTBE) by EPA Method 8260 for 2006 soil samples.

Bold = Bold indicates concentration detected above laboratory reporting limit.

ND<X= Not detected above detection limit.

-- = Not analyzed.

a = Unmodified or weakly modified gasoline is significant.

b = Heavier gasoline range compounds are significant (aged gasoline?).

m = No recognizable pattern.

TABLE 4

SOIL VAPOR ANALYTICAL DATA
HOOSHI'S AUTO SERVICE
1499 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

Sample ID	*Date Sampled*	*Depth (ft)*	*Benzene (mg/m^3)*
SG-1	1/18/2007	5	**4.2**
SG-2	1/19/2007	5	**6.4**
SG-3	1/18/2007	5	ND<3.9
SG-4	1/18/2007	5	*Not sampled. Groundwater encountered in probe.*
SG-5	1/18/2007	5	ND<3.9
SG-6	1/18/2007	5	ND<3.9
SG-7	1/19/2007	5	**4.4**
SG-8	1/19/2007	5	**15**
SG-9	1/19/2007	5	ND<73
Duplicate Samples			
SG-1-Dup	1/18/2007	5	3.9
SG-2-Dup	1/19/2007	5	6.5
SG-7-Dup	1/19/2007	5	ND<3.6

Abbreviations and Analyses:

ND<n = Not dectected (ND) above laboratory detection limit, n.

ug/m^3 = Microgram per cubic meter.

ft = Measured in feet

Benzene by modified EPA Method TO-15.

Laboratory data qualifying flags:

n = The identification is based on presumptive evidence.

j = Estimated value

APPENDIX A

AGENCY CORRESPONDENCE

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

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

September 2, 2008

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

Mr. Hooshi Ghassemi
1499 MacArthur Blvd.
Oakland, CA 94602-1045

Subject: Fuel Leak Case No. RO0000515 and Geotracker Global ID T0600100714, Hooshi's Auto Service, 1499 MacArthur Blvd., Oakland, CA 94602

Dear Ms. Gatzke and Mr. Ghassemi:

Alameda County Environmental Health (ACEH) staff has reviewed the fuel leak case file for the above-referenced site including the document entitled, "*Supplemental Site Characterization Report, Hooshi's Auto Service, 1499 MacArthur Boulevard, Oakland, California*," dated March 1, 2007. The report, which was prepared on your behalf by Conestoga-Rovers & Associates, presents the results from soil, soil vapor, and groundwater sampling. Total petroleum hydrocarbons as gasoline (TPHg) were detected in grab groundwater samples from borings around the perimeter of the former tank pit at concentrations up 72,000 micrograms per liter. Benzene was detected in grab groundwater samples from borings around the perimeter of the former tank pit at concentrations up 1,000 micrograms per liter. Based on soil and groundwater analytical results from the 2006 sampling, the report recommended the preparation of a Remedial Action Plan.

Prior to preparation of a Remedial Action Plan, we request that you address the following technical comments and send us the reports described below.

TECHNICAL COMMENTS

1. **Concrete Vault.** Based upon our review of the case file, the three former underground storage tanks were within an underground concrete vault. The vault is shown on a photo of the exposed tanks but is not shown on site maps or described in the tank removal report (attached). During tank removal, five soil samples were reportedly collected beneath the tanks from the fill-natural materials interface; however, the depth of the samples below ground surface is not reported. It is also no reported as to whether the concrete vault had a bottom layer of concrete or whether the structure was left in place. Prior to proposing remediation in this area, we request that you confirm whether the concrete vault remains in place, whether the concrete vault has a bottom, and the depth of the bottom of the vault, if present. Please present plans to obtain this information in the Work Plan requested below.

2. **Downgradient Water Quality.** Although the hydraulic gradient has been seasonally variable, the predominant hydraulic gradient appears to be generally toward the south, which is consistent with the topography and regional groundwater flow direction. Monitoring well MW-4 is the only well that appears to be downgradient from the source area. During water level measurements on April 17, 2008, the groundwater elevation in well MW-4 was more than 3 feet lower than the groundwater elevation in source area well MW-2. This difference in water levels over the short distance between well MW-4 and the former UST tank pit indicates that the hydraulic connection between well MW-4 and the source area is poor. Therefore, well MW-4 may not be effective in monitoring downgradient water quality. In order to monitor potential off-site migration and the effectiveness of any proposed remediation, we request that you install one downgradient monitoring well in the area of soil vapor sampling point SG-9.

3. **Sewer Easement.** An area labeled "vacant lot" on site plans is located south of the site buildings and is lower in elevation than the remainder of the site. A retaining wall that is approximately 8 feet high is present between the "vacant lot" and the remainder of the site. The "vacant lot" is within the same assessor's parcel as the remainder of the site. A sewer easement exists on the "vacant lot" directly south of the retaining wall. We request that you present a map showing the type and depth of utilities within the sewer easement.

4. **Soil Vapor Sampling.** Soil vapor samples were previously collected in January 2007. Due to the potential for the concrete vault discussed in technical comment 1 to act as a subsurface barrier, we request that a soil vapor sample be collected from the area inside the concrete vault. We also request that you collect soil vapor samples from the existing probes during a period when soil moisture is low to confirm the previous results. Please present plans for soil vapor sampling in the Work Plan requested below.

TECHNICAL REPORT REQUEST

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

- **October 17, 2008 –** Work Plan
- **November 10, 2008** – Third Quarter 2008 Groundwater Monitoring Report
- **January 30, 2009** – Fourth Quarter 2008 Groundwater Monitoring Report

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

ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of reports in electronic form. The electronic copy replaces paper copies and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program FTP site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) Geotracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and other data to the Geotracker database over the Internet. Beginning July 1, 2005, these same reporting requirements were added to Spills, Leaks, Investigations, and Cleanup (SLIC) sites. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites is required in Geotracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/cleanup/electronic_reporting).

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to $10,000 per day for each day of violation.

If you have any questions, please call me at (510) 567-6791 or send me an electronic mail message at jerry.wickham@acgov.org.

Sincerely,

Jerry Wickham, California PG 3766, CEG 1177, and CHG 297
Senior Hazardous Materials Specialist

Attachment: KTW & Associates, *Tank Closure Report,* October 17, 1990

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Leroy Griffin, Oakland Fire Department, 250 Frank H. Ogawa Plaza, Ste. 3341, Oakland, CA 94612-2032

Mark Jonas, Conestoga-Rovers & Associates, 5900 Hollis Street, Suite A
Emeryville, CA 94608

Donna Drogos, ACEH
Jerry Wickham, ACEH
File

K T W & ASSOCIATES

43289 Osgood Road, Fremont, Calif. 94539
(415) 623-0480
Cal. State Cont. Lic. # 572427

Mr. Thomas English
1545 Scenicview Drive
Oakland, California 94577

Mr. English:

K.T.W. & Associates is pleased to submit this report describing closure activities associated with removal of one (1) 500 gallon, and two (2) 1,000 gallon underground fuel tanks located in Oakland, California. This report provides a description of site activities and observations, the condition of excavated tanks, the condition of tank backfill and other subsurface materials, sampling procedures and locations, laboratory analytical procedures and certified analytical results, chain of custody documentation, and hazardous waste manifest (to be inserted by Mr. English).

Site Description

The site is located at 1499 Mac Arthur Boulevard, Oakland, California. A site location map is presented in Plate 1. Three (3) underground gasoline tanks were formerly located at the subject site. A site map showing the location of the site structure, former underground tanks and dispensing island is presented in Plate 2.

Closure Plan and Permitting

A closure plan and permit application for removal of underground tanks was completed and submitted to the Alameda County Health Care Services Agency (ACHCSA), and the City of Oakland Fire Department (COFD). Closure activities proceeded under an ACHCSA permit issued September 18, 1990, and COFD permit No. 9464.

Underground Tank Closure

Tank removal activities occurred on October 3, 1990. Inspector Barney Chan of the ACHCSA was present to observe the tank removal and sampling activities. Construction services associated with closure were performed by K.T.W. & Associates. A K.T.W. & Associates California Registered Geologist provided environmental sampling and documentation services.

Closure activities were documented in the Hazardous Material Inspection Form prepared by Barney Chan. Upon removal the structural integrity of the tanks were observed to be sound. The tank were unwrapped, and were observed to contain no corrosion holes. The tanks were removed and transported from the site by a permitted hazardous waste transporter under hazardous waste manifest. Copies of the hazardous waste manifest are in the possession of Mr. English, and will be inserted into this report by him.

General Observations, Underground Tank Closure

The tanks, which had been used to store gasoline prior to their removal, contained the following trim; a product line, a fill riser, and a vent line. For each tank, no vapor piping was present.

The condition of the vent lines prior to removal were unsound, and they were unwrapped. The product piping appeared to be sound, however, the vent lines contained a large number of corrosion holes. The riser assemblies that constituted the fill pipe for the tanks were sound and free of defects. Very strong hydrocarbon odor was observed while removing the overburden surrounding the tanks, and the overburden material contained discoloration. The backfill material consisted sand and aggregate. The overburden was not used as backfill, and was stockpiled on 10 MIL polyethylene sheeting on site pending dispensation.

Soil Sampling

Five (5) soil samples were collected from the gasoline tank excavation below the tanks and one (1) sample was collected from below the lines. Soil sampling of the tanks occurred on October 3, 1990. These samples were obtained by excavating to the native soil/interface and driving a brass tube into the native soil. The sample from below the lines was collected directly without the use of the backhoe. At the direction of Mr. Barney Chan, two (2) of the samples were also analyzed from organic lead, samples (TlPIKA-N and TPIKA-S).

Samples were collected in brass tubes, sealed in teflon and plastic caps, and promptly stored in a cooler. Following completion of field work, samples were submitted to Anametrix Laboratory, San Jose, CA (DOHS #151) certified analytical laboratory for analyses under appropriate chain of custody protocol.

Five (5) soil samples were taken from beneath the former tanks (TPIKA-N, TPIKA-S, TPO.5K-C, TPIKB-N, and TPIKB-S). Their locations are noted in Plate 2. The samples were taken from the fill ends and the vent ends of the excavation. The product line sample was denoted as (TP-L-1). The results of that analysis is shown in attachment B.

Certified Analytical Results

Samples collected for minimum verification analyses (MVA) were analyzed in accordance with appropriate regulatory guidelines contained within Regional Board Staff Recommendations for Initial Evaluation and Investigation of Underground Tanks (RWQCB, 1988). Copies of soil analytical results are presented in Attachment B.

MVA for Underground Fuel Tank Excavation

The soil samples collected from the fill-natural materials interface below the fuel tank contained concentrations of the constituents sought ranging from not detected (N.D.) (TP-L-1) to 450 parts per million (ppm), total petroleum hydrocarbons as gasoline (TPH-G) (TPO.5K-C).

+8.7 ppm benzene

Regulatory Guidelines

The RWQCB - San Francisco Bay Region has established a level of 100 ppm TPH concentrations in soil as a general decision value for requiring further definition of site soil and groundwater contamination where shallow groundwater conditions are known to exist. The origin of the 100 ppm level was to "develop a method to prioritize the case load and indicate whether a significant volume of fuel had been released or discharged" (RWQCB, June, 1988). In the interest of prudence and caution, the stockpiled material was not re-introduced as fill.

Copies of this report should be submitted to:

Regional Water Quality Control Board
1111 Jackson Street, Rm. 6000
Oakland, CA 94607
Attn: Dyan Whyte

Alameda County Health Care Services Agency
80 Swan Way, Room 200
Oakland, CA 94621

Additional copies of this report have been provided for the purpose of regulatory submittal.

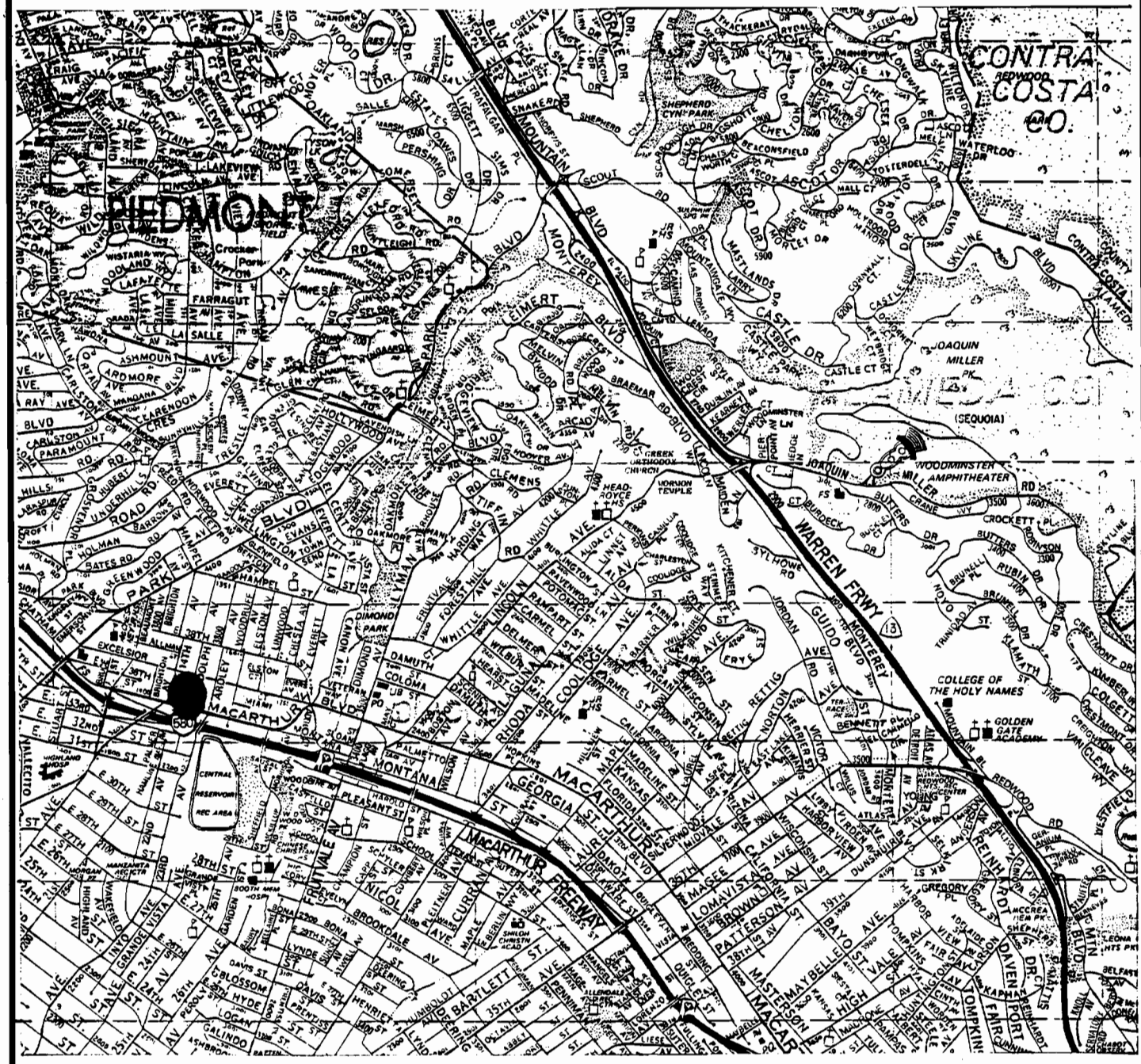
Should you have any questions or comments regarding the evaluations presented in this report, please call.

Respectfully,

Kevin Krause
Vice President

KK/emm
Attachments

PLATES



SCALE	NTS
DATE	10/24/90
DRWG. BY	EMM

KTN & ASSOCIATES

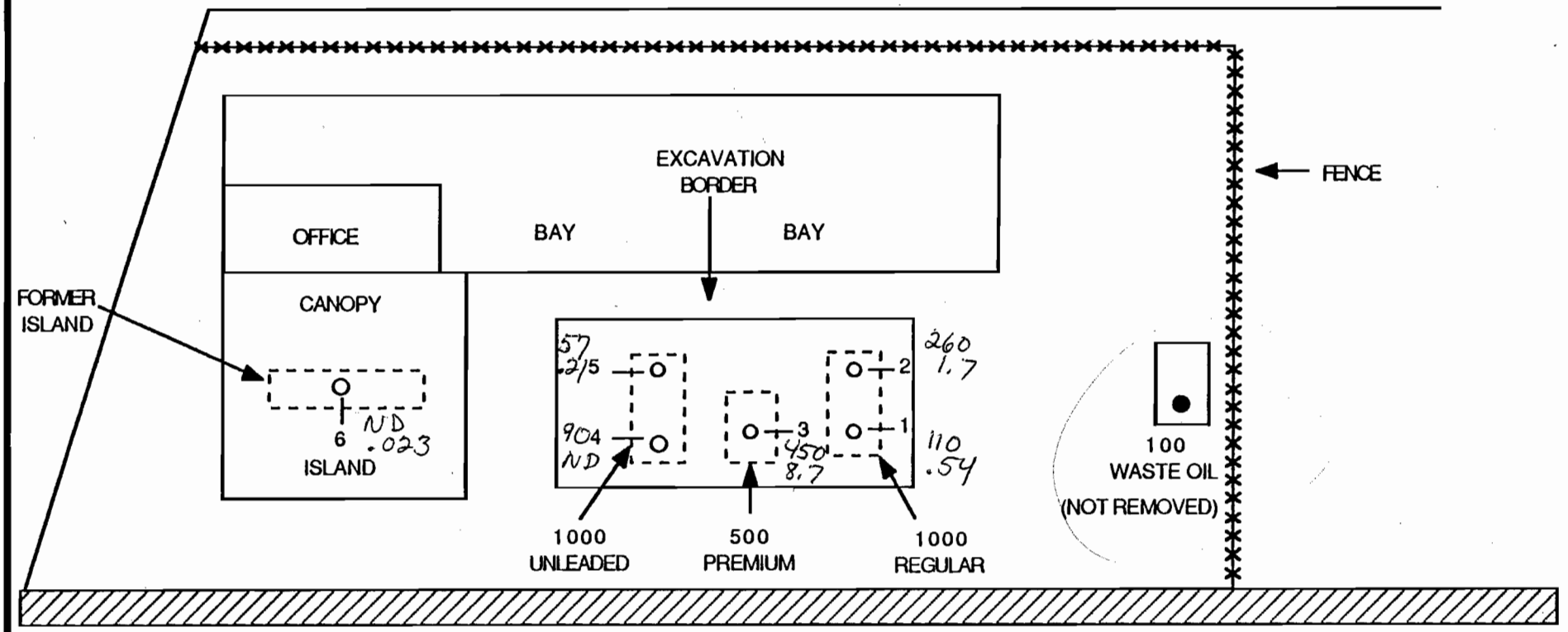
PROJECT: 1098

SITE LOCATION

Hooshi's Auto
1499 Mac Arthur Boulevard
Oakland, California

PLATE

1



SCALE	NTS
DATE	10/18/90
DRAWN BY	EMM

KTW & ASSOCIATES
43289 Osgood Road, Fremont, Ca 94539
(415) 623-0480
Cal. State Cont. Lic. #572427

PROJECT NO.: 1099

HOOSHI'S AUTO SERVICE
1499 Mac Arthur Blvd.
Oakland, California

SAMPLE LOCATION MAP

1= TPIKA-N
2 = TPIKA-S
3 = TPO.5K-C
4 = TPIKB-N
5 = TPIKB-S
6 = TP-L-1

PLATE

2

ATTACHMENT A

Hazardous Waste Manifests

ATTACHMENT B

Certified Analytical Reports

ANAMETRIX INC
Environmental & Analytical Chemistry
1961 Concourse Drive, Suite E, San Jose, CA 95131
(408) 432-8192 • Fax (408) 432-8198

REPORT

MR. KEVIN KRAUSE
KTW & ASSOCIATES
43289 OSGOOD ROAD
FREMONT, CA 94539

Workorder # : 9010041
Date Received : 10/03/90
Project ID : 1099
Purchase Order: A2078

The following samples were received at Anametrix, Inc. for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9010041- 1	TP1KA-N
9010041- 2	TP1KA-S
9010041- 3	TP0.5K-C
9010041- 4	TP1KB-N
9010041- 5	TP1KB-S
9010041- 6	TP-L-1

This report is paginated for your convenience and ease of review. It contains 8 pages excluding the cover letter. The report is organized into sections. Each section contains all analytical results and quality assurance data related to a specific group or section within Anametrix. The Report Summary that precedes each section will help you determine which group at Anametrix generated the data. The Report Summary will contain the signatures of the department supervisor and a chemist, both of whom reviewed the analytical data. Please refer all questions to the department supervisor that signed the form.

If you have any further questions or comments on this report, please give us a call as soon as possible. Thank you for using Anametrix.

Burt Sutherland
Laboratory Director

10-10-90
Date

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. KEVIN KRAUSE
KTW & ASSOCIATES
43289 OSGOOD ROAD
FREMONT, CA 94539

Workorder # : 9010041
Date Received : 10/03/90
Project ID : 1099
Purchase Order: A2078
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9010041- 1	TP1KA-N	SOIL	10/02/90	TPHg/BTEX
9010041- 2	TP1KA-S	SOIL	10/02/90	TPHg/BTEX
9010041- 3	TP0.5K-C	SOIL	10/02/90	TPHg/BTEX
9010041- 4	TP1KB-N	SOIL	10/02/90	TPHg/BTEX
9010041- 5	TP1KB-S	SOIL	10/02/90	TPHg/BTEX
9010041- 6	TP-L-1	SOIL	10/02/90	TPHg/BTEX

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. KEVIN KRAUSE
KTW & ASSOCIATES
43289 OSGOOD ROAD
FREMONT, CA 94539

Workorder # : 9010041
Date Received : 10/03/90
Project ID : 1099
Purchase Order: A2078
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for samples.

Cheryl Balmer 10/5/90
Department Supervisor Date

Chemist 8 Oct 90
Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS
(GASOLINE WITH BTEX)
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9010041
Matrix : SOIL
Date Sampled : 10/02/90

Project Number : 1099
Date Released : 10/08/90

COMPOUNDS	Reporting Limit (mg/Kg)	Sample I.D.# TP1KA-N -01	Sample I.D.# TP1KA-S -02	Sample I.D.# TP0.5K-C -03	Sample I.D.# TP1KB-N -04	Sample I.D.# TP1KB-S -05
Benzene	0.005	0.54	1.7	8.7	ND	0.21
Toluene	0.005	2.4	15	57	ND	0.18
Ethylbenzene	0.005	1.6	5.4	12	0.61	0.35
Total Xylenes	0.005	9.5	35	82	1.3	1.4
TPH as Gasoline	0.5	110	260	450	90	57
% Surrogate Recovery		125%	108%	80%	102%	160%
Instrument I.D.		HP4	HP4	HP4	HP4	HP12
Date Analyzed		10/04/90	10/04/90	10/04/90	10/04/90	10/05/90
RLMF		25	250	250	100	10

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.
RLMF - Reporting Limit Multiplication Factor.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Analyst — 10 Oct 90 Date

Supervisor — Cheryl Balmer 10/10/90 Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS
(GASOLINE WITH BTEX)
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9010041
Matrix : SOIL
Date Sampled : 10/02/90

Project Number : 1099
Date Released : 10/08/90

COMPOUNDS	Reporting Limit (mg/Kg)	Sample I.D.# TP-L-1 -06	Sample I.D.# 04B1004A BLANK	Sample I.D.# 12B1005A BLANK
Benzene	0.005	0.023	ND	ND
Toluene	0.005	0.022	ND	ND
Ethylbenzene	0.005	ND	ND	ND
Total Xylenes	0.005	0.048	ND	ND
TPH as Gasoline	0.5	ND	ND	ND
% Surrogate Recovery		87%	77%	91%
Instrument I.D.		HP12	HP4	HP12
Date Analyzed		10/05/90	10/04/90	10/05/90
RLMF		1	1	1

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA 8020.
RLMF - Reporting Limit Multiplication Factor.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Analyst — Date: 10/9/90

Supervisor — Date: 10/9/90

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. KEVIN KRAUSE
KTW & ASSOCIATES
43289 OSGOOD ROAD
FREMONT, CA 94539

Workorder # : 9010041
Date Received : 10/03/90
Project ID : 1099
Purchase Order: A2078
Department : METALS
Sub-Department: METALS

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9010041- 1	TP1KA-N	SOIL	10/02/90	ORG Pb
9010041- 2	TP1KA-S	SOIL	10/02/90	ORG Pb

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. KEVIN KRAUSE
KTW & ASSOCIATES
43289 OSGOOD ROAD
FREMONT, CA 94539

Workorder # : 9010041
Date Received : 10/03/90
Project ID : 1099
Purchase Order: A2078
Department : METALS
Sub-Department: METALS

QA/QC SUMMARY :

- No QA/QC problems encountered for samples.

Frank Schon 10-10-90
Department Supervisor Date

Manny Nguyen 10-4-90
Chemist Date

ANALYSIS DATA SHEET - ORGANIC LEAD
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9010041
Matrix : SOIL
Date Sampled : 10/02/90
Project Number: 1099

Date Prepared : 10/03/90
Date Analyzed : 10/03/90
Date Released : 10/04/90
Instrument I.D.: AA1

		ELEMENTS	Organic Lead
		EPA METHOD	LUFT
		REPORTING LIMIT	0.08
ANAMETRIX ID	CLIENT ID		(mg/Kg)
9010041-01	TP1KA-N		ND
9010041-02	TP1KA-S		0.15
OMB1003S	METHOD BLANK		ND

ND : Not detected at or above the practical quantitation limit for the method.

Organic Lead by Leaking Underground Fuel Tank (LUFT) Manual, 1987 California State Water Resources Control Board.

Oleg Nemchenok 10-10-90
Chemist Date

A. Stolover 10/10/90
Chemist Date

ANAMETRIX, INC.
1961 CONCOURSE DRIVE, SUITE E
SAN JOSE, CA 95131, (408) 432-8192

ORGANIC LEAD MATRIX SPIKE REPORT

Spike I.D. : 9010041-01MS,MD
Assoc. WO # : 9010041
Date Analyzed: 10/03/90
Conc. Units : mg/Kg

Inst. ID: AA1
Date : 10/04/90
Matrix : SOIL

ELEMENTS	METHOD	SPIKE AMOUNT	SAMPLE CONC.	M S CONC.	% REC	M S D CONC.	% REC	R P D
Pb	LUFT	0.45	0.00	0.41	91.1	0.41	91.1	0.0

COMMENT: Quality control limits for percent recovery are 75-125% and 25% for RPD.

Manny Nguyen 10-4-90
Chemist Date

K. Sokolowski 10/4/90
Chemist Date

Chain of Custody Record

KTW & ASSOCIATES
43289 Osgood Road, Fremont, CA 94539 (415) 623-0480

DATE 10/3/90 PAGE 1 OF 1

Client: HEDSTIS AUTO
Address: MACARTHUR BLD
OAKLAND, CA
Project: 1099
SAMPLERS SIGNATURE: RG

	SAMPLE NO.	DATE	TIME	LOCATION	CAM METALS (18)	PR. POLLUTANT METALS (13)	GENERAL MINERALS	OIL & GREASE	TOG	BASE/NEU/ACIDS (ORGANICS)	PESTICIDES	VOLATILE ORGANICS (60.1/602)	VOLATILE ORGANICS (624)	TPH-G	TPH-D	BTXE	ORG LEAD			NUMBER OF CONTAINERS	OBSERVATIONS/ COMMENTS
1	TP1KA-N	10/2/90	1646	N SIDE 1K#1										X		X	X			1	STORED ON
2	TP1KA-S	10/2/90	1652	S SIDE 1K#1										X		X	X			1	DRY ICE;
3	TP0.5K-C	"	1657	CENTER 0.5K										X		X				1	SOME DILUTION
4	TP1KB-N	"	17:03	N SIDE 1K#2										X		X				1	MAY BE NECESSARY;
5	TP1KB-S	"	17:07	S " " "										X		X				1	
6	TP-L-1	↓	17:15	LINE SAMPLE										X		X				1	48 HOUR
																					FOR PREARRANGEMENT

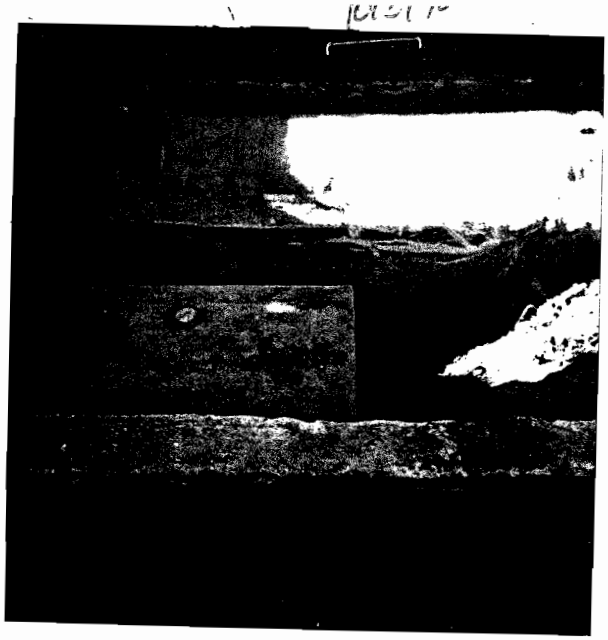
REGISTERED GEOLOGIST
CHRISTOPHER M. FRENCH
10/5/90
NO. 4465
STATE OF CALIFORNIA

RELINQUISHED BY	DATE	RECEIVED BY	DATE	RELINQUISHED BY	DATE	RECEIVED BY	DATE
[signature]	10/3/90	Pat French	10/3/90	Pat French	10/3/90	[signature]	10/05/90
C.M. French KTW	TIME 10:40	KTW & ASSOC	TIME 10:40		TIME 11:50	Darla Sylvia Ancmetrix	TIME 1150
RELINQUISHED BY	DATE	RECEIVED BY	DATE	RELINQUISHED BY	DATE	RECEIVED BY	DATE
	TIME		TIME		TIME		TIME

TOTAL # OF CONTAINERS 6
METHOD OF SHIPMENT HAND DELIV
SPECIAL HANDLING/ T.A.T. 48 HR

OK, to be with the noted additions
9/18/93

ALAM[illegible] ENCY



ACCEPTED
DEPARTMENT OF ENVIRONMENTAL HEALTH
470 - 27th Street, Third Floor
Oakland, CA 94612
Telephone: (415) 874-7237

These plans have been reviewed and found to be acceptable and essentially meet the requirements of State and local health laws. Changes to your plans indicated by this [illegible] to secure compliance with State and local

1499 MacArthur
Hooshi's - 3 UGTanks (Concrete vault)

UNDERGR[illegible] [illegible] NS

1. **Business Name** Hooshi's Auto Service

   Business Owner Mr. Tom English

2. **Site Address** 1499 Mac Arthur Boulevard

   City Oakland **Zip** 94602 **Phone** (415) 530-4222

3. **Mailing Address** 1545 Scenic View Drive

   City San Leandro **Zip** 94578 **Phone** (415) 483-9015

4. **Land Owner** Mr. Tom C. English

   Address 1545 Scenic View Drive **City, State** San Leandro CA **Zip** 94578

5. **EPA I.D. No.** CAC 000 518 288

6. **Contractor** K.T.W. & Associates

   Address 43289 Osgood Road

   City Fremont, California 94539 **Phone** (415) 623-0480

   License Type C61-D40 **ID#** 572427

7. **Consultant** Same

   Address

   City **Phone**

Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC)	**ISSUE DATE:** July 5, 2005
	REVISION DATE: December 16, 2005
	PREVIOUS REVISIONS: October 31, 2005
SECTION: Miscellaneous Administrative Topics & Procedures	**SUBJECT:** Electronic Report Upload (ftp) Instructions

Effective **January 31, 2006**, the Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities.

REQUIREMENTS

- Entire report including cover letter must be submitted to the ftp site as **a single portable document format (PDF) with no password protection**. (Please do not submit reports as attachments to electronic mail.)
- It is **preferable** that reports be converted to PDF format from their original format, (e.g., Microsoft Word) rather than scanned.
- Signature pages and perjury statements **must** be included and have either original or electronic signature.
- **Do not password protect the document**. Once indexed and inserted into the correct electronic case file, the document will be secured in compliance with the County's current security standards and a password. **Documents with password protection will not be accepted.**
- Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer monitor.
- Reports must be named and saved using the following naming convention:
  RO#_Report Name_Year-Month-Date (e.g., RO#5555_WorkPlan_2005-06-14)

Additional Recommendations

- A separate copy of the tables in the document should be submitted by e-mail to your Caseworker in **Excel** format. These are for use by assigned Caseworker only.

Submission Instructions

1) Obtain User Name and Password:
   a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
      i) Send an e-mail to dehloptoxic@acgov.org
         or
      ii) Send a fax on company letterhead to (510) 337-9335, to the attention of Alicia Lam-Finneke.
   b) In the subject line of your request, be sure to include **"ftp PASSWORD REQUEST"** and in the body of your request, include the **Contact Information, Site Addresses**, and the **Case Numbers (RO# available in Geotracker) you will be posting for.**

2) Upload Files to the ftp Site
   a) Using Internet Explorer (IE4+), go to ftp://alcoftp1.acgov.org
      (i) Note: Netscape and Firefox browsers will not open the FTP site.
   b) Click on File, then on Login As.
   c) Enter your User Name and Password. (Note: Both are Case Sensitive.)
   d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
   e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.

3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
   a) Send email to dehloptoxic@acgov.org notify us that you have placed a report on our ftp site.
   b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name at acgov.org. (e.g., firstname.lastname@acgov.org)
   c) The subject line of the e-mail must start with the RO# followed by **Report Upload.** (e.g., Subject: RO1234 Report Upload)

APPENDIX B

STANDARD FIELD PROCEDURES
MONITORING WELL INSTALLATION

STANDARD FIELD PROCEDURES

MONITORING WELL INSTALLATION

This document presents standard field methods for drilling, installing, developing and sampling groundwater monitoring wells. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

MONITORING WELL INSTALLATION, DEVELOPMENT AND SAMPLING

Well Construction and Surveying

Groundwater monitoring wells are installed to monitor groundwater quality and determine the groundwater elevation, flow direction and gradient. Well depths and screen lengths are based on groundwater depth, occurrence of hydrocarbons or other compounds in the borehole, stratigraphy and State and local regulatory guidelines. Well screens typically extend 10 to 15 feet below and 5 feet above the static water level at the time of drilling. However, the well screen will generally not extend into or through a clay layer that is at least three feet thick.

Well casing and screen are flush-threaded, Schedule 40 PVC. Screen slot size varies according to the sediments screened, but slots are generally 0.010 or 0.020 inches wide. A rinsed and graded sand occupies the annular space between the boring and the well screen to about one to two feet above the well screen. A two feet thick hydrated bentonite seal separates the sand from the overlying sanitary surface seal composed of Portland type I,II cement.

Well-heads are secured by locking well-caps inside traffic-rated vaults finished flush with the ground surface. A stovepipe may be installed between the well-head and the vault cap for additional security.

The well top-of-casing elevation is surveyed with respect to mean sea level and the well is surveyed for horizontal location with respect to an onsite or nearby offsite landmark.

Well Development

Wells are generally developed using a combination of groundwater surging and extraction. Surging agitates the groundwater and dislodges fine sediments from the sand pack. After about ten minutes of surging, groundwater is extracted from the well using bailing, pumping and/or reverse air-lifting through an eductor pipe to remove the sediments from the well. Surging and extraction continue until at least ten well-casing volumes of groundwater are extracted and the sediment volume in the groundwater is negligible. This process usually occurs prior to installing the sanitary surface seal to ensure sand pack stabilization. If development occurs after surface seal installation, then development occurs 24 to 72 hours after seal installation to ensure that the Portland cement has set up correctly.

All equipment is steam-cleaned prior to use and air used for air-lifting is filtered to prevent oil entrained in the compressed air from entering the well. Wells that are developed using air-lift evacuation are not sampled until at least 24 hours after they are developed.

Groundwater Sampling

Depending on local regulatory guidelines, three to four well-casing volumes of groundwater are purged prior to sampling. Purging continues until groundwater pH, conductivity, and temperature have stabilized. Groundwater samples are collected using bailers or pumps and are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4°C, and transported under chain-of-custody to the laboratory. Laboratory-supplied trip blanks accompany the samples and are analyzed to check for cross-contamination. An equipment blank may be analyzed if non-dedicated sampling equipment is used.

Waste Handling and Disposal

Soil cuttings from drilling activities are usually stockpiled onsite and covered by plastic sheeting. At least three individual soil samples are collected from the stockpiles and composited at the analytic laboratory. The composite sample is analyzed for the same constituents analyzed in the borehole samples in addition to any analytes required by the receiving disposal facility. Soil cuttings are transported by licensed waste haulers and disposed in secure, licensed facilities based on the composite analytic results.

Groundwater removed during development and sampling is typically stored onsite in sealed 55-gallon drums. Each drum is labeled with the drum number, date of generation, suspected contents, generator identification and consultant contact. Upon receipt of analytic results, the water is either pumped out using a vacuum truck for transport to a licensed waste treatment/disposal facility or the individual drums are picked up and transported to the waste facility where the drum contents are removed and appropriately disposed.

APPENDIX C

STANDARD FIELD PROCEDURES
VAPOR POINT INSTALLATION AND SAMPLING

STANDARD FIELD PROCEDURES
VAPOR POINT INSTALLATION AND SAMPLING

This document describes Conestoga-Rovers & Associates' standard field methods for soil vapor sampling. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

Objectives

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

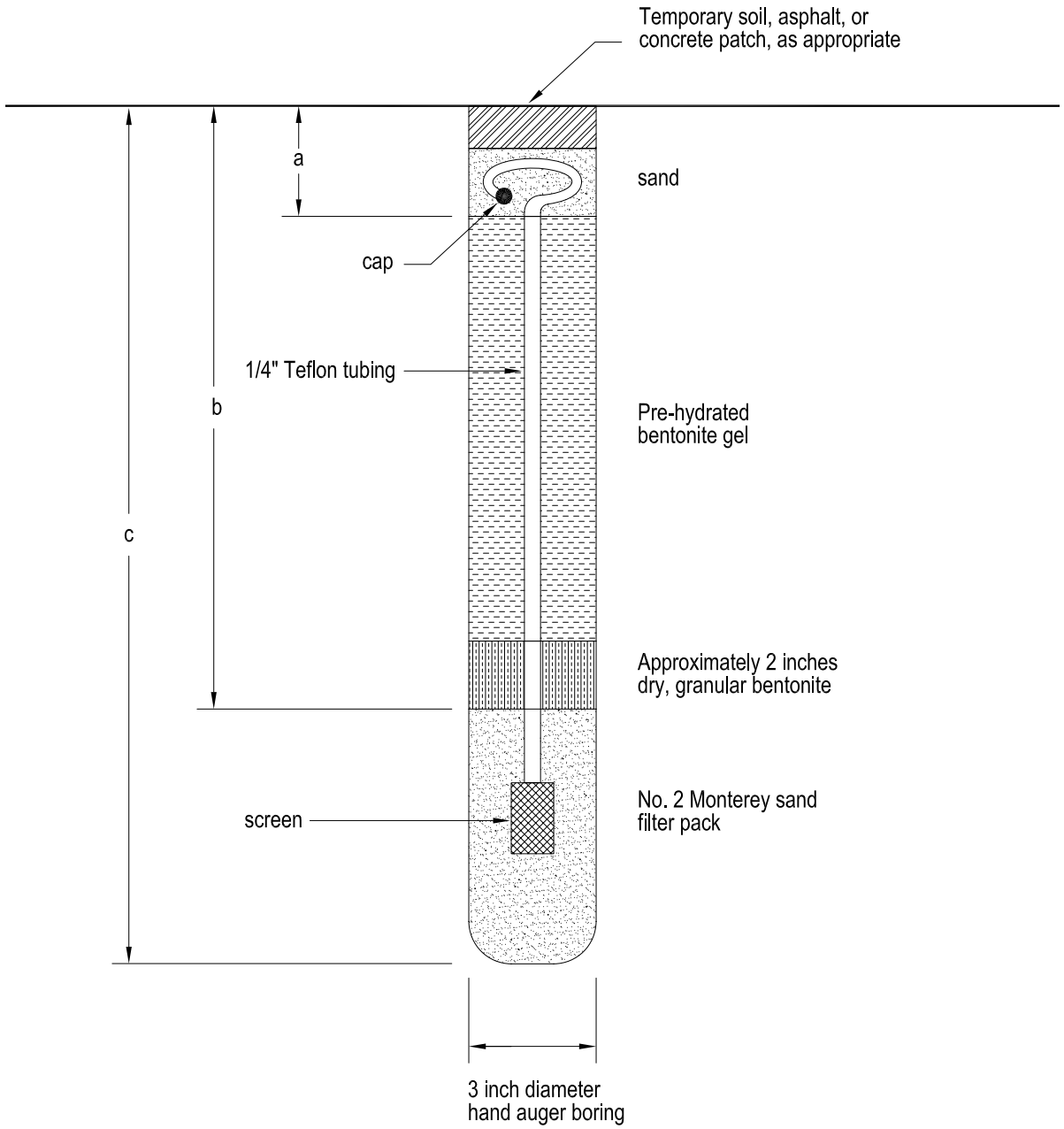
Shallow Soil Vapor Point Method for Soil Vapor Sampling

The shallow soil vapor point method for soil vapor sampling utilizes a hand auger or drill rig to advance a boring for the installation of a soil vapor sampling point. Once the boring is hand augered to the final depth, a 6-inch slotted probe, capped on either end with brass or Swagelok fittings, is placed within 12-inches of number 2/16 filter sand (Figure A). Nylon tubing of ¼-inch outer-diameter of known length is attached to the probe. A 2-inch to 12-inch layer of unhydrated bentonite chips is placed on top of the filter pack. Next pre-hydrated granular bentonite is then poured into the hole to approximately and topped with another 2-inch layer of unhydrated bentonite chips or concrete, depending if the boring will hold one probe or multiple probes. The tube is coiled and placed within a wellbox finished flush to the surface. Soil vapor samples will be collected no sooner than one week after installation of the soil vapor points to allow adequate time for representative soil vapors to accumulate. Soil vapor sample collection will not be scheduled until after a minimum of three consecutive precipitation-free days and irrigation onsite has ceased. Figure B shows the soil vapor sampling apparatus. A measured volume of air will be purged from the tubing using a different Summa purge canister. Immediately after purging, soil vapor samples will be collected using the appropriate size Summa canister with attached flow regulator and sediment filter. The soil vapor points will be preserved until they are no longer needed for risk evaluation purposes. At that time, they will be destroyed by extracting the tubing, hand augering to remove the sand and bentonite, and backfilling the boring with neat cement. The boring will be patched with asphalt or concrete, as appropriate.

Vapor Sample Storage, Handling, and Transport

Samples are stored and transported under chain-of-custody to a state-certified analytic laboratory. Samples should never be cooled due to the possibility of condensation within the canister.

Attachments: Figure A: Soil Vapor Point
Figure B: Soil Vapor Sampling Apparatus Diagram



Schematic Not to Scale

FIGURE

A

Soil Vapor Point

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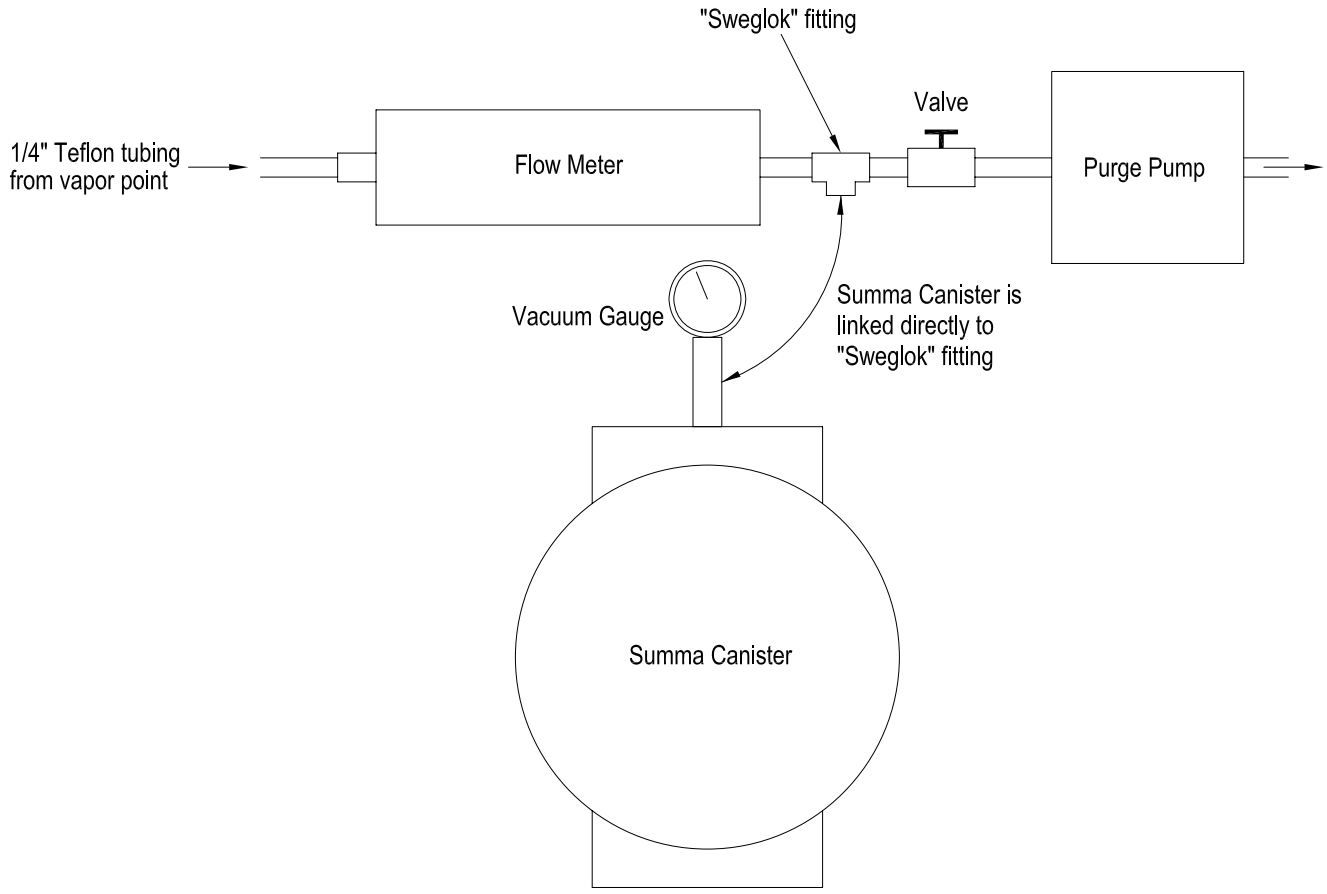

Schematic Not to Scale

FIGURE

B

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Soil Vapor Sampling Apparatus Diagram

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