URS

Alameda County

Environmental Health

REPORT
2002 SECOND QUARTER
GROUNDWATER MONITORING
FORMER SEARS RETAIL CENTER #1039
1901-1911 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA
CASE I.D. # STID 1630
FOR SEARS, ROEBUCK & CO.

URS Job No. 29863493 September 30, 2002



October 9, 2002

Mr. Amir Gholami Hazardous Materials Specialist Alameda County Environmental Health Services 1131 Harbor Bay Parkway, Number 250 Alameda, California 94502

RE:

2002 Second Quarter Groundwater Monitoring

Former Sears Retail Center #1039 1901- 1911 Telegraph Avenue

Oakland, California Case I.D. #STID 1630 For Sears, Roebuck & Co.

Dear Mr. Gholami

Submitted with this letter is a URS report prepared on behalf of Sears, Roebuck & Co. Presented in the report are results of groundwater monitoring conducted at the above-referenced site during the Second Quarter 2002. Quarterly groundwater monitoring will continue within the current scope of work during the third quarter of 2002. Please feel free to contact Taras Kruk or me at 714.835.6886 if you have questions or comments.

Alameda County

Environmental Health

Respectfully Submitted,

URS CORPORATION

J.S. Rowlands, R.G., C.HG.

Project Manager

cc:

Mr. Scott DeMuth, Sears Roebuck and Co.

Mr. Ryan Hartley, URS Corporation

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FOR SEARS, ROEBUCK & CO.

1.0 INTRODUCTION

This report has been prepared by URS Corporation on behalf of Sears, Roebuck & Co. (Sears). It presents results of the 2002 Second Quarter Groundwater Monitoring conducted at the above-referenced Site (Figure 1). The Sears Auto Center (Site) is located at 1901-1911 Telegraph Avenue in Oakland, California. The groundwater monitoring event consisted of "post purge" groundwater sample collection from seven of nine monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, and MW-9). The purpose of the groundwater monitoring was to assess current groundwater conditions in the vicinity of a former gasoline concession area (Figure 2). The work is being performed under regulatory oversight of the Alameda County Environmental Health Service (ACEHS).

2.0 SITE DESCRIPTION

The Site is located at 1901-1911 Telegraph Avenue, Oakland California (Figure 1). The Site is bordered on the north by Williams Street, Telegraph Avenue to the east, 19th Street to the south, and San Pablo Avenue to the west (Figure 2). The property is occupied by a Sears Auto Center, a former Chevron Service Station, and a three-story above-grade parking garage.

2.1 REGIONAL GEOLOGY AND HYDROGEOLOGY

The Site is approximately 1.5 miles east of the San Francisco Bay and three miles west of the Diablo Range in Oakland, California. The area is located on the eastern flank of The San Francisco Basin, a broad Franciscan depression. Basement rock of the basin is respectively overlain by the Santa Clara Formation, the Alameda Formation, and the Temescal Formation. These formations consist of unconsolidated sediments varying in total thickness from approximately 300 to 1,000 feet. The Pleistocene Santa Clara Formation consists primarily of alluvial fan deposits that are interspersed with lake, swamp, river channel, and flood plain deposits. The overlying Alameda Formation was

deposited in an estuary environment and consists of organic clays and alluvial fan deposits of sands, gravels and silts. The uppermost Holocene Temescal Formation is an alluvial deposit ranging in thickness from 1 to 50 feet and consists primarily of silts and clays with a basal gravel unit. (CRWQCB, San Francisco Bay Region, June 1999).

The Site is located within the Oakland sub-area of the East Bay Plain groundwater basin. The East Bay Plain groundwater basin encompasses approximately 115 square miles and is bounded by San Pablo Bay to the north, Alameda County to the south, the Hayward Fault to the east, and San Francisco Bay to the west. Groundwater flow direction in the basin typically follows surface topography. Historical high production wells in the Oakland sub-area were screened at depths greater than 200 feet below ground surface (bgs) beneath the Yerba Buena Mud Member of the Alameda Formation. The Yerba Buena Mud is a black organic clay with an average thickness of 25 to 50 feet that forms an aquitard between upper and lower groundwater bearing units. From the 1860's until water importation programs were initiated in the 1930's, groundwater in the East Bay Plain was utilized as the primary municipal water source. Current beneficial uses of groundwater in the basin are minimal (CRWQCB, San Francisco Bay Region, June 1999).

3.0 BACKGROUND

The Site consists of a Sears Auto Center, a multiple level parking structure, and a former Chevron Service Station. The Sears Auto Center is currently in operation; it is a converted former Goodyear Tire Center. The former Chevron Service Station contained three gasoline USTs and used oil UST. The USTs were removed in January 1988, prior to Sears' ownership of the site.

A total of 9 groundwater monitoring wells (MW-1 to MW-9) have been installed, before and after the property's purchase by Sears, to evaluate the extent of gasoline impacted groundwater emanating from the former Chevron Station's UST area. The prior owners, Broadway/Federated Department Stores, began initial investigation work and groundwater monitoring. Subsequent to the property's purchase by Sears during a bankruptcy proceeding, Sears has continued quarterly groundwater monitoring (since June 1996), and has installed additional wells to define the down-gradient extent of the gasoline groundwater plume.

Groundwater has been monitored since January 1988. Well MW-1 has been monitored on a periodic basis since January 1988 while wells MW-2, MW-3 and MW-4 have been monitored on a periodic bases since June 1993. Wells MW-5, MW-6 and MW-7 have been monitored on a periodic basis since June 1994. Historical monitoring data shows that dissolved phase total petroleum hydrocarbons as gasoline-range organics (TPHg) and dissolved phase benzene has been detected in 5 of 9 wells. Dissolved phase benzene was detected in 3 of the 9 wells sampled during 2002 second

quarter. Available historical groundwater data (since October 1995); including depth to water, groundwater elevation, and hydrocarbon and Volatile Organic Compounds (VOC's) concentrations; are summarized in Appendix A.

4.0 HEALTH AND SAFETY PLAN

Prior to initiating the field activities, URS prepared a site-specific Health & Safety plan to:

- Identify and describe potentially hazardous substances which may be encountered during field operations;
- Specify protective equipment and clothing for on-site activities;
- Outline measures to be implemented in the event of an emergency.

URS field personnel reviewed the Health & Safety plan prior to commencing the field procedures. Field monitoring activities were recorded in the Health and Safety Plan and were maintained in the project files at URS's Santa Ana office. A copy of the Health and Safety Plan remained onsite during field operations.

5.0 QUARTERLY GROUNDWATER MONITORING

The 2002 Second Quarter Groundwater Monitoring was performed on June 5, 2002. The monitoring consisted of groundwater gauging of all nine wells, and purging and sampling the following seven wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-7, and MW-9. A description of the monitoring procedures is presented in the following section.

5.1 GROUNDWATER GAUGING

Prior to guaging, the groundwater monitoring wells were checked for the presence of separate phase product using a product interface probe. Separate phase product was not observed in any well. Water levels in each well were measured using a Solinst™ water level indicator relative to a defined measuring point on the surveyed top of casing. Water level data was recorded to the nearest 0.01 foot. Groundwater depths and elevations for the 2002 second quarter are listed in Table 1 and Appendix A.

5.2 PURGING AND SAMPLING METHODS

Prior to sample collection, wells were purged of approximately three well casing volumes using a Grundfos™ RediFlo 2 submersible well pump. Water purged from each well was monitored for various field parameters including temperature, pH, turbidity, electrical conductivity, dissolved oxygen (DO), and oxygen reduction potential (ORP) using a YSI™ multi-parameter meter equipped with a flow through cell. Purging continued until temperature, pH and conductivity had stabilized. The measured field parameters are listed in Table 1.

Groundwater samples were collected from seven selected monitoring wells for laboratory analysis during the 2002 Second Quarter Groundwater Monitoring event. Groundwater samples were collected from the discharge tubing of the well pump following well purging. The Grundfos RediFlo 2TM submersible well pump was cleaned prior to use (and between wells) by washing in a solution of Alconox, rinsing with tap water, final rinsing with deionized water, and air drying. Pre-cleaned, disposable, polyethylene discharge tubing was attached to the pump following each decontamination and was changed between each well purging event. A blind duplicate was collected from well MW-5 and labeled Dup-1. One equipment blank labeled EB1 was collected by pouring deionized water over the pump housing into sample containers following decontamination procedures.

Sample containers and handling procedures for groundwater samples conformed to the established protocols for each specific parameter as described in EPA SW-846. The sample bottles, once filled and preserved as required, were properly labeled and logged on a chain of custody form. The label included well identification number, sample number, date and time sampled, job number, site/client name and location, and sampling personnel's initials. The sealed and labeled samples were placed in ice chests maintained at a temperature of 4 to 7 degrees centigrade and transported to a California Department of Health Services (CDHS) accredited laboratory for analysis. Chain-of-custody records were maintained throughout the sampling program.

5.3 LABORATORY ANALYSIS PROGRAM

All groundwater samples and duplicates were analyzed for total petroleum hydrocarbons as gasoline range organics (TPHg), diesel fuel range organics (TPHd), and oil range organics (TPHo) by modified EPA Method 8015M; and for benzene, toluene, ethylbenzene, xylenes (BTEX), and fuel oxygenates Methyl tert-Butyl Ether (MTBE), Di-isopropyl Ether (DIPE), Ethyl tert-butyl Ether (ETBE), tert-Amyl Methyl Ether (TAME), tert-Butanol (TBA), and other VOC's by EPA Method 8260B. Analyses results for the groundwater samples are summarized in Table 1. Copies of the laboratory reports are included in Appendix B.

5.4 WELL HEAD MAINTANANCE

As part of the quarterly monitoring program each well head is inspected to ensure that wells are properly sealed and secured. The routine well maintenance associated with the quarterly groundwater sampling consists of: inspection of water-tight well caps and locks on all monitoring wells and replacement as necessary; replacement of missing or damaged bolts on well box covers; and removal and replacement of damaged well boxes and associated concrete aprons. During this quarter, but prior to sampling, five well heads (MW-5, MW-6, MW-7, MW-8, and MW-9) were repaired.

5.5 SITE SURVEY

In May 2002, the well field was re-surveyed by Mariscal and Associates, Inc., licensed land surveyors. Based on the new survey data, the historic casing and groundwater elevations for monitoring wells at the site were not recorded in respect to MSL datum. The elevation difference between the historic top of well casing data and the current survey data is approximately 70 feet (Appendix A).

5.6 WASTE MANAGEMENT

Well purge water was collected and stored in three 55-gallon DOT-approved drums. Containers were numbered to identify the source of the wastes. The containers were stored onsite and properly disposed of by Sears, Roebuck & Co. following review of the chemical analysis data.

6.0 FINDINGS

6.1 SHALLOW GROUNDWATER CONDITIONS

The measured depth to water ranged from 12.68 feet to 16.81 feet bgs or approximately 3.49 feet to 6.27 feet above MSL during the 2002 second quarter. Groundwater elevation has decreased an average of 0.1 since the 2002 first quarter monitoring event. Groundwater depths and elevations are listed in Table 1 and Appendix A. An interpretive groundwater elevation contour map, based on the 2002 second quarter water level measurements, is provided on Figure 3.

Groundwater elevation contours for the site were generated by Kriging (a geostatistical gridding method) using SURFER™, a graphical, contouring software program. The resultant groundwater contours indicate an easterly groundwater flow direction with a gradient of about 0.012 (Figure 3).

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6.2 LABORATORY ANALYTICAL RESULTS

TPHg was detected in groundwater samples collected from wells MW-2, MW-5, and MW-7 with concentrations ranging from 50 micrograms per liter (μg/L), to 12,100 μg/L. TPHd and TPHo was not detected in any wells sampled this quarter. Benzene was detected in groundwater samples collected from wells MW-4, MW-5, and MW-7 with concentrations ranging from 2.0 μg/L to 8,700 μg/L. MTBE was detected in the groundwater sample collected from MW-9 at a concentration of 2.3 μg/L. TBA was detected in the groundwater sample collected from MW-2 at a concentration of 16.7 μg/L. Various chlorinated VOC's including tetrachloroethene (PCE), trichloroethene (TCE), 1,2-dichloroethane (1,2-DCA), cis-1,2-dichloroethene (cis-1,2-DCE), were detected in the groundwater samples collected from wells MW-1, MW-2, MW-3, and MW-9. Detected concentrations of chlorinated VOC's ranged from 4.5 μg/L to 33.2 μg/L.

Chemical analysis results of the 2002 Second Quarter Groundwater Monitoring are presented in Table 2. A copy of the laboratory reports and chain-of-custody records are included in Appendix B. Groundwater isoconcentration maps for TPHg and Benzene for the 2002 second quarter are shown on Figures 4 and 5, respectively. URS conducted a check of data completeness for the analytical laboratory reports. Results indicate that "these data are usable, as qualified, for their intended purpose". A copy of URS's Data Validation Memos are included in Appendix C.

7.0 DISCUSSION

The 2002 second quarter groundwater monitoring event represents the 26th groundwater sampling event conducted at the Site. Groundwater elevations have decreased approximately 0.1 feet since the last sampling event conducted in March 2002. Groundwater flow direction is towards the east with a gradient of 0.012. TPHg and benzene was detected in three of the six wells sampled with concentrations up to 12,100 µg/L and 8,700 µg/L, respectively. Detectable concentrations of MTBE and TBA were present in two groundwater samples collected this quarter. TPHg and benzene concentrations in well MW-7 have steadily increased during the last several years suggesting that the affected groundwater plume is migrating to the east. The suspected source is the former gasoline USTs and fuel dispensing area of the former Chevron station on the Site.

Chlorinated VOC's have been detected in both the upgradient well MW-1 and the downgradient well MW-9 during this, and previous, groundwater sampling events. Potential onsite sources of the chlorinated compounds have not been identified; however, a widespread groundwater plume containing chlorinated compounds has been identified in the site vicinity by Harding ESE and is

referenced in the Fourth Quarter 2001 Groundwater Monitoring Report for the site (IT Corp., May 2002).

Based on the data collected during this and previous monitoring events, the lateral limits of TPHg and BTEX affected groundwater can be described by an oval shaped plume with a diameter of approximately 200 feet. URS recommends that two additional groundwater monitoring wells be installed east of the former Chevron service station to provide additional plume definition immediately down-gradient of the suspected source area. The proposed monitoring well locations are shown on Figure 2.

8.0 SCHEDULE

Future activities at the Site will include continued quarterly groundwater monitoring and installation of two additional monitoring wells. The 2002 third quarter groundwater monitoring event will be conducted during September 2002 and will include sampling of eight groundwater monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-5, MW-7, MW-8 and MW-9). A work plan for the installation of two additional groundwater monitoring wells at the site will be included in 2002 Third Quarter Groundwater Monitoring Report.

ACEHD will be notified of upcoming field activities.

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Should you have any questions or comments, please do not hesitate to contact us.

Respectfully Submitted,

URS CORPORATION

Joseph R. Liles

Senior Staff Geologist

J.S Rowlands, R.G., C.HG.

Senior Project Geologist

9.0 REFERENCES

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- The IT Group, 2000. Soil and Groundwater Assessment Report, Sears Auto Center #1039, 1901-1911 Telegraph Avenue, Oakland, California, February 9.
- The IT Group, 2001. First Quarter 2001 Groundwater Monitoring, Sears Auto Center #1039, 1901-1911 Telegraph Avenue, Oakland, California, July 8.
- The IT Group, 2001. Second Quarter 2001 Groundwater Monitoring, Sears Auto Center #1039, 1901-1911 Telegraph Avenue, Oakland, California, January 8.
- The IT Group, 2002. Fourth Quarter 2001 Groundwater Monitoring, Sears Auto Center #1039, 1901-1911 Telegraph Avenue, Oakland, California, May 29.
- URS Corporation, 2002. 2002 First Quarter Groundwater Monitoring, Former Sears Retail Center #1039, 1901- 1911 Telegraph Avenue, Oakland, California, August 5.

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Table 2
2002 2nd Quarter Groundwater Analytical Results
Sears Retail Center Store No. 1039
Oakland, California

																	LA	BORATO	RY A	NALYTIC	CAL RI	ESULTS									
Monitoring			: 	801	15M						,		·						Vol	tile Organ	ics by	GC/MS	8260B								
Well	Sample		TPHg	TP	Ήd		TPHo		В	T		E		X		MTBE	1	ETBE	L	IPE	TAI	ME	TB	A	P	CE	TCE		1,2-DCA	cis-1,2-DCE	1,1-DCE
No.	Date	Notes	(μ g/L)	(με	g/L)		(μ g/L)	1	μg/L)	(μ g/L)	(p	ıg/L)		ug/L)		(μ g/L)	<u> </u>	(μg/L)		(μ g/L)	(μ	g/L)	(1	ig/L)	(μ g /	L)	(μ g/L)		(μ g/L)	(μg/L)	(µg/L)
MW-1	6/5/2002		< 50	<	500	<	2000	<	1.0	< 1.0	<	1.0	<	2.0	<	2.0	<	2.0	<	2.0	<	2.0	<	2.0	2	7.1	< 2.5	<	5.0	< 5.0	< 5.0
MW-2	6/5/2002		406	<	500	<	2000	<_	1.0	< 1.0	<	1.0	<_	2.0	<	2.0	<	2.0	<	2.0	<	2.0		16.7	< 2	2.5	4.6		8.5	< 5.0	< 5.0
MW-3	6/5/2002		< 50	<	500	<_	2000	<_	1.0	< 1.0	<	1.0	<_	2.0	<	2.0	<	2.0	<	2.0	<	2.0	<	2.0	2	0.9	4.5	<	5.0	< 5.0	< 5.0
MW-4	6/5/2002		< 50	<	500	<_	2000		2.1	< 1.0	<	1.0	<	2.0	<	2.0	<	2.0	<	2.0	<	2.0	<	2.0	< 2	2.5	< 2.5	<	5.0	< 5.0	< 5.0
MW-5	6/5/2002		50	<	500	<_	2000		2.0	< 1.0	<	1.0	<	2.0	<	2.6	<	2.0	<	2.0	<	2.0	<	2.0	< 2	.5	< 2.5	<	5.0	< 5.0	< 5.0
MW-5	6/5/2002	1	59	<	500	<_	2000		2.5	< 1.0	<	1.0	<	2.0	<	2.0	<	2.0	<	2.0	<	2.0	<	2.0	< 2	2.5	< 2.5	<	5.0	< 5.0	< 5.0
MW-6	6/5/2002	4	NA		NA_		NA		NA	NA		NA		NA		NA		NA		NA		NA		NA	N	IA.	NA		NA	NA	NA
MW-7	6/5/2002		12,100	<	500	<	2000		8,700	25		173		510	<	2.0	<	2.0	<	2.0	<	2.0	<	2.0	< 2	2.5	< 2.5	<	5.0	< 5.0	< 5.0
MW-8	6/5/2002	4	NA		NA		NA		NA	NA		NA		NA		NA		NA		NA		NA		NA	N	IA	NA	\top	NA	NA	NA
MW-9	6/5/2002		< 50	<	500	<	2000	<	1.0	< 1.0	<	1.0	<	2.0		2.3	<	2.0	<	2.0	<	2.0	<	2.0	3.	3.2	12.0	<	5.0	< 5.0	< 5.0

Notes:

1: Duplicate sample

2: Petroleum odor in groundwater

3: Well casing is damaged

4: Well not Sampled

J - Bunker-C detections were quatitated against the diesel standard and flagged as estimated concentration

< - Analyte not detected above indicated method detection limi

NA: Not analyzed/Not available

BTEX = Volatile aromatic constituents Benzene, Toluene, Ethylbenzene, and Xylenes by EPA Method 8020/8021B or 8260B

TPHg = Total Petroleum Hydrocarbons as gasoline range hydrocarbons by EPA Method 8015 (modified TPHd = Total Petroleum Hydrocarbonsas diesel range hydrocarbons by EPA Method 8015 (modified)

TRPo = Total Petroleum Hydrocarbons as oil range by EPA Method 8015 (modified

MTBE - Methyl tertiary-butyl ether

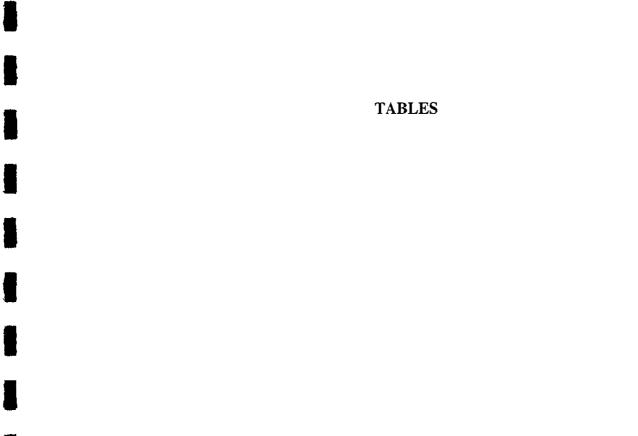
DIPE - Di-isopropyl Ether

TAME - Tertiary Amyl Methyl Ether
TBA - Tertiary Butyl Alcohol
ETBE - Ethyl Tertiary Butyl Ether

PCE - Tetrachloroethane TCE - Trichloroethene

1,2-DCA - 1,2-Dichloroethane cis-1,2-DCE - CIS-1,2-Dichloroethene

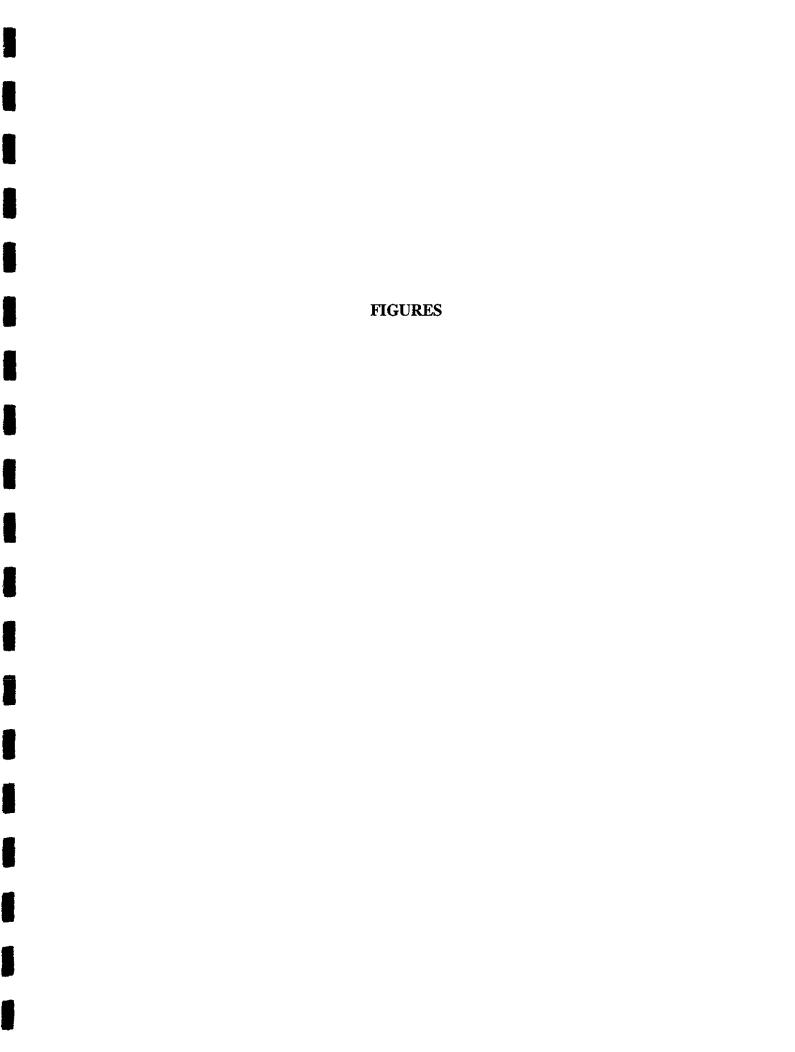
1,1-DCE - 1,1 Dichloroethene

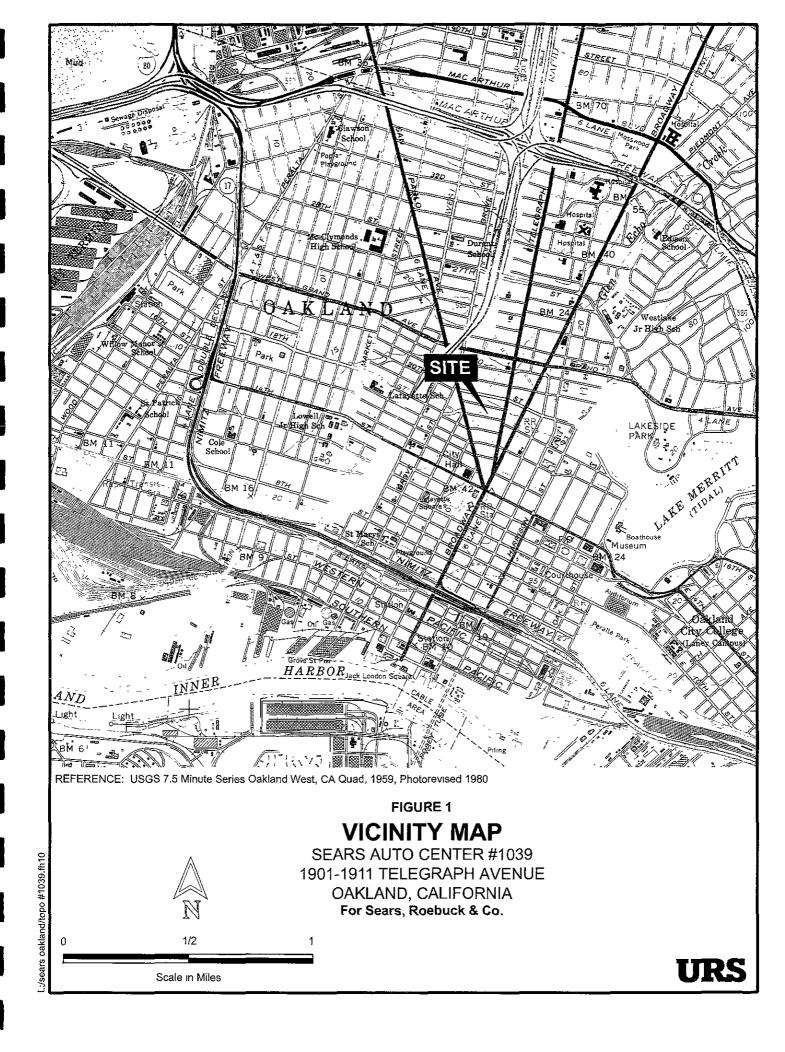


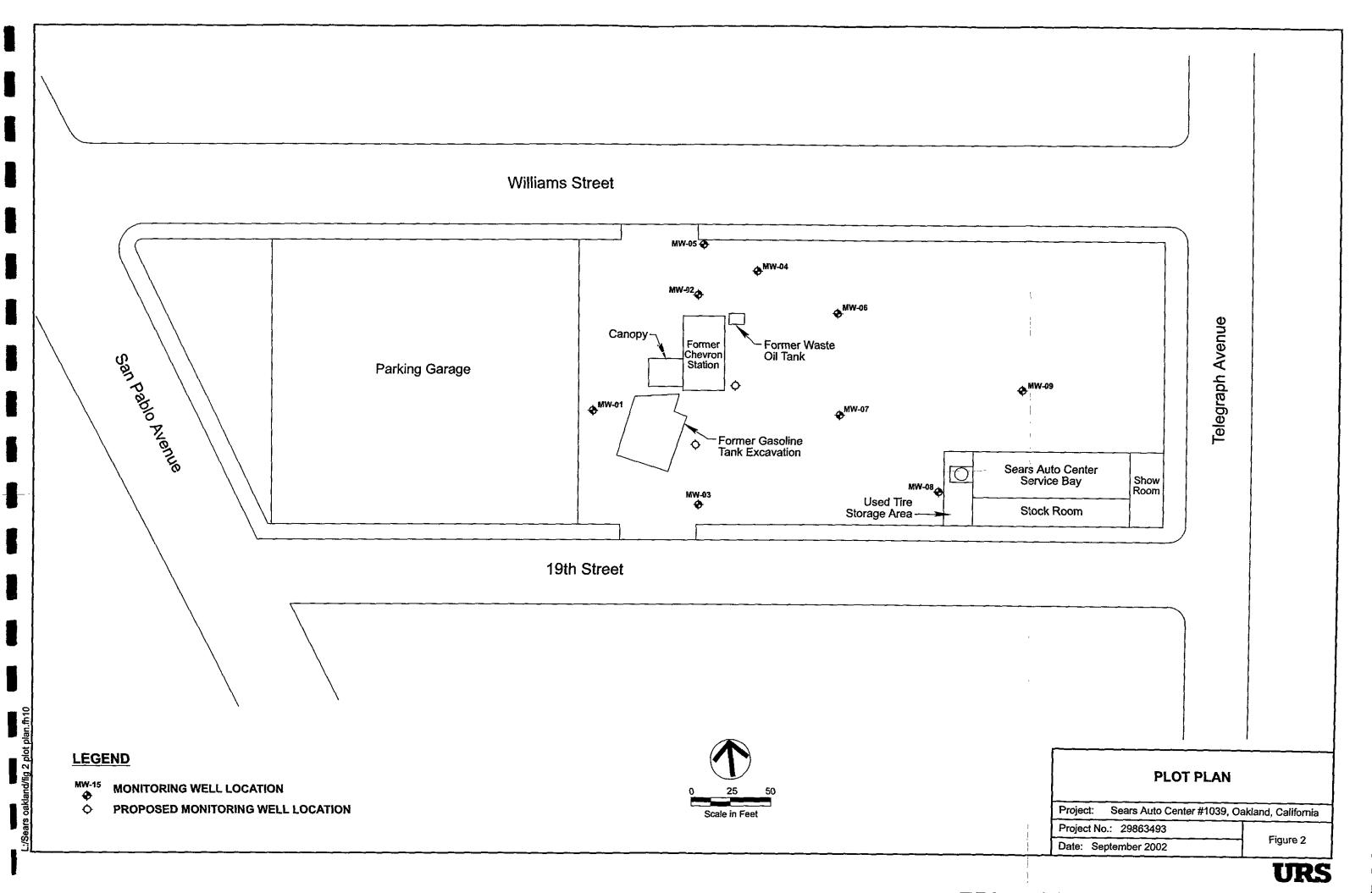
G:\128\Sears_128\Oakland 1039\QM1 2002\GW data xls\Table 1

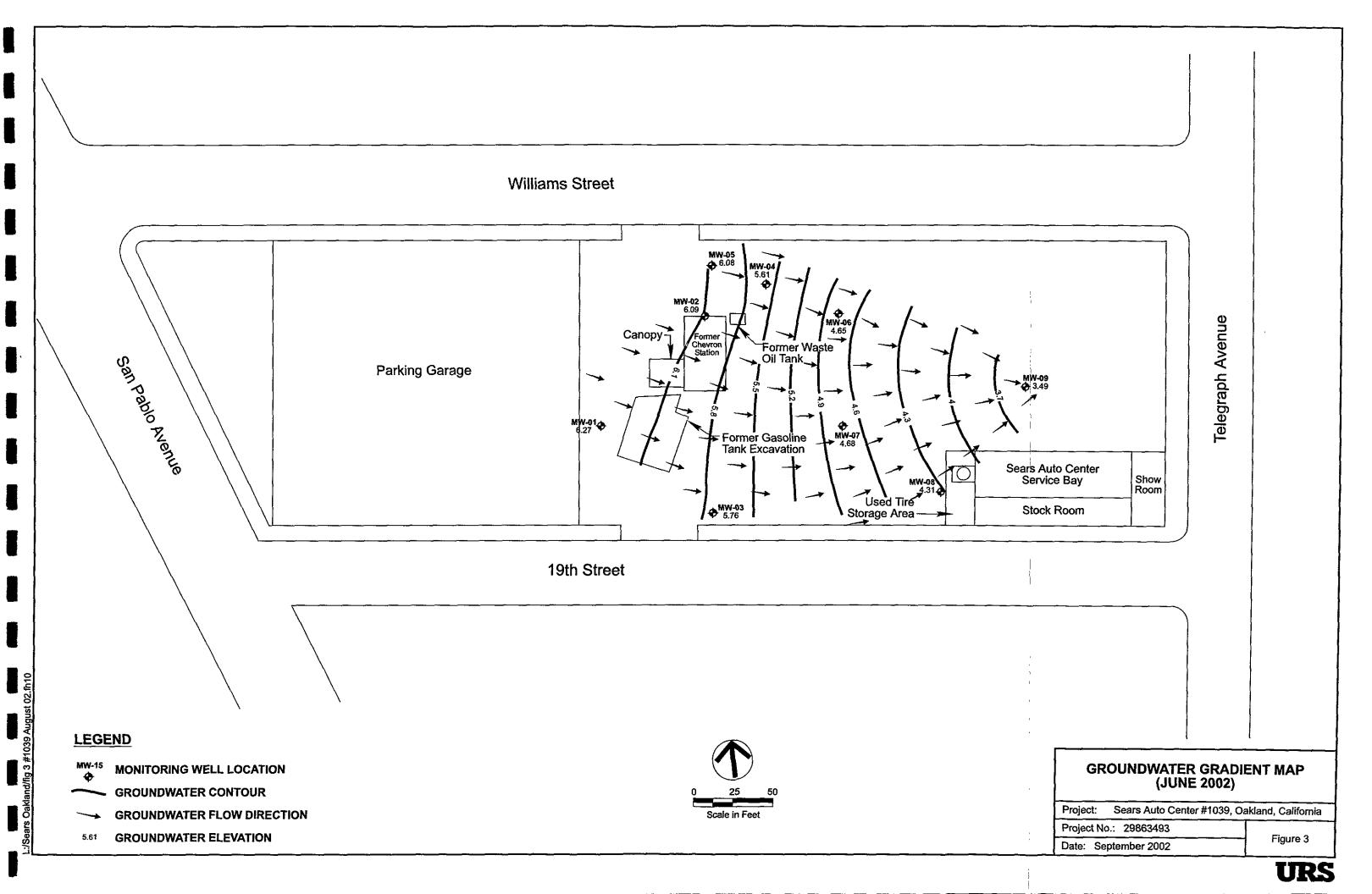
Table 1
2002 2nd Quarter Groundwater Levels and Parameters
Sears Retail Center Store No. 1039
Oakland, California

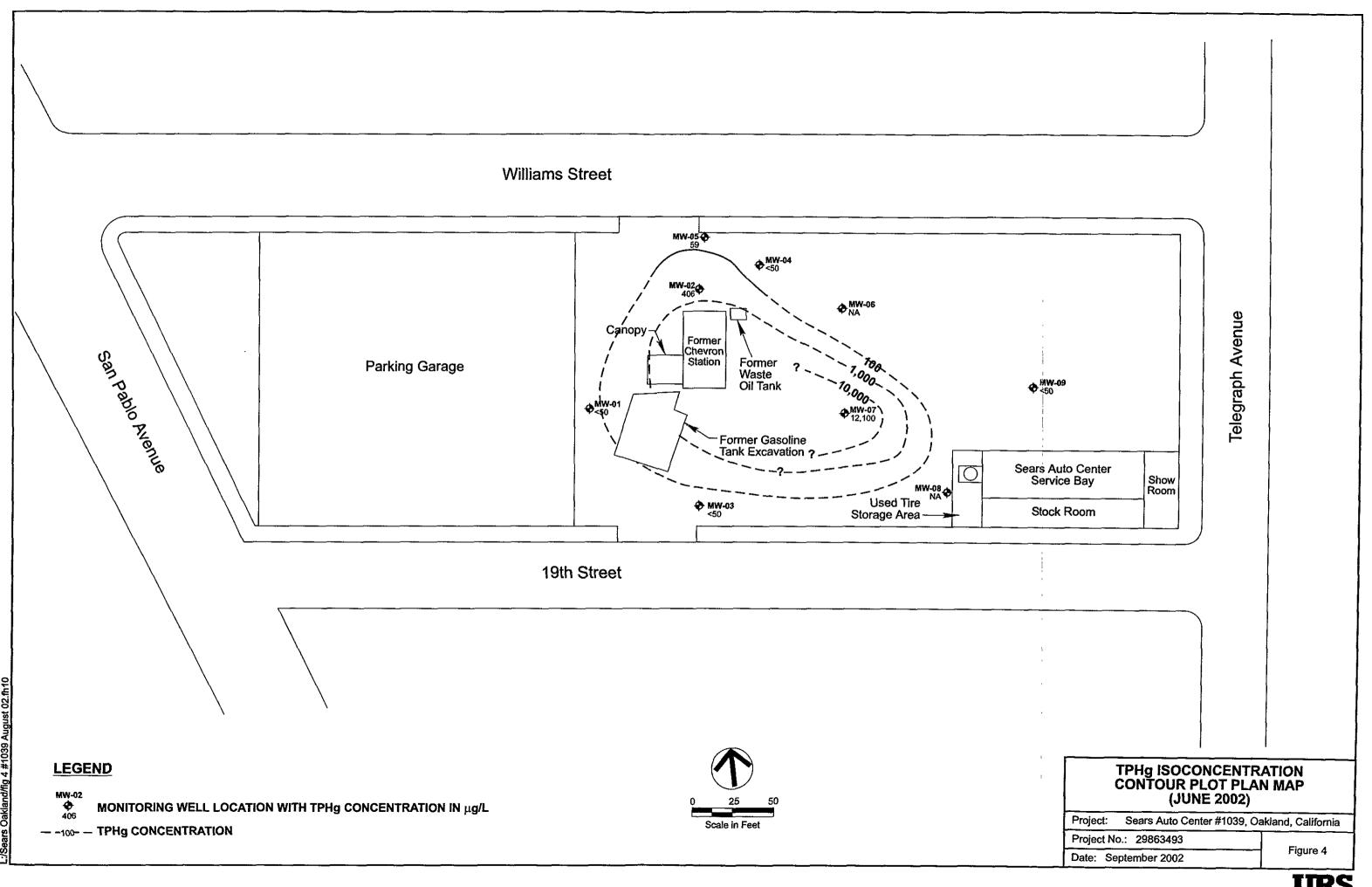
					GROUNDWATER LEVELS	ATER LEV	VELS	GROUNDWATER SAMPLING FIELD PARAMETERS	TER SAM	PLING FIELE	PARAM	ETERS	
Monitoring				Product	Depth to	Casing	Groundwater						Dissolved
Well	Date		Sample	Thickness	Groundwater	Elevation	Elevation	Temp.	Hd	Cond	O.R.P.	Turbidity	Oxygen
ÖZ	Collected	Notes	Date	(j	(feet bgs)	(MSI)	(MSL)	(Celsius)		(hS/cm)	(mV)	(NTU)	(mg/L)
MW-1	6/5/2002	;	6/5/2002	NA	14.72	20.99	6.27	20.77	6.05	676.00	45.8	16.3	0.55
MW-2	6/5/2002	;	6/5/2002	NA	14.41	20 50	6.09	21.25	5:35	1115.00	.76.8	7.8	0.75
MW-3	6/5/2002	:	6/5/2002	AN	16.53	22.29	5.76	21.20	6.05	453.00	-65.3	0.0	01.0
MW-4	6/5/2002	1	6/5/2002	NA	13.00	1861	5.61	21.64	6.42	1236.00	-185.6	0.0	0.01
MW-5	6/5/2002	;	6/5/2002	AN	12.68	18.76	6.08	21.26	6.47	1259.00	-171.4	141.9	6.12
MW-6	6/5/2002	4	6/5/2002	NA	14.26	18:91	4.65	NA	NA	NA	NA	NA	NA
MW-7	6/5/2002	;	6/5/2002	AN	15.71	20.39	4.68	21.61	4.76	868.00	-54.1	0.0	0.01
MW-8	6/5/2002	4	6/5/2002	ΝΑ	16.81	21.12	4.31	N.A.	Ϋ́	NA	NA	NA	NA
WM-9	6/5/2002	;	6/5/2002	NA	15.71	19.20	3.49	21.75	6.14	908.00	23.1	26.2	01.0
Notes	MSL - Mean Sea Level BGS - Below ground surface Groundwater Elevation reference to Groundwater Elevation = Top of cat 1 Sheen observed on water surface, 2 Pettoleum odor in groundwater 3 Well cassing damaged 4 Well not sampled SP - Separate phase product in well NA - Not analyzed/Not available	Sea Level ground su Elevation Elevation Elevation Elevation Sydemaged admaged mpled phase pro	MSI Mean Sea Levei BGS - Below ground surface Groundwater Elevation reference to MSI Groundwater Elevation = Top of casing of T Sheen observed on water surface. Petroleum odor in groundwater Petroleum odor in groundwater Well casing damaged Well not sampled SP - Separate phase product in well NA - Not analyzed/Not available	MSI Mean Sea Level BGS - Below ground surface Groundwater Elevation reference to MSL Groundwater Elevation = Top of casing elevation - Depth to Water I Sheen observed on water surface. 2 Petroleum odor in groundwater 3 Well casing damaged 4 Well not sampled SP - Separate phase product in well NA - Not analyzed/Not available	Depth to Water			μS/cm - microSiemens per centimeter mV - millivolt mg/l, - milligrams per liter NTU - nephelometric turbidity units	nens per cer per liter efric turbidi	ntimeter ity units			

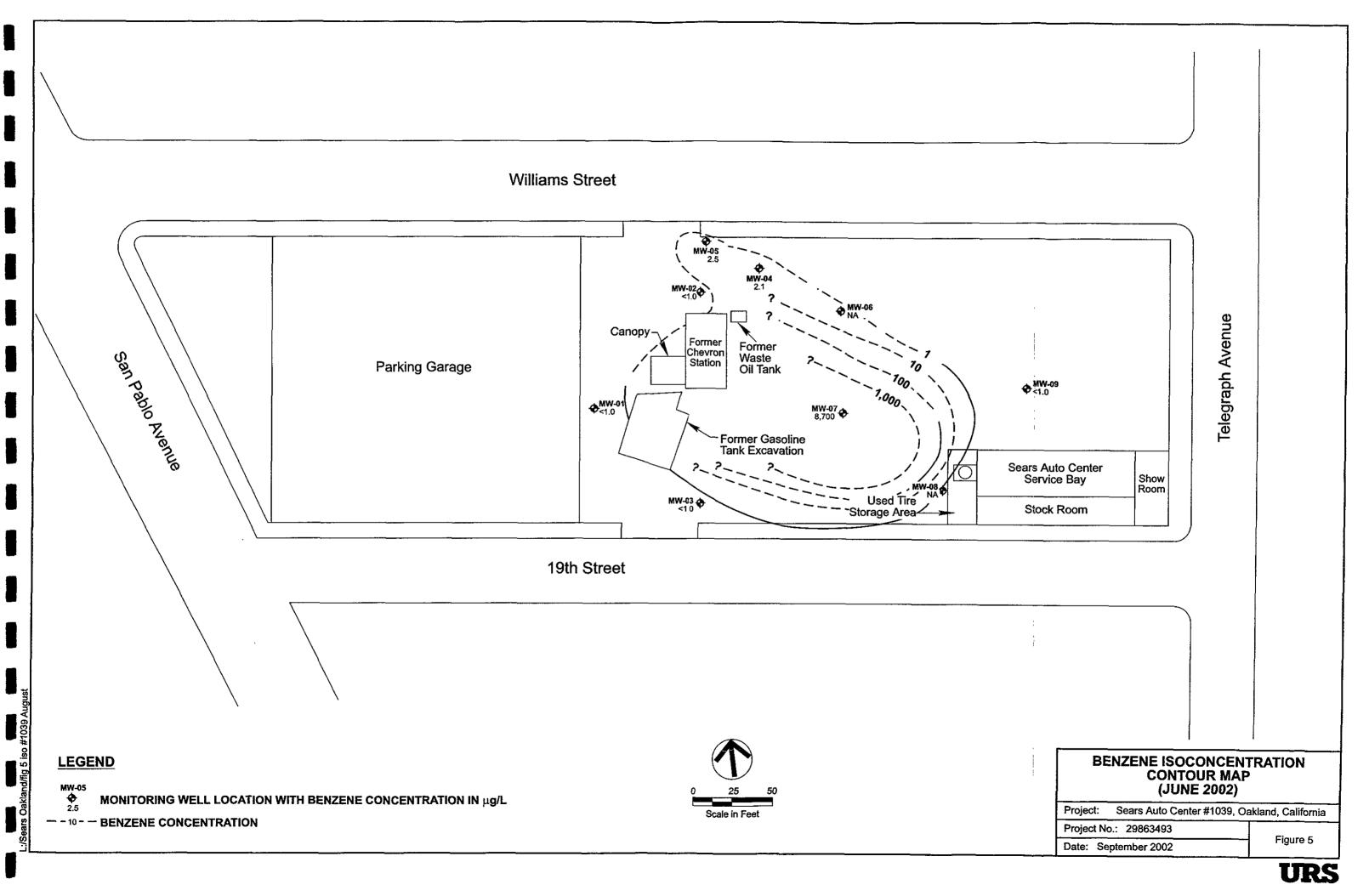












APPENDIX A HISTORICAL GROUNDWATER MONITORING RESULTS

Appendix A Historical Groundwater Monitoring Results Sears Auto Center # 1039 Oakland California (Page 1 of 4)

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f		}		1			GROUNDWA1		T				LABORA	TORY ANALY	TICAL RESULT		···		T	1		T					
VI 40		1a S			C	Depth to	Stand Prod	Casing	Groundwater			†mr.l			_	_			-		TAME	₹BA	B2F			1	
Well No.	Samp	1 -	1	Sample	Sample	Groundwater	Thickness	Elevation	Elevation	Anal.	TPHg	ТРНО	TPHo	В	Т	E	X	MTBE	ETBE	DIPE	TAME	1DA	PCE	TCE	12-DCA	de1,2 DCE	1,t-DCE
17W-1	No.		Note		Period	(ft bgs)	(N)	(n MSL)	(n MSL)	Units			 	 	 			 				 					
MW.I	MIL	7	 	<u> </u>	Oct-95			9134		ug/L	< 50			av.	ND		- r		" -			 	9.9	ND	ND		
MW-1	Mu		 	1/1/1996	Jan-96		0.00	94.34	77.17	μη/1.	< 50			ND.	ND 1.4				 			 	9.9	- 14	ND		 -
MW-1	MW-1		 	9/5/1996	Jun-96 Sep-96	16.89	0,00	94.34	78.13 77.45	μ ε/ ί.	< 50			< 0.5	< 0.5				 			 	12	2.0x	< 0.5		
NW-1	NW.		+	12/3/1996	Dec-96	17.07	0.00	94.34	77.27	με/ι.	< 50			< 0.5	< 0.5	- - 0.3		< 50	-				< 0.5	<0.5	< 0.5	< 0.5	< 0.5
MW-1	10V	1	+	2/27/1997	Feb-97	15 55	0 00	9434	78.79	μ ε/ L	< 50			< 0.5	< 0.5	< 0.2		< 50				1	31	13	< 0.5	< 0.5	< 0.5
MV-1	MW		 	6/10/1997	Jun-97	16.46	0.00	94.34	77 88	<u>με/L</u>	< 50			< 0.5	< 0.5	- 0.		< 50					19	<0.5	< 0.5	< 0.5	< 9.5
MW 1	MW		 	8/27/1997	Aug-97	16.97	9,00	94.34	77,37		< 50			< 0.5	s 0.5	- 0		5 50					16	<0.5	< 0.5	< 0.5	e 05
MW-1	MW-I		5	11/26/1997	No1-97	17 24	0.00	94.34	77 10	μg/L	< 50			< 0.5	< 0.5	< 0.5	< 2	5.0	T				17	40.5	< 0.5	< 0.5	< 0.5
₹ ₹₹	MW-1		5	2/11/1998	Feb-98	16 07	0.00	94.34	78,27	ue/L	< 50			< 0.5	< 0.5	< 0.5	< 1	< 50	1				20	<0.5	< 0.5	< 0.5	< 0.5
MW-1	MW I	I AO	5	5/19/1998	May-98	15.43	0.00	94,34	78 <u>9</u> 1	ue/L	< 50			< 0.5	< 0.5	< 0.5	< 4	< 5.0	-				14	<0.5	< 0.5	< 0.5	< 0.5
MW 1	MOV-1	AO	5	8/10/1998	Aug-98	15 98	0.00	94.34	78,36	μ ε/ ί.	< 50		Ī	< 0.5	< 0,5	< 0.5	< 5	< 2.5					14	<0.5	< 0.5	< 0.5	< 0.5
MW-1	MW-1	AO	5	11/9/1998	Nos-98	16 63	0.00	94.34	77,71	μg/L	< 50			< 0.5	< 0.5	< 0.5	< 0.5	3.1					16	<0.5	< 0.5	< 0.5	< 0.5
MW-1	MW-1		5	2/8/1999	Feb-99	-		94.34		ug/L	< 50			< 0.5	< 0.5	< 0.4		< 2.5					< 0.5	20	< 0.5	< 0.5	< 0.5
MW-I	MW.I	AQ	5	2/11/1999	Feb-89	16 55	0.00	94.34	77 19	μg/Ι.																	
MW-1	MW.1	AQ	5	5/10/1999	May-99	15.50	0.00	94.34	78.84	μ <u>ε</u> /Ι.	< 50			< 0,5	< 0.5	< 0.1	< 8.5	< 2.5					14	<0.5	< 0.5	< 0.5	< 0.5
MW-1	MW.I	AQ	5	8/9/1999	Aug-99	15 82	0.00	94.34	78.52	µ ջ∕ L	< 50			< 0.5	< 0.5	< 0.5	< 0.5	< 2,5					14	<0.5	< 0.5	< 0.5	< 0.5
MW-1	MW-1	AQ	5	11/5/1999	Nov-99	16 29	0.00	94.34	78 05	μ ε/ Ն	< 50		-	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5					20	<0.5	< 0.5	< 0.5	< 0.5
MW-1	MW.1	AQ	5	2/1/2000	Feb-00	16.02	0.00	94.34	78.32	µg∕ī.	< 50	**	<u> </u>	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5					24	<0.5	< 0,5	< 0.5	< 0.5
MW-1	MW.1	AQ	5_	5/2/2000	May-00	14 48	0,00	94.34	79 86	μ g/1 .	< 50			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5					23	<0.5	< 0.5	< 0.5	< 0.5
MW-1	MW-1	AQ		8/1/2000	Aug-00	15.20	0 00	94.34	79.14	μg/t,	< 50			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	<u> </u>		<u> </u>		21	0.5	< 0.5	< 0.5	< 0.5
MW-1	MW-1	AQ	5	11/6/2000	Nov-00	15,63	0.00	94.34	78.71	με/1.	< 50	., <u></u>	<u> </u>	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		-			31	< 0.5	< 0.5	< 0.5	< 0.5
MW-1	MW 1	AQ	5	2/16/2001	Feb-01	15 45	0.00	94.34	78.89	λ ο λ.	< 50			< 9.5	< 0.5	< 0.5	< 0.5	< 0.5					32	0.7	< 0.5	< 0.5	< 0.5
MW-I	MW-I	AQ	5	4/27/2001	Apr-01	14.86	0,00	94.34	79.48	μ g /L	< 50			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		-			33	< 0.5	< 0,5	< 0.5	< 0.5
MW-1	MW-1	 -	5	7/24/2001	Jol-01		0.00	94.34		μg/L		<u> </u>		ļ 		<u> </u>		-	 								
M\V-1	MW-I	 	2_	3/28/2002	Mar-02	14.52	0,00	94.34	79 82	μ ε/1 .	< .50	77	< 500	< 0.5	< 0.5	< 0.5	< 0.5	< 5.0	- -			l	33	< 0.5	< 0,5	< 0.5	< 0.5
MW-1	MW-1	 -	4	6/5/2002	Jun-02	14 72	0.00	20.99	6.27	_μ ε/ L		500	₹ 2000	< 1.0	1.0	· · · · · · · · · · · · · · · · · · ·	······································	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	27,1	< 2.5	< 5.0	5.0	<u> </u>
A\$35.2	. MW-2	- 	 	10/1/1994	Out-96	······	···	93.95	7	reat.	2,969			1,200.		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	- 59	·	``````````	······			Ni	48.	280		
M99-2	MW-2		4	\$12,000 S	Jen-96	* * * * * * * * * * * * * * * * * * * *		9.8		μ ε/L	780			1,196	21.9	280							ND:	38.	270		
MEX7-2	XIV.	نىنىڭسىن	4	0/32/3996 0/8/996	Jan-96	76.21	0.00	90.86	27.94		3,806			891	20		30						<u>⊀:</u>	40	160		<u> </u>
MW-2	MW.3	AQ		322/1996	Sep-96	16.56 16.20	9,00°	99.95	77.25	us/L	3,100			350	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	***	30	330					₹ ₹9,3 1	39		1.9	<u> </u>
NEW Z	MW-1	AV	1 .000	3/2/1996	Fab.97	14.46	9.19	94.95	79.49	# \$/L	1,109			Z10				30		i i i i i i i i			9 9.5	30		- NB	6.5
MEMICE	800/2	496	1.11.	2000000	Jun-97	14.00	6.00	93.95	79.85		1.8	William State of the	*****	Xto	7 7 6	3 32 32 3		30	Pr. 427 6. ()	22.0			2	19			12/8/36
3195/2	**************************************	411	سسسن	67273997	Apr 47	16.55	8.00	93.93	77.40		49		***************************************	311								******				23	0.5
MW 2	MW.2	1 100	f	11/26/1991	Nove St	16.96	8.06	65.98	77.00	NAST CO	1.00			340				30			······································	27.00	**************************************	13	29	na na	0.3
MW-2	MW2	*0	***************************************	2/11/2998	Feb 98	15.85	.808	#5 95	78.10	wat.	1,100			310	4.5		***************************************								жű.	2.6	0.6
MW-2	3446.2	AO.		5/19/1998	Atav.98	18.92	8:06°	93.95	28.63	110A.	1.206			128	3.333		·	20		***************************************	***	7.7			#2	1000	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
MW-2	MW-1	10	* :	8/30/39/8	Ave.98	15.202	0.00	93.95	28.13	NAT.	300			12.			4.9	46***	:				e: (6¥.)	er : enir	39	8 32x	
: MW-z	MW-2	3.0		31/9/1998	Stor:98	1652	9.00	91.95	323.33	us/i			CATE TAKE	52	na Šaroli ski nada.	S	e 65		12.030			7 TE BOX.			25 .	1.00	1
MW-2	MW:2	ÄQ		2,8239999	Fab. 599			99.95		enis.	480	7002821 D		748	1000	8.9	5	n	\$		**	1 322			36	1,000 / 1,000 10,000	k 005
XXVX	\$FW-2	40	. (4)	20102003	Feb.39	1638	0.00	93.93	773T	art.				*.	S 32 300 (2)			1 3. 1 2 2 3 4 5 5				. : (3.64.5	V:3, C. (:::::: <u>;:</u> :;			1.2.2.0.
X\$W-2	880 -2	AD	* *	\$/10/1999	May 99	35.19		93.95		# 8 4	280		14. jui	266		10	#3	10.20	13000	250 G 2	, , ,						. × 0.3
MW-2	MWZ	40	3	8/9/1999	Akg 49		0.00	93.96		supt.	250			ià.		0.8	× 0.5	147.28						14 14	31	2.6	
M77-2	MW2	AQ.		13,750,999	Nev 55	18.20	5.00	93.95	72.23	μуТ	26700		-	6i	8.63		11	13162 8					k 6.5		4 }	146	e . 03
MW-2	MWS	AQ.		3/1/5000	\$40.00	16:00		93.95	77.93	unit				630/590		60.6		e	4				c 0.5			26.5	68
MERC-2	MA:3	, io	3	\$2,2000	Stay 20	14.90			79.65	3127L				540%00+	3,76-5.0	1501	* 11019					: (2)	0.3	8.4		3.5	× 03
MW-2	3474-2	AQ	كنفينا	\$2122000	Abg do			91.95		ue/L	410			TIQ			1.6				<u> </u>		e 6.5		23	1,000	0.5
· Affiz				(1/4/1908				.93,98		ew1±	450	800 A.H. 130	1	[59/130+	.09/97	. i.i. na							o 1945	19	. 22B	786	100 mgs
Tencs	*0V-2	40		2/16/2003	Feb. 81	15 50		33.95		99/1	619			369/396+	4 444	190	* 648.Y	4 4	ينجين	البهيداني						14. 14.	0.5
3555 X	\$47.W-2	AVI.	**	472725801	3prvit			\$3.00		pet:	- ** 720		10.00		3383	1.66	63/72	e (s	<u>∦</u> /2002/2106	<u> </u>	·		<u>ં 65</u>	44			4 65
					Jai 1-01	81.21	0.00	载数		ret.				190/120	AMES	8.8/8		e 65						24	15		0.3
NW 2	74.4.5	L AC	سفنسا	3/27/2802	Mar-81	JA 47	8.66	93.95	29(4)	. P.T.								€ 50								<u> </u>	0.50
MV-2	Stir 5	l	1	6/5/8002	Jan 42	14.81	.6:06	20.50	609	. ree. 1	156	X	2008	10	18 10		2.0		1 < 20	¥ 4,00 (< 13	167	2.8	10	88	30	

Appendix A Historical Groundwater Monitoring Results Sears Auto Center # 1039 Oakland California (Page 4 of 4)

					T	+	an at 1 at 11 a	ero i raver					1.0001	TORY ANALYTI													
	1						GROUNDWAT						LABORA	TORY ANALYTIC	CAL RESULIS	I	1	[ſ				1	 T			
	_					Depth to	Stand Prod	Casing	Groundwater					<u> </u>	_] _						70.	1				
Well	1 -	le Sample		Sample	Sample	Groundwater	Thickness	Elevation	1 '	Anal	TPHg	TPHd	TPHo	В	т	E	х	MTBE	ETBE	DIPE	TAME	TBA	PCE	TCE	1,2-DCA	ds-1,2 DCE	1,1 DCE
No.	No.		Notes	Date	Period	(ft bgs)	(n)	(ft MSL)	(n MSL)	Units				 													
MW-7	MW.		5	10/1/1995	Oct-95		0.00	93.80	-	µg/L	< 50			ND	ND	ND	ND						53 93	3.5 4.8	8.3		 -
MW-7	MW.		5	1/1/1996	Jan-96		0,00	93,80		µg/L	< 50			ND ND	ND < 0.5	ND	ND ND	-					6.1	3.4	57	-	
MW-7	MW-		5	6/12/1996	Jun-96	16,58	0 00	93.80	77.24	µg/L	< 50	-		0.6	†	< 0.5	< 2	< 1				_ _	<u>ಟ</u>	42	2.9		
MW-7	MW-			9/5/1996	Sep-96	17,10	0.00	93.80	76.70	<u> 118/1.</u>	< ,50	-	< 0.5	1.2	< 0.5	< 0.5	 ` 						- 83	4.2	5.9	- ·	
MW-7	MW.		-	12/3/1996	Dec-96	17 12	0.00	93,80	76.68	με/L	120	-	< 0.5	850		< 5	36	'					- 1		75	< 0.5	< 0.5
MW-7	MW-		-	2/27/1997	Feb-97	16.20	0,09	93,80	77 60	µg/L	2,500	-		1500	3.0	23	< 10	< 30					,	4.2	65	< 0.5	< 0.5
MW-7	MW-:		-	8/27/1997	Jun-97	17,00	0.00	93.80 93.80	76.80 76.62	µg/L_	3,200			1700	80	59	40	< 50 90	 -	-		_ _		- 1.2 5	85 93	× 03	< 0.5
MW-7	MW-			11/26/1997	Aug-97 Nov-97	17,18	0,00	93.80	76.40	μ ε/ L	5,600	*		3,100	150	190	30	90	 -	1			1	5.9	120	* ,	< 0.5
MW-7	MW-		-	2/11/1998	Feb-98	16.65	0.00	93.80	77 15	μ χ/L μ χ/L	8,500			3,800	25.0	250	80	×0	*******		* 1		- 1	89	93	1.2	< 0.5
MW-7	MW-2	1	-	5/19/1998	May-98	15.96	000	93.80	77.84	με/L	5,000			2,100	440,0	150	220	300		-			,	38	74	9,6	< 0.5
MW-7	MW-7			8/10/1998	Aug-98	16.48	000	93,80	77.32	μg/L	1,600			690	< 10	13	< 10	- sa						3.3	100	< 2.5	c 2.5
MW-7	MW-7		-	11/9/1998	Nov-98	16.98	000	93 80	76.82	<u>μην.</u> μην.	930			295	5.5	43	1.5	8,7					42	6.5	110	< 25	< 2.5
MW-7	MW.	1 -		2/8/1999	Feb-99	10.30	700	93.80	7,5,52	11g/L	1,500			670	< 10	14	<10	< 50					6	3.4	74	< 12	< 1.2
MW-7	MW-		5	2/11/1999	Feb-99	16 94	0,00	93.80	76.86	<u>μγ/L</u>					<u> </u>	<u> </u>											
MW-7	MW-7		5	5/10/1999	May-99	15.87	0.00	93.80	77.93	μ ε/ Έ	2,800			1,800	16.0	81	130	6/420*					1	2.6	65	9 63	< 0.5
MW-7	MW-7		5	8/9/1999	Aug-99	16 60	0.00	93.80	77,20	μg/L	1,500			570	51	28	30	300/6.5*					< 1	1.2	95	0.57	< 0.5
MW-7	MW-7	AQ	.5	11/5/1999	Nov-99	17.01	0.00	93.80	76.79	μ g/ ί.	2,100			1,200	<5	61	25	150/11*				-	4	7.8	95	1.6	< 0.5
MW-7	MW-7		.5	2/1/2000	Feb-00	17.00	0.00	93.80	76,80	μg/L	4,600	**		2,600	16.0	140	210	6.6					3	6	110	1.7	< 0.5
MW-7	MW-7	AQ	5	5/2/2008	May-00	16 00	0.00	93.80	77.89	μ g/L	4,200		,	2,700	25	80	270	< 5,0				-	< 50	< 5.0	84	< 5.0	< 5.0
MW-7	MW-7	AQ	5	8/1/2000	Aug-00	16.40	0.00	93.80	77.40	μg/L	5,600		<u>,,</u>	5,500	27	300	390	< 10			_		< 1 0	< 10	8.5	< 10	< 10
MW-7	MW-7	AQ	5	11/6/2000	Nov-90	16 67	9,00	93.80	77.13	 μ g/ L	6,000			3,400	29	230	330	< 10					< 10	< 10	66	< 10	< 10
MW-7	MW-7	AQ	5	2/16/2001	Feb-01	16.60	0.00	93.80	77 20	μ g/ Ł	4,400			3,400	27	200	290	3 1	<u></u>			-	< 2	< 2	60	< 2	< 2
MW-7	MW-7	AQ	5	4/27/2001	Apr-01	16 00	0.00	93,80	77 80	μg/L	6,100			6,000	44	390	620	2.7					< 2.5	< 2.5	37	< 2.5	< 2.5
MW-7	MW.7	AQ	5	7/24/2001	Jul-01	16.22	0.00	93.80	77.58	րթ/Ն	6,000			4,500	16	390	840	< 20					< 20	< 2.0	39	< 2.0	< 2.0
MW-7	MW-7	AQ	5	3/27/2002	Mar-02	15.74	0 00	93,80	78 06	_ μ g/ L	34,008	570	< 500	6,400	< 50	230	370	< 500					< 50.0	< 50	< 50	< 50.0	< 500
MW-7	MW-7	AQ	2	3/27/2002	Маг-02	15.74	0.00	93 80	78 06	μη/Ն	27,000	740	< 500	6,500	< 50	280	500	< 500					< 50.0	< 50	< 50	< 50.0	< 50.0
MW-7	MW-7	AQ	2	6/5/2002	Jun-02	15 71	0.00	20.39	4.68	με/L	12,100	< 500	< 2000	8,700	2.5	173	510	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 20	< 2.5	< 5.0	< 50	< 5.0
MW 8	MW.8			11/5/1799	Nev 97	18.15		74.49	28.34	μ φ Æ.	36	<u> </u>		1.8	× 8.5	₹ :8.8		2.5			18 9 20 1		62	× 63	* .8.8	<u> </u>	e 005
34030-8	3X(W.8	ىنى تېن ىكىنى	بسقيتنا	2/1/2000	£eb-00	18:10	606	54.49	24:39	, in the second	± \$9			3 to 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	S		بالمجانة تنجنا	· *					7.8	s 9.5	163	***********	4.5
36668	KOW 8	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		5/2/2000	May 00	1228	0.00	91.49	2723	int.	× .50.	ر. بىر د		100000000000000000000000000000000000000	A 93	÷ 0.3	(A) (C) (A)	€ 05*	· · · · · :	(4.5)			5.5	A 05	83	e.s	× · · • •
16E447-8	MW 8			\$/1/2000	Abg 00	17.52	9.09	91.40	7693					* **	<u> </u>	× 9.5	(4) (4) (6) (4)	0.5		1.112.43	000 00 0 0 <u>0</u> 0 0 0 0 0 0 0 0 0 0 0 0 0	2 (1 (<u>2)</u> 16)	5.6	< 8.5 °	43	8.5	< 65
MW-8	MW 8			31/6/1908	Nor-80	47.82	0.00	91.19	76.66	1971						9.6.0	0.00									<i>ؙ۪</i> ڂڂڹڰڰڹۻۻڰ	
X4W.4	NAM 8			2/16/2003	. Edy	100			3675	##.			سننشسنس		0.5	× 93	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	45	A11281.111	ودجبيت				×		*	A 0.5
AMM .	M/W-8	Partitud (Contract		4/27/2001	A0741	17.10	6:08	94,49	7739		36		<u>, , , , , , , , , , , , , , , , , , , </u>	3 2 2 4 3	*******	4		S	***************************************	('\)	dileteti i		43	< 0.3°	6.5	0.5	< ⊅.3
NIW-1	MW 8	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	سنعنسا	<i>77</i> 242001	Jul-01.) 7.43	6.06	14.69	77.16	. jugata s					× 0.5	8 8.5	10.					```````````	4.9	- 	65	***	0.5
MW-R	MW-8			3/27/2002	Max-51.	1687	6.08	54.49	77.62	μA		······································	سيستعنشسن				ing missioners The Walkers		***********								***
MW-8	XPW-8	1		6/5/300X	Jon: 82	1881	b;68°	21.61	1	MAT	·······························	***************************************		T		<u> </u>							أستين ففنسأ			:::'ai:::'	
MW-9	MW-9	7	5	11/5/1999	Nov-99	16.86	0.00	92.54	75 68	μ ε/ Σ	< <50		**	< 0.5	< 0.5	< 0.5	< 0.5	3/2.4*		-		<u>-</u>	65	29	32	<0.5	< 0.5
MW-9	MW-9		5	2/1/2000	Feb-00	16.70	000	92.54	75.84	µg/L	< <50			2.6	< 0.5	< 0.5	< 0.5	30*					60	22	36	0.7	< 0.5
1			1 1	5/2/2000		16.02	0.00	92.54	76.52	μg/L	77					< 0.5	< 0.5 < 0.5	2.7			-	<u> </u>	39	19	30		< 0.5
MW-9	1	AQ	. 5	8/1/2000	Aug-00	16.34	9.00	92.54	76.20	pg/L	70			< 0.5 0.6	1			3.2				=	41	19	37	0.7	< 0.5
MW-9	MW-9	AQ		11/6/2000	Nov-00	16.55	0.00	92_54	75.99	μg/L	74			· ·	< 0.5			3.4					31	15	34	0.8	< 0.5
MW-9		AQ AQ	5	2/16/2001	Feb-01	16.31	0,00	92.54	76.23	μg/L	52 64			< 0.5		< 0.5	< 0.5	1.9				<u> </u>	26	14	33		< 0.5
MW-9		AQ	5	4/27/2001 7/24/2001	Apr-01	15.90	0.00	92.54 92.54	76.64	µg/L	< 50			< 0.5		< 0.5	< 0.5	1.7					42	16 12	38		< 0.5
MW-9 MW-9	MW-9			3/27/2002	Jul-01	16.19 15.61	8.00	92.54	76.35 76.93	μg/L υσ/f	< 50 < 50	< 50	< 500	< 0.50	< 0.50	< 0.50	< 1.0	< 50					31	10	34 17	0.7	< 0.5
MW-9 MW-9	1	AQ	2	6/5/2002	Mar-02 Jun-02	15,61	9.99	92.54 19.20	3.49	μ ε/L με/L	< 50 33.2	< 500	< 2000		1	1	1	2.3	< 20	< 2.0	< 2.0	< 2.0	33.2	12	< 5.0	9 73 < 5.0	< 6.50 < 5.0
1			\		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	17011									, · · · ·	· · · · · · · · · · · · · · · · · · ·	 									I	

- -- = Not applicable and/or no measurements taken/provided
- 1. "Pre-purge" sample
- 2: "Post-purge" sample
- 3: Duplicate sample
- 4. Well not sampled
- 5. Data obtained from Previous Consultant
- 6. Well was not accessible during gauging/sampling event.
- MSL = Mean Sea Level
- Groundwater Elevation =
- Top of casing deviation -(Depth to Water (0.8 * Standing Product thickness).
- = Sample analyzed beyond holding time. The analyte was positively identified;
- the associated numerical value is the approximate concentration of the analyte in the sample.
- * = Duplicate Sample

- < = Analyte not detected above indicated method detection limit
- TPHg = Total Petroleum Hydrocarbons as gasoline range hydrocarbons by EPA Method 8015 (modified)
- $TPHd = Total\ Petroleum\ Hydrocarbons as\ desel\ range\ hydrocarbons\ by\ EPA\ Method\ 8015\ (modified).$
- TRPo = Total Petroleum Hydrocarbons as oil range by EPA Method 8015 (modified)
- ND = Not detected at or above the method detection limit
- SP = Seperate-phase petroleum hydrocarbons present, not sampled.
- PCE = Tetrachloroehtene
- 1,2-DCA = 1,2-Dichloroethane
- TCE = Trichlorochtene
- dis-1,2-DCE = cis-1,2 Dichloroethene
- 1,1-DCE = 1,1-Dichloroethene

- B = Benzene E = Ethylbenzene
- T = Toluene
- $X \simeq Xylenes$
- MTBE
- Methyl tert-Butyl ether (Prior to 5/99 analyzed using EPA Method 8020;
 - '99 duplicates and all post-'99 samples analyzed using EPA Method 8260.)
- DIPE Di4sopropyl Ether
- TAME Testiary Amyl Methyl Ether
- TBA Tertiary Butyl Alcohol
- ETBE Ethyl Tertiary Butyl Ether
- Notes: Historical data before June 1996 as reported by previous consultants
- -- = Not analyzed/Not available.

Appendix A Historical Groundwater Monitoring Results Sears Auto Center # 1039 Oakland California (Page 2 of 4)

·					1		GROUNDWAT	ED I EVET	e				LARODAT	ORY ANALYTI	CAL RESULTS					·		· ··· ·					
						Depth to	Stand Prod	Casing	Groundwater			1	LABORA	OKTANALITI		T	<u> </u>	1	Γ							1	
Well	Sample	Sample		Sample	Sample	Groundwater	Thickness	Elevation	Elevation	Ansl	TPHe	ТРНА	TPHo	В	т	E	x	MTBE	ETBE	DIPE	TAME	TBA	PCE	TCE	1,2-DCA	de12 DCE	1,1-DCE
No.	No.	Matrix	Notes	Date	Period	(ft bgs)	(ft)	(ft MSL)	(ft MSL)	t ⁱ nits																L	
MW-3	MW-3		5	10/1/1995	Oct-95		_	96.15		μ χ/ L	دي.	-	-	ND		ND	ND						ND	ND	ND		
MW-3	MW.3		5	1ЛЛ996	Jan-96		-	96,15		ր ջ/ Ն	NĐ	_	<u> </u>	ND	ND	ND	ND			_			ND	ND	ND	<u> </u>	
MW-3	MW-3	AQ	5	6/12/1996	Jun-96	17.56	0.00	96.15	78,59	μ g/l .	< .50		< 0.5	< 0.5	< 0.5	< 0.5	<						< 0.5	< 0.5	< 0.5		ļJ
MW-3	MW-3	AQ	. 5	9/5/1996	Sep.96	18.32	0.00	96.15	77.83	µ g/ L	< _50		< 0.5	< 0.5	< 0.5	< 0.5	< 2	< 50					< 0.5	< 0.5	< 0.5	ļ 	ļJ
MW-3	MW.1	AQ		12/3/1996	Dec.96	18.57	0,00	96.15	77.58	μ ε/ L	< .50	-		< 0.5	< 0.5	< 0.5	< 2	< 5,0	<u> </u>				2.3	< 0.5	< 0.5	< 0.5	< 0.5
MW-3	MW.3	AQ	5	2/27/1997	Feh-97	17 43	9.00	96.15	78.72	μg/L	< 50	- -		< 0.5	< 0.5	< 0.5	< 2	< 50	<u> </u>				6.3	< 0.5	< 0.5	< 0.5	< 0.5
MW-3	MW-3	AQ	5	6/10/1/997	Jun-97	18 12	0.00	96.15	78.03	με/Ι.	< 50			< 0.5	< 0.5	< 0.5	< 2 ·	< 50	 				5.9	_ < 0.5	< 0.5	< 0.5	< 0.5
MW-3	MW-3		. 5	8/27/1 <u>997</u>	Aug-97	18.47	0.00	96.15	77.68	µg/1.	< 50			< 0.5	< 0.5	< 0.5	<u>₹ 2</u>	< 50	 -				5.8	< 0.5	< 0.5	< 0.5	< 0.5
MW-3	MW-3	1	5	11/26/1997	Nov.97	18.70	0.00	96,15	77,45	μg/L	< .50			< 0.5	< 0.5	< 0.5	<u> </u>	< 5.0		-			7.9 7.9	< 0.5	< 0.5	< 0.5	< 0.5
MW-3	MW.3		5	2/11/1998	Feb-98	17.76	0 00	96.15	78.39	µg/1.	< 40			< 0.5	< 9.5	< 0.5	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	< 5.0					5.5	< 0.5	< 0.5	< 0.5	< 0.5
MW-3	MW.3	AQ	. 5	5/19/1998 8/10/1998	May-98 Aug-98	16,99 1751	0.00	96.15 96.15	79 16 78,64	µg/L µg/L	< 50 < 50	-		< 0.5	c 9.5	< 0.5	< 0.5	< 2.5		-				< 0.5	< 0,5	< 0.5	- 05
MW-3	MW-3	1		8710/198	Nov-98	18 07	0.00	96.15	78.08	ug/t.	z 50			< 0.5	< 0.5	< 0.5	< 0.5	< 2.5					5.5	< 0.5	< 0.5	< 0.5	< 0.5
MW-3	MW-3		•	2/8/1999	Feb-99			96.15		µg/L	< 50			< 0.5	< 0.5	< 8.5	< 0.5	< 2.5	T				6.4	< 0.5	< 0.5	< 0.5	< 0.5
MW-3	MW-3		5	2/11/1999	Feb-99	18 07	0,00	96.15	78.08	μg/L						_								-			
MW-3	MW-3	1	5	5/10/1999	May-99	17.04	9.00	96.15	79.11	μg/L	< 50			< 0.5	< 0.5	< 0.5	< 0.5	< 2.5				-,	5.1	< 0.5	< 0.5	< 0.5	< 0,5
MW-3	MW.J	AQ	. 5	8/9/1999	Aug-99	17.77	0.00	96.15	78.38	μg/L	< 59	_		< 0.5	< 0.5	< 0.5	< 0.5	< 2.5		<u> </u>			48	< 0.5	< 0.5	< 0.5	< 0.5
MW-3	MW-3	AQ	5	11/5/1999	Nev-99	18.00	0,00	96,15	78.15	μ g/L	< 50			< 0.5	< 9.5	< 0.5	< 9.5	< 2.5					7.2	< 0.5	< 0.5	< 0.5	< 0.5
MW-3	MW3	AQ	5	2/1/2000	Feb-00	17.95	0.00	96 15	78.20	μ g/ L	< 50			< 0.5	< 0.5	< 0.5	5 0.5	< 9.5	<u> </u>				6,9	< 0.5	< 0.5	<u>< 0.5</u>	< 0.5
MW-3	MW-3	AQ	5	5/2/2000	May-00	16,83	0.00	96,15	79.32	μg/L	< .50			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	ļ				6.4	< 0.5	< 0.5	< 0.5	< 0.5
MW-3	MW-3	AQ	. 5	8/1/2000	Aug-80	17 13	0.00	96.15	79.02	<u>μg/τ</u>	< 50			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	 	├── ┤			5.6	< 0.5	< 0.5	< 0.5	≤ 0.5
MW-3	MW-3		5	11/6/2000	Nov-00	17 54	0,00	96.15	78 61	μ g/L	< 50			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	 "				7.9	< 0.5	< 0.5	< 0.5	< 0.5
MW-3	MW-3	AQ	.5	2/16/2001	Feb-01	17 42	0.00	96.15	78.73	μg/L	<50			< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	 				8.9	< 0.5	< 0.5	< 0.5	< 0.5
MW-3	MW-3	AQ		4/27/2001	Apr-01	16.80	0.00	96.15	79,35	μg/L	< 50			< 9.5	< 0.5	< 0.5	< 0.5	< 0.5	 				8.1	< 0.5 < 0.5	< 0.5	< 0.5	< 0.5
MW-3	MW-3	AQ		7/24/2001	Jul-01	17.08	0.00	96.15 96.15	79,65	μg/L μg/L	< 30			< 9.5	< 93	< 0.5	< 0.5	< 63						< 03			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
MW-3 MW-3	MW-3	AQ		3/27/2002 6/5/2002	Mar-02 Jun-02	16.50	0.00	22,29	5,76	μg/L	50	< 500	2000	- 10	< 10	< 1.0	< 2.0	< 2	4 2.0	< 2.0	< 2.0	< 2.0	20.9	4.5	< 5.0	< 5.0	< 5.0
and the second of the second 	800°4	1		1034/1995	Oct 95		: 6/60 · · 3	\$3:61	. 30.0 20.0	indrit.	c\$9			· At	ND:"	No.			<u> </u>		13.33	4.4	NO	Nb.	869	4	1
	845V-4		·············	1/1/1996	Jen 98	~	. 8.08	95.81		неД	< 5 €			· 58	80	ND.	ND.					(ND	NO.	NED		
	NW.4		5	b/32/0998	30m.96	49.25	904	91.51	77.89	N2.T	334		š93	Ţŧ.	ė 03	0.5							× 5.5	≥ 0.5	3. 0∌		
MOR-4	MW-4	λQ	4	9/5/1996	Sep.96		0.00	91.01	23.18	HD/L .	79		. 83	5.6	3 95	2 03	2 2					5	¥ 93	0.5	≥ 93	S. 65	0.5
74W-4	MW-4	ΑQ	4	J2/3/J296	Dec 96	13.99	R.04	92.01	78.63	##AL	30%		93	п	e 95	4 9.5		15			_		c 0.5	x 0.5	×:	t. #35	
NW.	STW-4	AQ	<u> </u>	1/27/1997	Fab.97	1244	8.69	92.01	79.57	. gry/1.	190		580	31		e 9.5	·s2	_ <u>\$0</u>					9.5	× 5.5	8	**************************************	E 25 (19.5 (2)
XW.4	MNF-4	40		6/10/1997	100.97	14.20		92.83	99381	::##/I				::::			***************************************	\$4						35	A 3 95	8.5	ؙڽؽڰڰۻۺ <u>ۻ</u> ڰڰ
3094	****	AO		6/22/1997	Apr 47	1462	6.00	\$2.03	7739	. ##C	(20)	**>. : **** : : : : : : : : : : : : : : : :	\$ 10 m	26	8.3	[20] Yen 88 (2)		* **		F"%%()	1810		- 6 6.5	× 9,3	e 9.5	2 0.5	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	MW.4	AQ.	***	11/26/1999	Nev 37	15.00	6.00	92.01	77.01	pg4	160	***************************************	396	62	1 ×	8.5		\$6				5.5	9.5	₹ 9.5	8. 0.5	E 0.5	***************************************
MBW.t	MW.4	AQ		2/11/1998	Feb 98	14.10	5'68'	93.61	77.91		110		K 390	331	8.5		*****					***			8. 65	* 9.5	4.5
34092-4	MW-6	<u>*Q</u>		5/15/1998 5/10/1998	3045.78	713.97	0.00 0.00	92.01	77.91	ستشكلانس	338	12.6.1.22.5.22.5.1		£1	88	8	45	4			***************************************	77.7.7	× × 63			9.5	6.5
MW4	MAN 4	ÀÙ.		11/9/1998	₹609.9€	13. 18.30 14.33	2.09	92.01	77.26	in No.	176		590	155	43	1-2	**************************************	* 25					9.5	8.5	9.5	0.5	47.44.5 5.27.27
مإسترييييتيتيت	-	وسيبيب			4			***************************************	7.71 XX	cord.	688.		560			***************************************		₹ 2.5			* * * * * * * * * * * * * * * * * * * *		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		£ 63		e` ' ' 0:85
NW.	ANV-4	40	•	3/11/1999	Fab.39	3457	8.00	92:01	77.4	944						. : 600 %					NXXXXX		i izviviti	5.& .			
				3/10/1999		30.46	6.66	92.01		HE/L	66			∴ે∴ે છે.	₹ 9 · · •3 · F 0	e : : 8.5	v: 10.5 ·	< 24	(L. * (L.)		() () () () ()		4.5	₹ 193	200.03	≤ j.š	\$ 300 (10 3
a Maria	14Y I	40	3	8/9/199	Aux 99		ere in the first of the first o	92.81	77.86	w/t			× 1809	ŹŶ.	0.5	8.5	9.5	3.91-2.6*	100 March		382.	. 4.3	* 65	⊘ 464	# #5	< 0.5	G. 03:
\$100 a	MW.4	ΑQ	. 5	11/5/3999	Nev 95	14.62	8.08	93.51	77.39	ueT.				9 9		85		< 2.5			الننتي				× 85		0.5
MW-4	XIVE	0		27175000	Feb-00		506	92.51		191				**************************************	سنبغ شيم	التعقيب الما		e 0.5			احمينيني				e 6.6		1 * * * * * * * * * * * * * * * * * * *
MR4	Mille	XQ.		\$22,500	Star ot	19.40		92.01		ren.			33000	33	4 93	44	4 . 65	×. 3.5		p			¥ 98.	333	× 65	\$ 65	
				\$42,000			9.000	92.01		pp/1.			e 1908	i, k: :- 0.9:	<u> </u>	1	565	0.5	.		·····		0.5	* 65	× 9.5	× 65	
				31361608			9.00	92.01		uy/L			e 1908	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				<u> </u>		ļ					ž		
NAME A	300°4	4	<u>ائنىتىن</u>	2/16/200¥	. 3.cp. 9.t		.000		7836	##Å				30		0.00	\$ \$	e 65							₩ 33 8.5		14:
31964	100 4	AQ		4/22/2003	Apr41	1440	0.00	92.61		ent.	. 		1000	4.7	¥ 4 · 8 · 8.5 · A · · · · · · · · · · · · · · · · ·	1 ≪ 13 63 12	* 9.5	¢ 63							± 0.5 € 0.5		
3199.4	M₩.4	AQ.	*	J7240801	30191	12.69		92.81		e#L	5 50		× 1600g	90.7	\$.4 % : 8.5 *	83	0.5	45				***	********	್	08:11 0.5	ć 0.55	
MWA	MW.4	*0		3/27/2802	Nier.51	19.22 12.00		92.61	78.79	μgÆ	<u> </u>	· * : / · · 55 * / · · ·	× 5900	33	9.59	4.59 (1)	10	* 50 ·			388 I		* (4.59) 3 10 0 0 0	9.295:1	#50 #50	≥ 5.0	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
MW	MIN.		33	Ø/\$74002	F 708-95	12,00	20000 4	₩68	E280iii	¥29			2008	<u>33</u>	La Santa de Company	essi dile	E.S.	.e.s.	€	k.254.44.26.26.24					M. SCALAR 20.	<u>1 </u>	<u>4\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</u>

Appendix A Historical Groundwater Monitoring Results Sears Auto Center # 1039 Oakland California (Page 3 of 4)

		1					GROUNDWAT	rep t evel	٠				1 AROPAT	TODY ANALYT	ICAL RESULTS												
	1					Depth to	Stand Prod	Casing	Groundwater				LADORA	TORT AIGALTI	ICAL RESCUIS	1	T					Ι	<u> </u>				
Well	Samo	ie Sample	.	Sample	Sample	Groundwater	Thickness	Elevation	Elevation	Anal.	TPHs	TPHd	TPHo	В	T	E	x	MTBE	ETBE	DIPE	TAME	TBA	PCE	TCE	1,2-DCA	d+12 D(E	1,1-DCE
No.	No.	Matrix	•	Date	Period	(fl bgs)	(前)	(R MSL)	(fi MSL)	Units				1 -	1	[· ·	1	LIDE	D.1.					.,		l
MW-S	MW		5	10/1/1995	Oct.95		0.00	92.09	- (µg/L	260			86	ND	ND	ND	-					ND	ND	ND		
MW-5	MW-		5	1/1/1996	Jan-96		0.00	92.09		μg/L	180	-		160	3.6	ND	ND					_	ND	ND	ND		
MW-5	MW.		•	6/12/2996	Jan-96	14.19	000	92.09	77,96	μ <u>ε</u> /Σ.	260	-			1.5	< 0.5	< 2						< 0.5	< 0,5	< 0.5		
MW-5	MW.	5 40	5	9/5/1996	Sep-96	14.77	0.00	92,09	77.32	μg/L	160	-		22	10	< 0,5	< 2	< 50					< 0.5	< 0.5	< 0,5		
MW-5	MW.	5 AQ	5	12/3/1996	Dec-96	13.99	0.00	92 09	78.10	με/L	170			18	0.6	< 0.5	<2	6					<0.5	< 0.5	< 0.5	< 0.5	₹ 0.5
MW-5	MW.	5 AQ	5	2/27/1997	Feb.97	12.08	0.00	92.09	80,61	μg/L	230			74	2.0	< 0.5	< 2	< 5					< 0.5	< 0.5	< 0.5	<0,5	< 0.5
MW-5	MW-	5 AQ	5	6/10/1997	Jun-97	16.00	0.00	92.09	76.09	με/1.	1,200			490	196	< 3.0	< 10	< 30					< 0.5	< 0,5	< 0,5	< 0.5	< 0.5
MW-5	MW	5 AQ		8/27/1997	Aug-97	14.55	0.00	92 09	77.54	µg/L	340			100	4.6	< 0.5	< 1	< 5.0				<u> </u>	< 0.5	< 0.5	< 0.5	< 0.5	× 0.5
MW-S	MW.	5 AQ	. 5	11/26/1997	Nov-97	14.95	9 00	92 09	77.14	μ ε/L	490			78	4.5	0.6	< 2	< 5.0					< 0.5	< 0_5	< 0.5	<0,5	ys 0.5
MW-5	MW-	5 AQ	5	2/11/1998	Feb-98	13.97	0 00	92,09	78.12	μ ε/ Ι.	320			62	2.9	< 0.5	< 2	< 50		<u> </u>		 	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
MW-5	MW-	5 AQ	5	5/19/1998	May-98	13.52	0.00	92.09	78.57	μ ρ/ L	330			97	2.6	< 0.5	< 2	< 5,0	`			<u> </u>	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
MW-5	MW-	5 AQ	5	8/10/1998	Aug-98	13 97	0.00	92 09	78.12	μ ջ /Ն	190			48	19	< 9.5	< 0.5	11					< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
MW-S	MW.	5 AQ		11/9/1998	Nev-98	14 67	0.00	92.09	77.42	μ ε/ Ι.	81		_ 	3,8	< 0.5	< 0.5	< 0.5	< 2.5					< 0.5	< 0.5	< 9.5	< 0.5	< 0.5
MW-5	MW-	5 AQ	5	2/8/1999	Feb-99	<u></u>	<u> </u>	92.09		μ ε/L	<u>82</u>			3	< 0.5	< 0.5	< 0,5	38			 _	 -	< 0.5	< 0.5	< 0.5	< 0.5	× 0.5
MW-5	MW-	5 AQ	5	2/11/1999	Feb-99	14.50	0.00	92 89	77.59	μ#/1.				-											<u></u>		
MW-5	MW-		5	5/10/1999	May-99	13 23	0.00	92.09	78 86	μg/L	< 50			8.8	< 0.5	< 0.5	< 0.5	2 6/<2.0*				 	< 0.5	< 0.5	< 0.5	<0.5	< 0.5
MW-5	MW-		5	8/9/1999	Aug-99	13,90	0.00	92.09	78.19	μg/L	150			25	< 0.5	< 9.5	< 0.5	5.6<2.0*				-	< 0.5	< 0.5	< 9.5	< 0.5	< 0.5
MW-5	MW.		5	11/5/1999	Nov-99	14.40	0.00	92.09	77,69	μ χ/ L	160			20	< 0.5	< 0.5	0.76	4,3/<2.0*		 		 	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
MW-5	MW.			2/1/2000	Feb-00	14.15	0.00	92.09	77.94	µх/1.	180			42	0.7	< 0.5	< 0.5	< 0.5			-		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
MW-5	MW-	T		5/2/2000	May-00	13 10	0.00	92 69	78.99	μ ε/ L	120			12	< 0.5	< 9.5	< 0.5	< 0.5				 	< 0.5	< 0.5 < 0.5	< 0.5	< 0.5 < 0.5	< 0.5
MW-5	MW-			8/1/2000	Aug-00	13 52	0.00	92.09	78_57 78.16	μg/L μg/L	72			7.0	< 0.5	< 9.5	< 0.5	< 0.5		 -	===	 	< 0.5	< 9.5	< 0.5 < 0.5	< 0.5	< 0.5
MW-5	MW-5	1	-	11/6/2000 2/16/2001	Nov-00 Feb-01	13.75	0.00	92.09	78.34	Half.	- 50		-	1.6	< 9.5	< 0.5	< 0.5	< 0.5			_ 		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
MW-5	MW-	-		4/27/2001	Apr-01	12.95	0.00	92.09	79,14	HP/I.	< \$0		<u></u>	3.1	< 0.5	< 0.5	< 0.5	< 0.5					< 0.5	< 0.5	< 0.5	< 0.5	2 0.5
MW-5	MW-S		-	7/24/2001	Jul-01	13,46	0.00	92.09	78 63	μ _R /L	< 50			3.8	< 0.5	< 9.5	< 0.5	< 0.5					< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
MW-5	MW-5		2	3/27/2002	Mar-02	12.43	0.00	92.09	79.66	µg/L	81	70	< 500	< 0.50	< 0.50	< 0.5	< 1.0	< 5.0		_		_	< 0_50	< 0.50	< 0.50	< 0.50	< 0.50
MW-5	MW		2	6/5/2002	Jun-02	12.68	0.00	18.76	6.08	μ χ/L	50	< 500	< 2000	20	< 1.0	< 1.0	< 2.0	< 2.0	••				< 2.5	< .2.5	< 5.0	< 50	< 5.0
MW-5	MW-	5 AQ	2,3	6/5/2002	Jun-02	12.68	0.00	18.76	6.08	μg/L	59	< 500	< 2000	2.5	< 1.0	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 20	< 2.0	< 2.5	< 2.5	< 5.0	< 5.0	< 5.0
NW.	MW	-	5	10/1/1999	Oct. 98		8.00	93.16		. Pgú	4:			9889	ND:	NUR	ND:						62	·	600 - 10 30 (10	1	
MW.	NO.	.	ŝ	1/1/1998	Jan 96		8.06	92.86) pr	· š. · · · se.			*15	No	300023				3000	33 X 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2		7.32	3000	(C.) (C.) (Sep. 5)		
Memoria	NOW 6	£Q		6/12/1996	39m 96	6.99	0.00	92.16	n'n	V MA	··· *			9.30	3 93	430					<u> </u>		333		79		
tent s	New o	AQ.	<u></u>	9/5/1996	Sep %	16.50	0.00	92.16	76.66)49A	\$ 50		8	0.8	<u> </u>	* * * * * * * * * * * * * * * * * * *				1.5) (1.9 <u>7.</u> 8 c)	. ₹ { ₹ { x , y <u>. x</u> , y .		54	\$2	77.70°)3		<u> </u>
Tew 6	Millia	40	<u></u>	12/3/1996	Dec.96	15.07	0.00	92.18	77.00	i ji	×			0.8	* 3	9.5	2	المستنف					0.9	5.6	4.4	8.5	0.5
MW 6	N.	ستغسبها		3/2/2/997	2.6.27	14.14		92.16	28.00		**	بنهستنسب	500		<								ئىزقانىسىسى		9.5		2 05
· SMW A	MW	<u> </u>	* *	6/10/1997	Ava st	14.30	6.60	\$2.36	76.06	860	*			4.9	9.5	33					*************************************	(11)	*	× 9.5	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	9.5	1.00
388 A	tew i	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	3	1/2/0397	Angel	18.42	5.00	92.16	7674		<u> </u>	·····	.x	4 0.4	4.5	****	*		·····			·····	8.9	9.9	. £ 63	2.5	
*****	Mr.	£	3	¥\$/15/1957	Nav. 57	19.70	1.08	5. 16.°	26.46	200			590		8.9	99	سيق تنبينا	7.5	فببتتينفيس				1.2			A.5	المنفع المناهب
20000	TOTAL CO	E [: .*Q:	نستقبينا	2/33/0998	1996.98	14.07	806		7729	¥87.			990	A. C. (1986)		7 × 03 ·							12 1 159 A	44.5		0.S	**************************************
MOW 8	MOW 6		<u> </u>	3/19/1908	AT#9098	14.96	9.00	92.16 92.16	7134 6 7		. 590		\$ 5000 \$ 000	2000 003	4.0 .49.5		0.00 A						2.0	+0.3 0.39		9.5	1 4000 AND
MIN-6	F 77.7		-	8/10/1998 7/10/1999	ACRES SE	E . 1 & E	4.60	3 - 1,331,13	201 11.8 1 N 2 PO 1.1.1.		5 : : : : : : : : : : : : : : : : : : :			1	4 9.9	\$ 0.00 MIN	200	2.0	1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1	1000000			9.3	(100 per 1990)	1.00 (3.5	K 025
								92,10	76.97	200	المنابعة بالمنابعة المنابعة ا المنابعة المنابعة ال		NAME OF THE PARTY	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	93	2		1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	11.00			1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	T-F	30.00	V (28 (28 ())	8.5	303
100.6				2/11/1999		38.29			76,95	rien :					1.16 2 - 1.56 - 1.											(1.00)	
000 200 AMAZ	100	AG	*			14.13		******	78.04	ueld .	59			e 03				s 25								10.5	0.5
Maria	zw.×	*O		8/9/1906	Awa.99	15.00	8.06	93,16		Negat I	· si												0.52			4.5	0.3
MW.6					Nov.95		0.06	39.16	7868	uet	š			se: 5.0935	. 38	e 33	× 0.5				\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$		0.89			0.5	4.5
		λQ			Feb-00			22.16	7676) (2)	s			44.55 abs	63	. 63	. es	8 0.5					323	6.9	12 13 120 00	- 6.5	
		*0		£02000	May 00	18.5%	0.00 0.00		71.61				1908	- 0.3	× 9.5	6. 64	e 65	e . 0.5	: :: ::::::	:: <u></u>	.i.Xii \$⊈0;		2.6			e.s	v 6.8
		ÁQ	4			14.85	9.09	92.16	7931	Light	х 260		1905	0.5	e 94	€ ** ******	e 0.5	à o.s				i. i. (2:1	8.8	55	2.3	× 5.5	× 0.5⋯
		40			Nov26		8.00	92,16	77.86	994				્રઃાહ્ય	2 66	.	ecc 0.5	2 63				80-83	69	89	() () ()	83	2 05
		aŭ:		1/16/200¥			8.00				æ 36				€ 9.5		ુઃ્જુ¥ે.	e 05								9.5	2 95
		ΑŌ		4727/2001		14.40	606	92.16	77.76	eet.				2 03°				e 105					***************************************			0.5	. 03
MW.				77242801				92.16			99	أغيصنننب	× 3008	<u> </u>				0.5							48		* 0.5
300					Mar 61		8.08	9.16		. P2/E																	
147N-6	MW &	, XQ	4	625/2003	Jans 03	14:26	0.00	1691	44	312/5								Marie Halle	<u>.</u>								

APPENDIX B LABORATORY REPORTS AND CHAIN-OF-CUSTODY DOCUMENTS



Environmental Laboratories

7801 Telegraph Road, Suite L Montebello, CA 90640

Phone (323) 888-0728 Fax (323) 888-1509

06-17-2002

Mr. Scott Rowlands **URS** Corporation 2020 E. First Street, Suit 400 Santa Ana, CA 92705

Project:

22-00000302.02

Project Site:

Sears Oakland 1039

Sample Date: 06-05-2002

Lab Job No.:

UR206030

Dear Mr. Rowlands:

Enclosed please find the analytical report for the sample(s) received by STS Environmental Laboratories on 06-06-2002 and analyzed by the following EPA methods:

EPA 8015M (Gasoline) EPA 8015M (Diesel & Oil) EPA 8260B (VOCs by GC/MS)

All analyses have met the QA/QC criteria of this laboratory.

The sample(s) arrived in good conditions (i.e., chilled at 4°C, intact) and with a chain of custody record attached.

STS Environmental Laboratory is certified by CA DHS (Certificate Number 1986). Thank you for giving us the opportunity to serve you. Please feel free to call me at (323) 888-0728 if our laboratory can be of further service to you.

Sincerely

Roger Wang, Ph. D. Laboratory Director

Enclosures

This cover letter is an integral part of this analytical report.



Environmental Laboratories

7801 Telegraph Road, Suite L Montebello, CA 90640

Phone (323) 888-0728 Fax (323) 888-1509

06-17-2002

Client:

URS Corporation

22-00000302.02

Project: Project Site:

Sears Oakland 1039

Matrix:

Water

Batch No.:

AF10-GW1/for Gasoline

Batch No .:

EF06-DW1/for Diesel & Oil

Lab Job No.:

UR206030

Date Sampled

06-05-2002

Date Received: Date Analyzed: 06-06-2002 06-10-2002

Date Analyzed:

06-06-2002

EPA 8015M (Gasoline & Diesel) Reporting Unit: µg/L (ppb)

Date of Analysis f			06-10-02	06-10-02	06-10-02	06-10-02	06-10-02
Preparation Method i	or TPH (G	asoline)	5030	5030	5030	5030	5030
Date of Analysis	for TPH ((D & O)	06-06-02	06-06-02	06-06-02	06-06-02	06-06-02
Date of Extraction	for TPH ((D & O)	06-06-02	06-06-02	06-06-02	06-06-02	06-06-02
Preparation Method	for TPH ((D & O)	3510C	3510C	3510C	3510C	3510C
	AB SAMI	LE I.D.		UR206030-1	UR206030-2	UR206030-3	UR206030-4
CLII	ENT SAMP	LE I.D.		MW-1	MW-2	MW-3	MW-4
Analyte		MDL	MB				
TPH-Gasoline (C4 - C12)		50	ND	ND	406	ND	ND
TPH-Diesel (C13 - C23)		500	ND	ND	ND	ND	ND
TPH-Oil (C24 - C40)		2000	ND	ND	ND	ND	ND
Surrogate	Spk Conc.	ACP%	MB %RC	%RC	%RC	%RC	%RC
BFB (for TPH-Gasoline)	20 ppb	70-130	98	102	97	110	98
Diocthyl Phthalate (for TPH-D & O)	5 ppm	70-130	100	119	97	119	106

SPK Conc.=Spiking Concentration; ACP%=Acceptable Range of Percent; %RC=% Recovery MDL=Method Detection Limit; MB=Method Blank; ND=Not Detected(Below MDL); NA=Not Analyzed

Checked & approved by:

Roger Wang, Ph.D. Laboratory Director.



Environmental Laboratories

7801 Telegraph Road, Suite L Montebello, CA 90640

Phone (323) 888-0728 Fax (323) 888-1509

06-17-2002

Client:

URS Corporation

Project:

22-00000302.02

Project Site:

Sears Oakland 1039

Matrix:

Water

Batch No.: Batch No .: AF10-GW1/for Gasoline

EF06-DW1/for Diesel & Oil

Lab Job No.:

UR206030

Date Sampled

06-05-2002 06-06-2002

Date Received: Date Analyzed:

06-10-2002

Date Analyzed:

06-06-2002

EPA 8015M (Gasoline & Diesel) Reporting Unit: µg/L (ppb)

Date of Analysis	or TPH (G	asoline)	06-10-02	06-10-02	06-10-02	06-10-02	
Preparation Method	for TPH (G	asoline)	5030	5030	5030	5030	
Date of Analysi	s for TPH ((D & O)	06-06-02	06-06-02	06-06-02	06-06-02	
Date of Extraction	ı for TPH ((D & O)	06-06-02	06-06-02	06-06-02	06-06-02	
Preparation Method	for TPH	(D & O)	3510C	3510C	3510C	3510C	
	LAB SAMI	PLE I.D.		UR206030-5	UR206030-6	UR206030-7	
CLI	ENT SAMI	LE I.D.		MW-5	DUP-1	TB	
Analyte		MDL	MB				
TPH-Gasoline (C4 - C12)		50	ND	50	59	ND	
TPH-Diesel (C13 - C23)		500	ND	ND	ND	NA	
TPH-Oil (C24 - C40)		2000	ND	ND	ND	NA	
Surrogate	Spk Conc.	ACP%	MB %RC	%RC	%RC	%RC	
BFB (for TPH-Gasoline)	20 ppb	70-130	98	101	99	113	
Diocthyl Phthalate (for TPH-D & O)	5 ppm	70-130	100	90	106	NA	

SPK Conc.=Spiking Concentration; ACP%=Acceptable Range of Percent; %RC=% Recovery MDL=Method Detection Limit; MB=Method Blank; ND=Not Detected(Below MDL); NA=Not Analyzed.

Checked & approved by:

Roger Wang, Ph.D. Laboratory Director.



Environmental Laboratories

7801 Telegraph Road, Suite L Montebello, CA 90640 Phone (323) 888-0728 Fax (323) 888-1509

06-17-2002

Client:

URS Corporation

Project:

22-00000302.02

Project Site:

22-00000302.02 Sears Oakland 1039

Matrix:

Water

Batch No.: Batch No.:

AF10-GW1/for Gasoline EF06-DW1/for Diesel & Oil

Date Sampled Date Received:

Lab Job No.:

06-05-2002 06-06-2002

UR206030

Date Analyzed:

06-10-2002

Date Analyzed: 06-06-2002

EPA 8015M (Gasoline & Diesel) Reporting Unit: μg/L (ppb)

Date of Analysis	or TPH (G	asoline)	06-10-02	06-10-02	06-10-02	06-10-02	
Preparation Method	or TPH (G	asoline)	5030	5030	5030	5030	
Date of Analysis	for TPH (D & O)	06-06-02	06-06-02	06-06-02	06-06-02	
Date of Extraction			06-06-02	06-06-02	06-06-02	06-06-02	
Preparation Method			3510C	3510C	3510C	3510C	
1)	LAB SAMP			UR206030-8	UR206030-9	UR206030-10	
CLI	ENT SAME	LE I.D.		MW-7	MW-9	EB-I	
Analyte		MDL	MB				
TPH-Gasoline (C4 - C12)		50	ND	12,100	ND	ND	
TPH-Diesel (C13 - C23)		500	ND	ND	ND	NA	
TPH-Oil (C24 - C40)		2000	ND	ND	ND	NA	
Surrogate	Spk Conc.	ACP%	MB %RC	%RC	%RC	%RC	
BFB (for TPH-Gasoline)	20 ppb	70-130	98	107	112	107	
Diocthyl Phthalate (for TPH-D & O)	5 ppm	70-130	100	106	94	NA	

SPK Conc.=Spiking Concentration; ACP%=Acceptable Range of Percent; %RC=% Recovery MDL=Method Detection Limit; MB=Method Blank; ND=Not Detected(Below MDL); NA=Not Analyzed.

Checked & approved by:

Roger Wang, Ph.D. Laboratory Director.



Environmental Laboratories

7801 Telegraph Road, Suite L Montebello, CA 90640

Phone (323) 888-0728 Fax (323) 888-1509

Client: URS Corporation

Lab Job No.: UR206030

Date Reported: 06-17-2002

Project: 22-00000302.02/Sears Oakland 1039 Matrix: Water

Date Sampled: 06-05-2002

EPA 8260B (VOCs by GC/MS, Page 1 of 2) Reporting Unit: µg/L(ppb)

Date ANA	LYZED	06-11-02	06-11-02	06-11-02	06-11-02	06-11-02	06-11-02	
PREPARATION M		5030	5030	5030	5030	5030	5030	
DILUTION F		1	<u> </u>	1	1	1	1	
LAB SAMI			UR206030-1	UR206030-2	UR206030-3	UR206030-4	UR206030-5	
CLIENT SAMI			MW-1	MW-2	MW-3	MW-4	MW-5	
COMPOUND	MDL.	MB					 	
Dichlorodifluoromethane	5	ND	ND	l ND	ND	ND	ND I	
Chloromethane		ND	ND ND	ND ND	ND	ND	ND	
Vinyl Chloride	5 2	ND	ND ND	ND ND	ND	ND	ND	
Bromomethane	5	ND	ND ND	ND ND	ND	ND	ND	
		ND	ND ND	ND -	ND	ND	ND	
Chloroethane Trichlorofluoromethane	5	ND	ND ND	ND	ND	ND	ND ND	
1,1-Dichloroethene	5	ND	ND ND	ND ND	ND	ND	ND	
lodomethane	5	ND ND	ND ND	ND -	ND	ND	ND ND	
Methylene Chloride	5	ND	ND	ND -	ND	ND	ND	
trans-1,2-Dichloroethene	5	ND	ND ND	ND	ND	ND	ND ND	<u> </u>
1,1-Dichloroethane		ND	ND ND	ND -	ND	ND	ND ND	
2,2-Dichloropropane	5	ND	ND ND	ND	ND	ND	ND	
cis-1,2-Dichloroethene	5	ND	ND	ND	ND	ND	ND	
Bromochloromethane	5	ND	ND ND	ND -	ND	ND	ND	
Chloroform	<u> </u>	ND	ND	ND ND	ND	ND	ND	
	5	ND	ND ND	8.5	ND	ND	ND	
1,2-Dichloroethane	- 5	ND	ND ND	ND ND	ND	ND	ND ND	
1,1,1-Trichloroethane Carbon tetrachloride	5	ND	ND ND	ND ND	ND	ND ND	ND	
	5	ND	ND ND	ND ND	ND	ND	ND	
I,I-Dichloropropene Benzene		ND	ND ND	ND	ND	2.1	2.0	
Trichloroethene	$\frac{1}{2.5}$	ND	ND ND	4.6	4.5	ND	ND ND	
1,2-Dichloropropane		ND	ND ND	ND ND	ND ND	ND	ND	
Bromodichloromethane	5	ND	ND ND	ND	ND	ND	ND	
	5	ND	ND ND	ND ND	ND	ND	ND	
Dibromomethane Trans-1,3-	3	ND	ND_	IND -	ND	IND	IND	
Dichloropropene	5	ND	ND	ND	ND	ND	ND	İ
cis-1,3-Dichloropropene	3	ND	ND ND	ND	ND	ND	ND	
1,1,2-Trichloroethane	1 3	ND	ND ND	ND	ND	ND	ND	
1,3-Dichloropropane	$\frac{1}{5}$	ND	ND -	ND -	ND	ND	ND	<u> </u>
Dibromochloromethane	5	ND	ND ND	ND ND	ND	ND	ND	
2-Chloroethylvinyl ether	5	ND	ND	ND ND	ND	ND	ND	<u> </u>
Bromoform	5	ND	ND	ND	ND ND	ND	ND -	 -
Isopropylbenzene	5	ND	ND ND	ND ND	ND	ND	ND	<u> </u>
Bromobenzene	5	ND	ND -	ND -	ND	ND	ND	
Toluene	+ -	ND	ND	ND	ND	ND	ND	
Tetrachloroethene	2.5	ND	27.1	ND ND	20.9	ND	ND ND	
1,2-Dibromoethane(EDB)	5	ND	ND ND	ND ND	ND ND	ND ND	ND	<u> </u>



Environmental Laboratories

7801 Telegraph Road, Suite L Montebello, CA 90640

Phone (323) 888-0728 Fax (323) 888-1509

Client: URS Corporation

Lab Job No.: UR206030

Date Reported: 06-17-2002

Project: 22-00000302.02/Sears Oakland 1039 Matrix: Water

Date Sampled: 06-05-2002

EPA 8260B (VOCs by GC/MS, Page 2 of 2) Reporting Unit: ppb

COMPOUND	MDL	MB	MW-I	MW-2	MW-3	MW-4	MW-5	
Chlorobenzene	5	ND	ND	ND	ND	ND	ND	
,1,1,2-Tetrachloroethan	5	ND	ND	ND	ND	ND	ND	
thylbenzene	1 1	ND	ND	ND	ND	ND	ND	
Total Xylenes	2	ND	ND	ND	ND	ND	ND	
Styrene		ND	ND	ND	ND	ND	ND	
1,1,2,2-Tetrachloroethan	5	ND	ND	ND	ND	ND	ND	
1,2,3-Trichloropropane	5	ND	ND	ND	ND	ND	ND	
n-Propylbenzene	5	ND	ND	ND	ND	ND	ND	
2-Chlorotoluene	5	ND	ND	ND	ND	ND	ND	
4-Chlorotoluene	5	ND	ND	ND	ND	ND	ND	
1,3,5-Trimethylbenzene	5	ND	ND	ND	ND	ND	ND	
tert-Butylbenzene	5	ND	ND	ND	ND	ND	ND	
1,2,4-Trimethylbenzene	3	ND	ND	ND	ND	ND	ND	
Sec-Butylbenzene	5	ND	ND	ND	ND	ND	ND	
1,3-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND	
p-Isopropyltoluene	5	ND	ND	ND	ND	ND	ND	
1,4-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND	
I,2-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND	
n-Butylbenzene	5	ND	ND	ND	ND	ND	ND	
1,2,4-Trichlorobenzene	5	ND	ND	ND	ND	ND	ND	
1,2-Dibromo-3- Chloropropane	<u> </u>	ND	-ND	ND	ND	ND	ND	-
Hexachlorobutadiene	5	ND	ND	 ND 	ND	ND	ND	
Naphthalene	- 5	ND	ND	ND	+ ND	ND	ND	
1,2,3-Trichlorobenzene	 3	ND	ND	ND	ND	ND	ND	
Acetone	1 25	ND	ND	ND	ND	ND	ND	<u> </u>
2-Butanone (MEK)	25	ND	ND	ND	ND	ND	ND	<u> </u>
Carbon disulfide	25	ND	ND	ND	ND	ND	ND	
4-Methyl-2-pentanone	25	ND	ND	ND	ND	ND	ND	
2-Hexanone	25	ND	ND	ND	ND	ND	ND	
Vinyl Acetate	25	ND	ND	ND	 ND	ND	ND	
MTBE	2	ND	ND	ND	ND	ND	ND	
		ND	ND	ND	ND	ND	ND	
DIPE	$\frac{2}{2}$	ND	ND	ND	ND	ND ND	ND	-
TAME	$\frac{2}{2}$	ND	ND	ND	ND	ND	ND "	 -
t-Butyl Alcohol	10	ND	ND	16.7	ND	ND	ND	
SURROGATE	SPK	%RC	%RC	%RC	%RC	%RC	%RC	Accept Limit%
Dibror ofluors - athers	Conc.	99	90	93	92	91	92	79-126
Dibromofluoro-methane	1	99	101	92	99	105	101	79-121
Toluene-d8	25		101	105	100	98	101	71-131
Bromofluoro-benzene MB=Method Blank; MDL=Metho	25	102	i	i i	1			



Environmental Laboratories

7801 Telegraph Road, Suite L Montebello, CA 90640

Phone (323) 888-0728 Fax (323) 888-1509

Client: URS Corporation

Lab Job No.: UR206030

Date Reported: 06-17-2002

Project: 22-00000302.02/Sears Oakland 1039 Matrix: Water

Date Sampled: 06-05-2002

EPA \$260B (VOCs by GC/MS, Page 1 of 2) Reporting Unit: ug/L(ppb)

Date ANA	LYZED	06-11-02	06-11-02	06-11-02	06-11-02	06-11-02	06-11-02	
PREPARATION M		5030	5030	5030	5030	5030	5030	
DILUTION F		1	1	1	25	1	1	
LAB SAMI			UR206030-6	UR206030-7	UR206030-8	UR206030-9	UR206030-10	
CLIENT SAMI			DUP-1	ТВ	MW-7	MW-9	EB-1	
COMPOUND	MDL	MB	B01 1					
				ND	l I ND	ND ND	ND	
Dichlorodifluoromethane	5	ND	ND		ND ND	ND ND	ND	
Chloromethane	5	ND	ND	ND	ND ND	ND ND	ND	
Vinyl Chloride	2	ND	ND	ND	ND	ND ND	ND	
Bromomethane	5	ND	ND	ND	ND ND	ND	ND	
Chloroethane	5	ND	ND	ND	ND	ND	ND	
Trichlorofluoromethane	5	ND	ND	ND	ND	ND	ND ND	
l, l-Dichloroethene	3	ND	ND	ND	1	ND	ND ND	
odomethane	5	ND	ND	ND	ND	ND	ND ND	
Methylene Chloride	5	ND	ND	ND	ND	ND ND	ND ND	
rans-1,2-Dichloroethene	5	ND	ND	ND	ND ND	ND ND	ND ND	
I, I-Dichloroethane	5	ND	ND	ND		ND ND	ND	
2,2-Dichloropropane	5	ND	ND	ND	ND	ND	ND ND	
cis-1,2-Dichloroethene	5	ND	ND	ND	ND	ND ND	ND ND	
Bromochloromethane	5	ND	ND	ND	ND	1	ND ND	
Chloroform	5	ND	ND	ND	ND	ND	1 5	
1,2-Dichloroethane	5	ND	ND	ND	ND	ND	ND	
1,1,1-Trichloroethane	5	ND	ND	ND	ND	ND	ND I	
Carbon tetrachloride	5	ND	ND	ND	ND	ND	ND	
1,1-Dichloropropene	5	ND	ND	ND	ND	ND	ND	
Benzene		ND	2.5	ND	8,700	ND	ND	
Trichloroethene	2.5	ND	ND	ND	ND	12.0	ND	
1,2-Dichloropropane	5	ND	ND	ND	ND	ND	ND	
Bromodichloromethane	5	ND	ND	ND	ND	ND	ND	
Dibromomethane	5	ND	ND	ND	ND	ND	ND	
Trans-1,3- Dichloropropene	5	ND	ND	ND	ND	ND	ND	
cis-1,3-Dichloropropene	5	ND	ND	ND	ND	ND	ND	
1,1,2-Trichloroethane	5	ND	ND	ND	ND	ND	ND	
1,3-Dichloropropane	5	ND	ND	ND	ND	ND	ND	
Dibromochloromethane	- 5	ND	ND	ND	ND	ND	ND	
2-Chloroethylvinyl ether	5	ND	ND	ND	ND	ND	ND	
Bromoform	5	ND	ND	ND	ND	ND	ND	
Isopropylbenzene	5	ND	ND	ND	ND	ND	ND	
Bromobenzene	5	ND	ND	ND	ND	ND	ND	
Toluene	1	ND	ND	ND	25	ND	ND	
Tetrachloroethene	2.5	ND	ND	ND	ND	33.2	ND	
I,2-Dibromoethane(EDB)	5	ND	ND	ND	ND	ND	ND	



Environmental Laboratories

7801 Telegraph Road, Suite L Montebello, CA 90640 Phone (323) 888-0728 Fax (323) 888-1509

Client: URS Corporation Lab Job No.: UR206030 Date Reported: 06-17-2002 Project: 22-00000302.02/Sears Oakland 1039 Matrix: Water Date Sampled: 06-05-2002

EP	A 8260B	(VOCs t	y GC/MS,	Page 2 of 2				
COMPOUND	MDL	MB	DUP-I	TB	MW-7	MW-9	EB-1	
Chlorobenzene	5	ND	ND	ND	ND	ND	ND	
1,1,1,2-Tetrachloroethan	5	ND	ND	ND	ND	ND	ND	
Ethylbenzene		ND	ND	ND	173	ND	ND	
Total Xylenes	2	ND	ND	ND	510	ND	ND	
Styrene	5	ND	ND	ND	ND	ND	ND	
1,1,2,2-Tetrachloroethan	5	ND	ND	ND	ND	ND	ND	
1,2,3-Trichloropropane	5	ND	ND	ND	ND	ND	ND	
n-Propylbenzene	5	ND	ND	ND	ND	ND	ND	
2-Chlorotoluene	3	ND	ND	ND	ND	ND	ND	
4-Chlorotoluene	5	ND	ND	ND	ND	ND	ND	
1,3,5-Trimethylbenzene	5	ND	ND	ND	ND	ND	ND	
tert-Butylbenzene	5	ND	ND	ND	ND	ND	ND	
1,2,4-Trimethylbenzene	5	ND	ND	ND	147	ND	ND	
Sec-Butylbenzene	5	ND	ND	ND	ND	ND	ND	
1,3-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND	
p-Isopropyltoluene	5	ND	ND	ND	ND	ND	ND	
1,4-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND	
1,2-Dichlorobenzene	5	ND	ND	ND	ND	ND	ND	
n-Butylbenzene	5	ND	ND	ND	ND	ND	ND	· · · · · · · · · · · · · · · · · · ·
1,2,4-Trichlorobenzene	5	ND	ND	ND	ND	ND	ND	
1,2-Dibromo-3- Chloropropane	5	ND	ND	ND	ND	ND	ND	
Hexachlorobutadiene	5	ND	ND	ND	ND	ND	ND	
Naphthalene	5	ND	ND	ND	ND	ND	ND	
I,2,3-Trichlorobenzene	5	ND	ND	ND	ND	ND	ND	
Acetone	25	ND	ND	ND	ND	ND	ND	
2-Butanone (MEK)	25	DN	ND	ND	ND	ND	ND	
Carbon disulfide	25	ND	ND	ND	ND	ND	ND	
4-Methyl-2-pentanone	25	ND	ND	ND	ND	ND	ND	
2-Hexanone	25	ND	ND	D	ND	ND	ND	
Vinyl Acetate	25	ND	ND	ND	ND	ND	ND	
MTBE	2	ND	ND -	ND	ND	2.3	ND	
ETBE	2	ND	ND	ND	ND	ND	ND	
DIPE	2	ND	ND	ND	ND	ND	ND	
TAME	2	ND	ND	ND	ND	ND	ND	<u> </u>
t-Butyl Alcohol	10	ND	ND	ND	ND	ND	ND	
SURROGATE	SPK Conc.	%RC	%RC	%RC	%RC	%RC	%RC	Accept Limit%
Dibromofluoro-methane	25	99	96	98	97	103	99	79-126
Toluene-d8	25	94	99	98	95	99	98	79-121
Bromofluoro-benzene	25	102	100	104	103	103	106	71-131

MB=Method Blank; MDL=Method Detection Limit; ND=Not Detected (below DF × MDL) * Result from a higher dilution analysis.



Environmental Laboratories

7801 Telegraph Road, Suite L Montebello, CA 90640 Phone (323) 888-0728 Fax (323) 888-1509

06-17-2002

EPA 8015M (TPH) Batch QA/QC Report

Client:

URS Corporation

Project:

Sears Oakland

Matrix:

Water

Batch No.:

EF06-DW1

Lab Job No.:

UR206030

Lab Sample ID:

UR206030-2

Date Analyzed:

06-06-2002

I. MS/MSD Report Unit: ppm

Analyte	Sample Conc.	Spike Conc.	MS	MSD	MS %Rec.	MSD %Rec.	% RPD	%RPD Accept. Limit	%Rec Accept. Limit
TPH-d	ND	20	19.7	20.5	98.5	102.5	4.0	30	70-130

II. LCS Result Unit: ppm

Analyte	LCS Report Value	True Value	Rec.%	%Rec Accept. Limit
TPH-d	20.8	20	104.0	80-120

ND: Not Detected (at the specified limit).



Environmental Laboratories

7801 Telegraph Road, Suite L Montebello, CA 90640 Phone (323) 888-0728 Fax (323) 888-1509

06-17-2002

EPA 8015M (TPH) Batch QA/QC Report

Client:

URS Corporation

Project:

Sears Oakland

Matrix:

Water

Batch No.:

AF10-GW1

Lab Job No.:

UR206030

Lab Sample ID:

UR206030-1

Date Analyzed:

06-10-2002

I. MS/MSD Report Unit: ppb

Analyte	Sample Conc.	Spike Conc.	MS	MSD	MS %Rec.	MSD %Rec.	% RPD	%RPD Accept. Limit	%Rec Accept. Limit
TPH-G	ND	1000	753	943	75.3	94.3	22.4	30	70-130

II. LCS Result Unit: ppb

Analyte	LCS Report Value	True Value	Rec.%	%Rec Accept. Limit
TPH-G	916	1000	91.6	80-120

ND: Not Detected (at the specified limit).



Environmental Laboratories

7801 Telegraph Road, Suite L Montebello, CA 90640 Phone (323) 888-0725 Fax (323) 888-1509

06-17-2002

EPA 8260B Batch QA/QC Report

Client:

URS Corporation

Project:

Sears Oakland

Matrix:

Water

Batch No:

0611-VOAW

Lab Job No.:

UR206030

Sample ID:

UR206042-3

Date Analyzed:

06-11-2002

I. MS/MSD Report Unit: ppb

Compound	Sample Conc.	Spike Conc.	MS	MSD	MS %Rec.	MSD %Rec.	% RPD	%RPD Accept. Limit	%Rec Accept. Limit
1,1- Dichloroethene	ND	20	24.8	24.7	124.0	123.5	0.4	30	70-130
Benzene	ND	20	22.5	21.5	112.5	107.5	4.5	30	70-130
Trichloro- ethene	ND	20	18.2	17.1	91.0	85.5	6.2	30	70-130
Toluene	ND	20	20.8	19.9	104.0	99.5	4.4	30	70-130
Chlorobenzene	_ ND	20	21.0	20.3	105.0	101.5	3.4	30	70-130

II. LCS Result Unit: ppb

Analyte	LCS Value	True Value	Rec.%	Accept. Limit
1,1-Dichloroethene	20.5	20.0	102.5	80-120
Benzene	20.7	20.0	103.5	80-120
Trichloro-ethene	17.8	20.0	89.0	80-120
Toluene	19.4	20.0	97.0	80-120
Chlorobenzene	19.4	20.0	97.0	80-120

ND: Not Detected.

URS CORPORATION

2020 East First Street, Suite 400 Santa Ana, CA 92705 (714) 835-6886 FAX (714) 667-7147

CHAIN OF CUSTODY RECORD

Date: 6,5,02
Page 1 ol 2

☐ Data Requested in GISKey Format														U	R	20 <u>603</u>	0
Lab Name			Project/PO Numbe						7.7			Requeste	d Analyses				
STS			<u> 22 - 0</u>	∞	<u> </u>				16		Г		1 1			Special Instructions	3
Client Name/Project Name/Location VEARS OAK LAND	1039	Geo'	Tracker Information	1			5	8	3		1 1		} }				i
SCOTT ROWLYD		EDF	Reporting Y N	Global II)		(ह्वाड्राम	(200	甚								
Sampler Names and Signature		COE	LT Log Number				£	ال	PHA TPHO (sor					'			
Sample Name:	Sample Date	Sample Time	Preserved ⁻	Matrix	Container Type.	# of Cont	1	V S S	12						HOL.	Cab ic	4
1-wu	6-2	815	2	ь В	Acatate SS. Brass Jar Encore Oml Amb Plas Glass VOA	6	Χ	1								Cab ic	0-1
MW-1	6-5	815	Y Ø	∞ 0 G	Acetate SS Brass Jar Encore	1			X								,
HW-3	6-5	925	b ×	တ္ခြ	Acetate SS Brass Jar Encore	6	X	X									-3
Ww-3	6-5	925	^У	9 G	Acetate SS Brass Jar Encore	1			X								
MW-4	6-5	1040	N D	o G	Acetate SS. Brass Jar Encore	6	X	X									-4
MW-4	6-5	1040	Ď	ð	Acetate SS, Brass Jar Encore	١			X								
MW-5	6-5	1130	Ö	S L G	Acetate SS Brass Jar Encore	6	X	X									
Mw-5	6-5	1130	o O	S L G	Acetate SS. Brass Jar Encore	١			X	i i							
DUP-1	6-5	1135	N N	S L G	Acetate SS Brass Jar Encore	6	Χ	X									6
TB	NA		© ×	S L G	Acetate SS Brass Jar Encore	2	Χ	1							, ,		- 7
Retinguished by	6/5/e	0	Received By	9 1	111	1	Date/	1 ime		Turnar	ound Tim	e (Check)		-		Use Only	7
Retinguished by Relinguished by.	Date Date		Received By	/ (0-6	6/	b/c Date/	7 <u>2</u> Time		Same Day	72	Hour	Cooler *Reco	Temp	eratu arriv	re*: <u>40</u> c	`
Relinquished by	Date		Received By				Date/	Time		24 Hour	51	Эау				RS	
	S=Sofid L	-Liquid G≖	Gas	14/bito C	opy in Final Report, Yellow to Fife, Pink to U	100 at Dave				48 Hour	Şt	andard 🗸		· ·		<u>r</u>	

URS CORPORATION

2020 East First Street, Suite 400 Santa Ana, CA 92705 (714) 835-6886 FAX (714) 667-7147

CHAIN OF CUSTODY RECORD

Date: 6 / 5 / 0 2
Page 2 of 2

☐ Data Requested in GISKey Format																14	<u>R :</u>	206030	•
STS		URS	Project/PO Number		0302.02		\vdash	Т	ार	11	- 1	T	Requeste	ed Ana	lyses			Special Instructions	
Client Name/Project Name/ocation SEA25 OAK LAND	10.39	GeoT	racker information				1		" (YOUN										
URS Project Manager Scott Rowcant		EDF	Reporting Y N	Global II)		Solsh	8260	100					Ì					
Sampler Name and Suprature Robert Kova	:1	COE	LT Log Number					-											
Sample Name.	Sample Date	Sample Time.	Preserved	Matrix	Container Type:	# of Cont.	TPH,	٤	THITPH								HOLD	Lab Za	d.
DUP-1	6-5	1135	v ©	Ô	Acetate SS Brass Jar Encore	1			X									UD 20601	
MW-9	6-5	1225	·	e e	Acetate SS. Brass Jar Encore	6	X	X											-9
MW-9	6-5	1225	v 6	တ္တိ ေ	Acetate SS Brass Jar Encore Amb Plas Glass VOA	١			Х										- F
MW-2	6-5	1350	b	ڻ	Acetate SS Brass Jar Encore	6	×	×										_	_ 스
MW-2	6-5	1350	Ý N	°₽°	Acetate SS. Brass Jar Encore Plas Glass VOA	1			X									···	_ <i>}</i>
, μw-7	6-5	1450	2	å	Acetate SS Brass Jar Encore	6	×	×											_£
MW-7	6-5	1450	ў (Д)	_∞ θ _∞	Acetate SS. Brass Jar Encore Amb Plas. Glass VOA	١			X										- {
世8-1	6-5	1500	2	್ಟ್ರಿ	Acetate SS Brass Jar Encore	6	K	×											-/0
			Y N	S L G	Acetate SS. Brass Jar Encore ml Amb Plas Glass VOA														
			N	S L G	Acetate SS Brass Jar Encoreml Amb. Plas Glass VOA														
Relinquighed by Korass	Date /	- 7	Received By	6	<i>B</i>	16/02	Date/	Time			rnaround		·	T				Use Only	
Relinquished by	Oate Oate	2	Received By			<u> </u>	Date/	Time		Same D	ау	. 72 Ho	ur		oler T ecord			e*: <u>4°C/</u> al	
Relinquished by	Date		Received By				Date/	Time	•••	24 Hour		5 Day				I	J	RS	
	S=Solid L	≠Liquid G=	Gas	While C	copy in Final Report, Yellow to File, Pink to	UBS at Droop	sti			48 Hour		Stand	ard						

APPENDIX C URS DATA VALIDATION REPORTS

Level III Data Validation Summary

PROJECT: Sears Oakland 1039

LABORATORY: Southland Technical Services, Inc. (STS)

MATRIX: Water
LAB PROJECT #: UR206030
SAMPLES: See table below

Field ID	QC Designations	Lab ID	TPH-Gasoline	TPH-Diesel, TPH-Oil	VOCs (including Fuel Oxygenates)
MW-1		UR206030-1	X	X	X
MW-3		UR206030-3	X	X	X
MW-4		UR206030-4	X	X	X
MW-5		UR206030-5	X	X	X
Dup-1	Field duplicate of MW-5	UR206030-6	X	X	X
TB	Trip Blank	UR206030-7	X		X
MW-9		UR206030-9	X	X	X
MW-2		UR206030-2	X	X	X
MW-7		UR206030-8	X	X	X
EB-1	Equipment blank	UR206030-10	X		X

Date Sampled: 6/5/02

DATA REVIEW MATRIX

QC Parameter	TPH-Gasoline EPA5030/8015M	TPH-Diesel, and TPH-Oil EPA3510C/8015M	VOCs EPA5030/8260B
Chain-of-custody (COC)		7	✓
Sample Receipt		7	
Holding Times		√	√
Method Blank	√	√	√
Surrogate Recovery	7	7	√
Laboratory Control Sample	√	-	-
Matrix Spike	√ (1)	√ (2)	(3)
Duplicate or Spike Duplicate	√ (1)	√ (2)	(3)
Field Duplicate	√	V	7
Trip Blank/Equipment Blank	√/√	NA/NA	√ √

^{✓ =} Quality control evaluation criteria met.

Notes:

- 1. MS/MSD was conducted on sample MW-1. The results were within acceptance criterion.
- 2. MS/MSD was conducted on sample MW-2. The results were within acceptance criterion.
- MS/MSD was conducted on a non-site related sample; therefore, the MS/MSD results obtained may
 not be fully representative of the accuracy and precision of the analysis on the site-specific sample
 matrix.

TPH-Gasoline= Total petroleum hydrocarbon - gasoline range (C4-C12), TPH-Diesel= Total petroleum hydrocarbon - diesel range (C13-C23)

TPH-Oil= Total petroleum hydrocarbon – oil range (C24-C40) VOCs = Volatile organic compounds

Fuel Oxygenates = t-butyl alcohol (TBA), t-amyl methyl ether (TAME), di - isopropyl ether (DIPE), ethyl-t-butyl ether (ETBE), Methyl tertiary butyl ether (MTBE).

STS is certified by California Department of Health Services (Certificate Number 1986).

NA = Not Applicable or Not Analyzed

<u>Summary</u>: Based on this Level III validation covering the QC parameters listed in the table above, these data are considered to be useable for meeting project objectives. However, the data user must evaluate the ultimate usability of the data based on the reporting limits obtained. The table below lists the detection limits obtained for undiluted samples.

Analyte	Detection Limits Obtained
TPH-Diesel	500
TPH-Oil	2000
TPH-Gasoline	50
VOCs	1 to 25
MTBE	2
TBA	10
Other Oxygenates	2

Aqueous units are microgram per Liter (µg /L).