

July 13, 1999

ENVIRONMENTAL
PROTECTION

99 JUL 14 PM 3:06

COPY

Mr. John Ward
Wells Fargo Trust
Asset Management Division
Trust Real Estate Department
P.O. Box 63939
San Francisco, California 94163

RE: Groundwater Monitoring Report
Blumert Trust, 490 43rd Street, Oakland, California
ACC Project No. 96-6305-001.01

Dear Mr. Ward:

The enclosed report summarizes results of groundwater monitoring at 490 43rd Street, Oakland, California, performed by ACC Environmental Consultants, Inc., (ACC) on June 22, 1999. The next groundwater sampling event is scheduled for December 1999. ACC has scheduled the installation of the downgradient groundwater monitoring well for July 23, and the injection of the oxygen release compound (ORC™) sometime the following week.

On your behalf, ACC is forwarding a copy of this report to the Alameda County Health Care Services Agency, Department of Environmental Health (ACHCSA).

If you have any comments regarding this report, please call me at (510) 638-8400.

Sincerely,



David R. DeMent, RG
Senior Geologist

/drd:clm

Enclosures

cc: Mr. Kenneth Cheitlin, McShane, Schnack & Cheitlin
Mr. Barney Chan, ACHCSA

GROUNDWATER MONITORING REPORT

**490 43rd Street
Oakland, California**

ACC Project No. 96-6305-001.01

Prepared for:

Mr. John Ward
Wells Fargo Trust
525 Market Street, 18th Floor
San Francisco, California

July 13, 1999

Prepared by:



Kari Betker
Technical Editor

Reviewed by:



David R. DeMent, RG
Senior Geologist

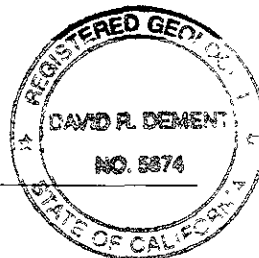


TABLE OF CONTENTS

	Page
1.0 INTRODUCTION	1
2.0 BACKGROUND	1
3.0 GROUNDWATER MONITORING AND SAMPLING	2
3.1 Groundwater Monitoring	2
3.2 Groundwater Gradient	4
3.3 Groundwater Sampling	5
4.0 RESULTS OF GROUNDWATER MONITORING	5
5.0 DISCUSSION	7
5.1 Dissolved Oxygen	7
6.0 CONCLUSIONS	8
7.0 RECOMMENDATIONS	8

TABLES

1 - Groundwater Monitoring Data.....	3
2 - Groundwater Gradient and Flow Direction.....	4
3 - Groundwater Sample Analytical Results	6

FIGURES

- 1 - Location Map
- 2 - Site Plan
- 3 - Gradient Map

APPENDICES

- 1 - Well Monitoring Worksheet
- 2 - Analytical Results and Chain of Custody Record

GROUNDWATER MONITORING REPORT
490 43rd Street
Oakland, California

1.0 INTRODUCTION

Groundwater monitoring and sampling was conducted by ACC Environmental Consultants, Inc., (ACC) for Wells Fargo Trust on behalf of the Blumert Trust, for the subject property at 490 43rd Street, Oakland, California (Figure 1). The work was conducted at the request of the Alameda County Health Care Services Agency, Department of Environmental Health (ACHCSA) for additional site investigation and characterization of impacted groundwater.

The purpose of the work was to monitor groundwater flow direction and gradient and to evaluate the presence of petroleum hydrocarbons in the local groundwater associated with former gasoline and paint thinner (mineral spirits) underground storage tanks (USTs). The locations of the groundwater monitoring wells and pertinent site features are illustrated on Figure 2.

2.0 BACKGROUND

The site is located at the northeastern corner of Telegraph Avenue and 43rd Street, Oakland, California (Figure 2). The property is relatively flat, at an elevation of approximately 90 feet above mean sea level (MSL). The predominant groundwater flow direction is to the south-southwest.

The facility formerly operated one 1,000-gallon gasoline UST and one 350-gallon mineral spirits UST, which were removed on December 11, 1991. Laboratory analysis of soil samples collected underneath the gasoline UST indicated concentrations of up to 220 parts per million (ppm) total petroleum hydrocarbons as gasoline (TPHg) and minor concentrations of benzene, toluene, ethylbenzene, and total xylenes (BTEX). Laboratory analysis of soil samples collected underneath the mineral spirit UST indicated concentrations up to 25 ppm mineral spirits. Groundwater was observed in the excavation at a depth of approximately 12.5 feet below ground surface (bgs). The tank pit, which formerly contained both USTs, was overexcavated on March 31, 1992, to remove additional impacted soil. Laboratory analysis of soil samples collected from excavation sidewalls indicated concentrations of up to 720 ppm TPHg, 30 ppm BTEX constituents, and 190 ppm mineral spirits.

Three groundwater monitoring wells were installed on April 12, 1993, by Kaprealian Engineering, Inc.. (KEI) and have been monitored periodically since that time. Gradient was calculated at approximately 0.01 foot/foot and flow direction was to the south-southwest. Groundwater samples collected from the three monitoring wells indicated elevated TPHg and mineral spirit concentrations.

On June 1, 1994, KEI drilled exploratory soil borings EB1 and EB2. Concentrations of TPHg and mineral spirits ranging from 28 to 180 ppm were detected in soil samples collected from boring EB2 at depths of 10 and 12 feet bgs. Grab groundwater samples collected from borings EB1 and EB2 indicated concentrations of TPHg at 3,400 parts per billion (ppb) and 9,200 ppb, respectively,

and mineral spirits at 7,000 ppb and 3,700 ppb, respectively. Sieve analysis of saturated soil at the site determined that the soil should be classified as silty sand (SM).

To further evaluate the extent of hydrocarbon impact to soil and groundwater, ACC performed an exploratory boring investigation in April 1996. ACC drilled two exploratory soil borings (SB1 and SB2) to characterize soil conditions in the immediate vicinity of the former tank excavation and six additional exploratory borings (B3 through B8) upgradient and downgradient of the former USTs to characterize groundwater in the general vicinity of the former tank excavation. Concentrations of mineral spirits were detected in sample SB1-9.0 at 52 ppm and in sample SB2-9.0 at 78 ppm. Grab groundwater samples were collected from borings B3 through B8 and analyzed for TPHg, BTEX, and mineral spirits. Concentrations of TPHg ranged from nondetectable in groundwater samples collected from borings B3 and B8 to 46,000 ppb in a sample collected from boring B6. Concentrations of mineral spirits ranged from nondetectable in samples collected from borings B3 and B8 to 16,000 ppb in a sample from boring B7. Petroleum hydrocarbon impacts to shallow groundwater were not fully delineated, but concentrations of TPHg and mineral spirits appear to have migrated preferentially along utility trench lines. Field observations indicated that general aquifer quality was poor, and subsurface groundwater migration was believed to be minimal based on soil type, flat hydraulic gradient, and minimal surface water infiltration.

In a letter to Wells Fargo Bank dated October 17, 1996, ACHCSA approved biannual groundwater monitoring, the installation of one additional monitoring well, and evaluation of options to artificially introduce dissolved oxygen (DO) into shallow groundwater to assist natural degradation processes. One groundwater monitoring well will be installed downgradient of the former USTs and ORC will be introduced via a series of soil borings. Biannual groundwater monitoring and sampling has been conducted since December 1996.

3.0 GROUNDWATER MONITORING AND SAMPLING

ACC monitored and sampled wells MW-1 through MW-3 on June 22, 1999. This sampling event was performed to further characterize groundwater conditions at the site. Work at the site included measuring depth to water, subjectively evaluating groundwater in the wells, measuring groundwater parameters such as pH, temperature, conductivity, and DO, and purging and sampling the wells for laboratory analysis.

3.1 Groundwater Monitoring

Before groundwater sampling, the depth to the surface of the water table was measured from the top of the well casing using a Solinst water level meter. The water level measurements were recorded to the nearest 0.01 foot with respect to MSL. Groundwater monitoring data obtained at the site is included as Appendix 1. Information regarding well elevations and groundwater levels is summarized in Table 1.

TABLE 1 - GROUNDWATER MONITORING DATA

Well Number (Well Elevation)	Date	Depth to Water*	Groundwater Elevation
MW-1 (91.02')	04/14/94	11.19	79.83
	05/23/94	10.75	80.27
	06/16/94	11.72	79.30
	04/12/95	9.72	81.31
	05/10/95	10.11	80.91
	06/28/95	10.91	80.11
	12/05/95	12.21	78.81
	05/30/96	10.23	80.79
	09/03/96	12.10	78.92
	12/06/96	9.32	81.70
	06/12/97	11.85	79.17
	12/16/97	8.87	82.15
	06/19/98	10.77	80.25
	12/17/98	10.04	80.98
06/22/99	11.60	79.42	
MW-2 (90.55')	04/14/94	10.95	79.60
	05/23/94	10.52	80.03
	06/16/94	11.49	79.06
	04/12/95	9.59	80.96
	05/10/95	10.00	80.55
	06/28/95	10.95	79.60
	12/05/95	12.34	78.21
	05/30/96	10.01	80.54
	09/03/96	11.87	78.68
	12/06/96	9.42	81.13
	06/12/97	11.65	78.90
	12/16/97	8.74	81.81
	06/19/98	10.49	80.06
	12/17/98	9.99	80.56
06/22/99	11.74	78.81	
MW-3 (90.90')	04/14/94	11.23	79.67
	05/23/94	10.74	80.16
	06/16/94	11.81	79.09
	04/12/95	9.72	81.18
	05/10/95	10.16	80.74
	06/28/95	10.99	79.91
	12/05/95	12.39	78.51
	05/30/96	9.97	80.93
	09/03/96	12.40	78.50
	12/06/96	9.12	81.78
	06/12/97	11.86	79.04
	12/16/97	8.54	82.36
	06/19/98	10.66	80.24
	12/17/98	9.98	80.92
06/22/99	11.76	79.14	

Notes *Depth to water measured in feet below top of casing

3.2 Groundwater Gradient

The groundwater flow direction as determined from monitoring well data collected on June 22, 1999, is illustrated on Figure 3. Based on groundwater elevation calculations, groundwater flow is predominantly toward the southwest at an average gradient of 0.026 foot/foot. Historic groundwater gradient at the site is summarized in Table 2.

TABLE 2 - GROUNDWATER GRADIENT AND FLOW DIRECTION

Date Monitored	Average Gradient (foot/foot)	Direction
04/14/94	0.007	South
05/23/94	0.008	South
06/16/94	0.007	South
04/12/95	0.010	South-southwest
05/10/95	0.011	South-southwest
06/28/95	0.010	South-southwest
12/05/95	0.020	South-southwest
05/30/96	0.014	Southwest
09/03/96	0.012	Southeast
12/06/96	0.036	Southwest
06/12/97	0.012	South-southwest
12/16/97	0.026	Southwest
06/19/98	0.010	Southwest
12/17/98	0.016	Southwest
06/22/99	0.026	Southwest

3.3 Groundwater Sampling

Prior to groundwater sampling, each well was purged using a disposable polyethylene bailer. ACC measured pH, DO, conductivity, temperature, salinity, and turbidity during well purging. When these parameters stabilized and four well casing volumes of water had been removed from each well, groundwater samples were collected. Following purging, each well was allowed to recharge before sampling.

Each well was sampled using a new, disposable polyethylene bailer attached to new string. From each monitoring well, laboratory supplied sample vials and bottles were filled to overflowing and sealed so that no air was trapped in the vial or bottle. Once filled, vials were inverted and tapped to test for air bubbles. Sample containers were labeled with self-adhesive, pre-printed tags. All samples were stored in pre-chilled, insulated containers pending delivery to Chromalab Inc. (Chromalab), a state-certified laboratory, for analysis.

Water purged during the sampling of the monitoring wells is temporarily stored on site in Department of Transportation approved 55-gallon drums pending receipt of laboratory analytical results and proper disposal.

4.0 RESULTS OF GROUNDWATER SAMPLING

Groundwater samples collected from monitoring wells MW-1 through MW-3 were submitted to Chromalab following chain of custody protocol. The samples were analyzed for TPHg, BTEX, and methyl tertiary butyl ether (MTBE) using Method SW846 8020A Nov 1990/8015M, and total extractable petroleum hydrocarbons as mineral spirits (TEPH as mineral spirits) using EPA Method 8015M. A copy of the chain of custody record and laboratory analytical reports is included as Appendix 2. Groundwater sample analytical results are summarized in Table 3.

TABLE 3 - GROUNDWATER SAMPLE ANALYTICAL RESULTS

Well / Date	Mineral Spirits (µg/L)	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)
MW-1							
04/29/93	600	290	31	1.9	2.7	5.4	--
12/13/93	820	1,700	170	22	19	48	--
03/15/94	1,200	2,100	250	12	27	38	--
06/16/94	430	700	35	6.8	8.7	10	--
09/13/94	73	170	6.6	1.6	2.4	3.3	--
12/08/94	170	420	16	3.0	2.9	2.7	--
03/14/95	65	630	39	ND	7.0	8.6	--
06/28/95	130	720	100	7.8	23	32	--
10/13/95	900	290	8.6	0.55	2.8	1.4	--
12/05/95	70	94	5.6	ND	0.67	0.53	--
05/30/96	<50	1,700 ⁽¹⁾	62	<0.5	16	18	<5
09/03/96	<50	570	1.8	0.61	8.5	7.3	<5
12/06/96	<51	2,600	84	2.8	30	23	--
06/12/97	<51	580	9.4	1.3	5.0	4.0	8.1
12/16/97	490 ⁽⁴⁾	840	12	2.5	8.0	4.4	17
06/19/98	480	130	0.80	<0.50	1.8	0.52	<5.0
12/17/98	300 ⁽⁴⁾	89	1.9	<0.50	<0.50	0.69	<5.0
06/22/99	<50	220	6.7	<0.50	4.5	<0.50	<5.0
MW-2							
04/29/93	4,100	11,000	2,400	51	76	160	--
12/13/93	2,600	11,000	1,400	66	150	94	--
06/16/94	11,000	18,000	2,100	ND	200	70	--
09/13/94	5,400	12,000	1,400	50	200	89	--
12/08/94	3,200	11,000	1,700	34	200	86	--
03/14/95	670	14,000	1,500	41	160	66	--
06/28/95	8,700	11,000	1,700	ND	230	78	--
10/13/95	1,500	9,400	1,200	41	200	61	--
12/05/95	24,000	150,000	890	200	720	500	--
05/30/96	<50	10,000 ⁽¹⁾	61	5.1	28	11	<5 ⁽²⁾
09/03/96	<50	7,400	960	19	130	37	<100 ⁽²⁾
09/03/96 ⁽³⁾	2,800	7,800	1,400	<0.5	210	91	300
12/06/96	<54	12,000	850	8	140	36	--
06/12/97	<50	5,100	810	25	6.8	13	<5
12/16/97	3,600 ⁽⁴⁾	3,000	400	9.2	26	10	44
06/19/98	7,200	5,900	760	15	100	33	<25
12/17/98	3,400 ⁽⁴⁾	7,300	850	33	200	22	<25
06/22/99	1,200	7,800	660	<10	140	<10	<100
MW-3							
04/29/93	5,800	8,500	840	17	40	42	--
12/13/93	3,500	6,200	580	120	65	120	--
06/16/94	4,700	7,700	910	ND	86	50	--
09/13/94	8,700	6,800	430	14	45	37	--
12/08/94	2,100	1,500	820	ND	52	28	--
03/14/95	480	5,600	250	11	25	30	--
06/28/95	2,100	14,000	650	18	70	54	--

Well / Date	Mineral Spirits (µg/L)	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-Benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)
10/13/95	430	2,500	270	1.9	15	10	--
12/05/95	5,400	4,200	250	ND	26	ND	--
05/30/96	<50	5,300 ⁽¹⁾	65	1.5	9.0	5.1	<5 ⁽²⁾
09/03/96	<50	8,900	460	17	51	77	<25 ⁽²⁾
09/03/96 ⁽³⁾	7,100	4,800	800	14	39	39	120
12/06/96	<100	7,000	740	<5	60	17	--
06/12/97	<50	2,800	460	14	59	28	<50
12/16/97	4,000 ⁽⁴⁾	4,900	1,700	17	52	20	92
06/19/98	10,000	3,800	470	19	49	21	<25
12/17/98	240 ⁽⁴⁾	5,000	450	18	100	4.8	<25
06/22/99	790	3,100	190	<1.0	52	<1.0	<10

Notes: All water results are reported in µg/L, approximately equal to ppb

< = Not detected at laboratory reporting limit indicated

-- = Analysis not performed

⁽¹⁾ Value revised by Chromalab from May 1996, submission 9605835

⁽²⁾ Confirmed by gas chromatography/mass spectrometry (GC/MS)

⁽³⁾ Duplicate sample analysis by Sequoia Analytical

⁽⁴⁾ Quantitation for this analyte is based on the response factor of diesel. Hydrocarbons reported do not match the pattern of the mineral spirit standard.

5.0 DISCUSSION

Three groundwater monitoring wells are located at the site in proximity to the former USTs. Groundwater gradient and flow direction were 0.026 foot/foot to the southwest in June 1999. These values are consistent with previous sampling events; however, seasonal variations in gradient and flow direction have been observed at the site.

Analytical results from the June 22, 1999 sampling event indicate that concentrations of TPHg and BTEX decreased overall in the three wells while concentrations of mineral spirits decreased in wells MW-1 and MW-2.

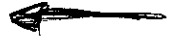
Historical groundwater analytical results indicate generally decreasing concentrations of petroleum hydrocarbon constituents indicating that natural biodegradation processes are occurring. Dissolved-phase petroleum hydrocarbon concentrations mimic fluctuations in groundwater elevation. Since the monitoring wells are located in such close proximity to the former USTs, these fluctuations are observed in the wells during periodic monitoring events.

5.1 Dissolved Oxygen

DO levels in wells MW-1 through MW-3 appear to vary with the degree of groundwater recharge. Past DO levels have ranged from 0.4 to 3.4 ppm while DO levels in June 1999 ranged from 9.0 to 10.0 ppm, with minor differences between wells. These DO concentrations are suspect due to a new method of measurement employed by ACC which may result in artificially elevated

YSI Model 50B

- 1) down hole = DO meter
- 2) Winkler method



$\frac{S}{\text{cm}}$ Ox-reduct potential.

readings. ACC is currently researching and addressing this matter, and believe that actual levels of DO in groundwater are closer to those measured during previous sampling events.

*need to resolve
D.O. measure
well*

DO is considered the limiting factor in biodegradation of petroleum hydrocarbons in shallow groundwater. While natural recharge supplies continual DO in groundwater, DO levels can be enhanced with the use of oxygen releasing compounds such as ORC[®]. The use of oxygen releasing compounds and subsequent DO transport in groundwater can be monitored and evaluated using existing well MW-2 should oxygen releasing compounds be introduced in wells MW-1 and MW-3, or by monitoring the DO levels in the three monitoring wells if oxygen releasing compounds are directly injected into groundwater in the vicinity of the wells.

6.0 CONCLUSIONS

Based on historical data and analytical results of this sampling and monitoring event, ACC concludes the following:

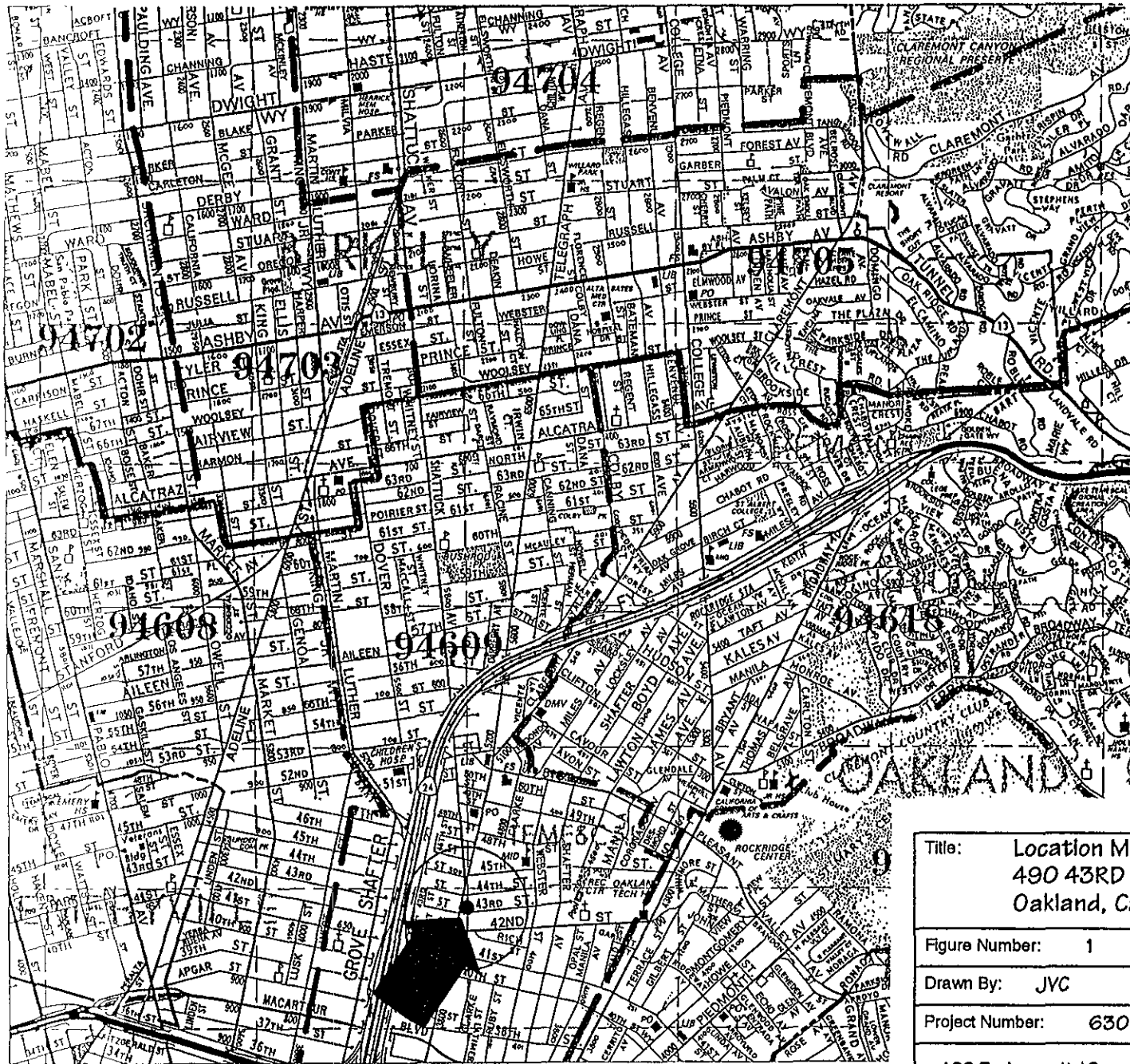
- Dissolved TPHg, BTEX, and mineral spirits continue to be detected in groundwater in the immediate vicinity of wells MW-1 through MW-3, and the ongoing presence of these constituents appears to be due to periodic contact between fluctuating groundwater and residual petroleum hydrocarbon concentrations in soil;
- Petroleum hydrocarbon concentrations are being slowly degraded through natural biodegradation processes with a measurable preference for BTEX constituents; and
- Groundwater flow direction and gradient were calculated to the southwest at 0.026 foot/foot which is consistent with previous sampling events.

7.0 RECOMMENDATIONS

Groundwater monitoring and sampling data has characterized groundwater conditions at the site. Natural bioremedial processes are slowly degrading petroleum hydrocarbon residues and these processes can be assisted by enhancing DO levels through introduction of oxygen releasing compound. Therefore, as discussed in the Revised Work Plan dated January 12, 1999, ACC recommends the following:

- Introduce ORC[®] into shallow groundwater by directly injecting ORC[®] at selected boring locations using a Geoprobe[®] to enhance DO concentrations and stimulate natural bioremediation processes;
- Measure DO concentrations in the wells during the next monitoring event to evaluate the DO levels and DO migration potential with both a portable meter and by collecting confirmation samples for DO analysis by an analytical laboratory;

- Conduct quarterly well monitoring and sampling for six to twelve months to further characterize groundwater conditions, monitor DO levels, confirm decreasing concentrations of petroleum hydrocarbon constituents, and evaluate the site for regulatory closure and “no further action” status; and
- If necessary, perform a Tier 1 Risk Assessment for the site.

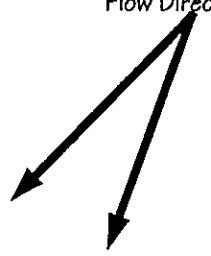


SOURCE: THOMAS BROTHERS GUIDE

Title: Location Map 490 43RD Street Oakland, California	
Figure Number: 1	Scale:
Drawn By: JVC	Date: 12/19/95
Project Number: 6305-1.1	
ACC Environmental Consultants 7977 Capwell Drive, Suite 100 Oakland, California 94621 (510) 638-8400 Fax: (510) 638-8404	

TELEGRAPH AVENUE

Approximate Groundwater Flow Direction



EXISTING BUILDING

LOADING DOCK

EQUIPMENT STORAGE

ASPHALT SURFACE

EXISTING BUILDING

MW-1

EXISTING FENCE

Former Excavation Boundary

SIDEWALK

Storm Sewer

6" Water Line

MW-2

MW-3

43RD STREET

Former 1,000-Gallon Gasoline UST

Former 350-Gallon Paint Thinner UST

Gas Line

Storm Sewer



Former 1,000-Gallon Gasoline UST (489 43rd Street)

Legend

MW-2 - Existing Groundwater Monitoring Well

- Former Underground Storage Tank

Scale In Feet



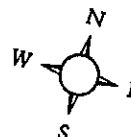
Title: **Site Plan**
490 43rd Street
Oakland, California

Figure Number: **2** Scale: **1" = 30"**

Drawn By: **JVC/DRD** Date: **6/24/97**

Project Number: **6305-001.01**

ACC Environmental Consultants
 7977 Capwell Drive, Suite 100
 Oakland, California 94621
 (510) 638-8400 Fax: (510) 638-8404



TELEGRAPH AVENUE

EXISTING BUILDING

LOADING DOCK

EQUIPMENT STORAGE

ASPHALT SURFACE

EXISTING FENCE

EXISTING BUILDING

Storm Sewer

SIDEWALK

6" Water Line

43RD STREET

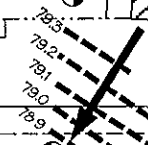
Gas Line


Storm Sewer

(79.42')
MW-1




MW-2
(78.81')

MW-3
(79.14')

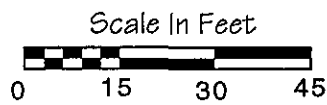


 Former 1,000-Gallon Gasoline UST (489 43rd Street)

Legend

- MW 2  - Existing Groundwater Monitoring Well
-  - Calculated Groundwater Flow Direction
-  - Calculated Groundwater Elevation Contour

Groundwater Elevation Data collected on June 22, 1999

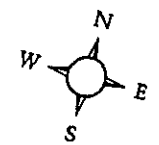


Title: **Gradient Map**
490 43rd Street
Oakland, California

Figure Number: 3	Scale: 1" = 30"
Drawn By: JVC/DRD	Date: 6/25/99

Project Number: **6305-001.01**

ACC Environmental Consultants
7977 Capwell Drive, Suite 100
Oakland, California 94621
(510) 638-8400 Fax: (510) 638-8404



WELL MONITORING WORKSHEET

JOB NAME: <u>Blument Paint Co.</u>	PURGE METHOD: <u>Purge Pump</u>
SITE ADDRESS: <u>490 43rd Street, Oakland</u>	SAMPLED BY: <u>Nel Doran</u>
JOB #: <u>6305-001.01</u>	LABORATORY: <u>Chromalab</u>
DATE: <u>6/22/99</u>	ANALYSIS: <u>TPH_g/BTEX/MTBE, Mineral Spirits</u>
Onsite Drum Inventory SOIL:	MONITORING <input checked="" type="checkbox"/> DEVELOPING <input type="checkbox"/>
EMPTY: WATER: <u>1 ~ .75% full</u>	SAMPLING <input checked="" type="checkbox"/>

	PURGE	PURGE WATER READINGS						OBSERVATIONS
	VOL.	pH	Temp.(C)	Cond.	Sal.	Turb.	D.O.	
WELL: MW-1	(Gal)	pH	Temp.(C)	Cond.	Sal.	Turb.	D.O.	<input type="checkbox"/> Froth
DEPTH OF BORING: <u>22.30'</u>	<u>1.8</u>	<u>6.06</u>	<u>19.1</u>	<u>.331</u>	<u>0.01</u>	<u>021</u>	<u>10.0</u>	<input checked="" type="checkbox"/> Sheen
DEPTH TO WATER: <u>11.60'</u>	<u>3.6</u>	<u>5.91</u>	<u>18.9</u>	<u>.328</u>	<u>0.01</u>	<u>009</u>	<u>9.5</u>	<input checked="" type="checkbox"/> Odor Type <u>gas</u>
WATER COLUMN: <u>10.70'</u>	<u>5.4</u>	<u>5.86</u>	<u>18.8</u>	<u>.312</u>	<u>0.01</u>	<u>009</u>	<u>9.5</u>	<input type="checkbox"/> Free Product
WELL DIAMETER: <u>2"</u>	<u>7.2</u>	<u>5.98</u>	<u>18.3</u>	<u>.322</u>	<u>0.01</u>	<u>008</u>	<u>9.5</u>	Amount _____ Type _____
WELL VOLUME: <u>1.8 gal</u>								<input type="checkbox"/> Other
COMMENTS:								
WELL: MW-2	(Gal)	pH	Temp.(C)	Cond.	Sal.	Turb.	D.O.	<input type="checkbox"/> Froth
DEPTH OF BORING: <u>21.08'</u>	<u>1.5</u>	<u>5.94</u>	<u>19.4</u>	<u>.473</u>	<u>0.01</u>	<u>009</u>	<u>9.3</u>	<input type="checkbox"/> Sheen
DEPTH TO WATER: <u>11.74'</u>	<u>3.0</u>	<u>5.96</u>	<u>19.2</u>	<u>.496</u>	<u>0.02</u>	<u>010</u>	<u>9.4</u>	<input checked="" type="checkbox"/> Odor Type <u>gas</u>
WATER COLUMN: <u>9.34'</u>	<u>4.5</u>	<u>6.01</u>	<u>18.8</u>	<u>.495</u>	<u>0.02</u>	<u>011</u>	<u>9.5</u>	<input type="checkbox"/> Free Product
WELL DIAMETER: <u>2"</u>	<u>6.0</u>	<u>6.01</u>	<u>19.1</u>	<u>.483</u>	<u>0.02</u>	<u>007</u>	<u>9.3</u>	Amount _____ Type _____
WELL VOLUME: <u>1.5 gal</u>								<input type="checkbox"/> Other
COMMENTS:								
WELL: MW-3	(Gal)	pH	Temp.(C)	Cond.	Sal.	Turb.	D.O.	<input type="checkbox"/> Froth
DEPTH OF BORING: <u>21.48'</u>	<u>1.6</u>	<u>6.45</u>	<u>19.5</u>	<u>.675</u>	<u>0.02</u>	<u>000</u>	<u>9.2</u>	<input type="checkbox"/> Sheen
DEPTH TO WATER: <u>11.76'</u>	<u>3.2</u>	<u>5.93</u>	<u>19.4</u>	<u>.645</u>	<u>0.02</u>	<u>008</u>	<u>9.1</u>	<input checked="" type="checkbox"/> Odor Type <u>gas</u>
WATER COLUMN: <u>10.72'</u>	<u>4.8</u>	<u>5.97</u>	<u>19.4</u>	<u>.614</u>	<u>0.02</u>	<u>018</u>	<u>9.0</u>	<input type="checkbox"/> Free Product
WELL DIAMETER: <u>2"</u>	<u>6.4</u>	<u>6.12</u>	<u>19.3</u>	<u>.619</u>	<u>0.02</u>	<u>012</u>	<u>9.1</u>	Amount _____ Type _____
WELL VOLUME: <u>1.6 gal</u>								<input type="checkbox"/> Other
COMMENTS: <u>* MW-3 found unsolvent w/cap off.</u>								

ANALYTICAL RESULTS AND CHAIN OF CUSTODY RECORD

ACC Environmental Consultants

7977 Capwell Drive, Suite 100

Oakland, CA 94621

Attn.: Mr. Dave DeMent

Project: 6305-001.01
490 43RD ST

Dear Mr. DeMent,

Attached is our report for your samples received on Tuesday June 22, 1999.

This report has been reviewed and approved for release. Reproduction of this report is permitted only in its entirety.

Please note that any unused portion of the samples will be discarded after July 22, 1999 unless you have requested otherwise. We appreciate the opportunity to be of service to you. If you have any questions, please call me at (925) 484-1919.

Sincerely,


Pierre Monette

Gas/BTEX and MTBE

ACC Environmental Consultants

✉ 7977 Capwell Drive, Suite 100
Oakland, CA 94621

Attn: Dave DeMent

Phone: (510) 638-8400 Fax: (510) 638-8404

Project #: 6305-001.01

Project: 490 43RD ST

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
MW-1	Water	06/22/1999	1
MW-2	Water	06/22/1999	2
MW-3	Water	06/22/1999	3

Environmental Services (SDB)

To: ACC Environmental Consultants

Test Method: 8015M
8020

Attn.: Dave DeMent

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID: MW-1	Lab Sample ID: 1999-06-0316-001
Project: 6305-001.01 490 43RD ST	Received: 06/22/1999 17:51
Sampled: 06/22/1999	Extracted: 06/29/1999 01:22
Matrix: Water	QC-Batch: 1999/06/28-01.03

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	220	50	ug/L	1.00	06/29/1999 01:22	g
Benzene	6.7	0.50	ug/L	1.00	06/29/1999 01:22	
Toluene	ND	0.50	ug/L	1.00	06/29/1999 01:22	
Ethyl benzene	4.5	0.50	ug/L	1.00	06/29/1999 01:22	
Xylene(s)	ND	0.50	ug/L	1.00	06/29/1999 01:22	
MTBE	ND	5.0	ug/L	1.00	06/29/1999 01:22	
Surrogate(s)						
Trifluorotoluene	83.2	58-124	%	1.00	06/29/1999 01:22	
4-Bromofluorobenzene-FID	91.4	50-150	%	1.00	06/29/1999 01:22	

To: ACC Environmental Consultants

Test Method: 8015M
8020

Attn.: Dave DeMent

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID: MW-2	Lab Sample ID: 1999-06-0316-002
Project: 6305-001.01 490 43RD ST	Received: 06/22/1999 17:51
Sampled: 06/22/1999	Extracted: 06/28/1999 23:57
Matrix: Water	QC-Batch: 1999/06/28-01.03

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	7800	1000	ug/L	20.00	06/28/1999 23:57	g
Benzene	660	10	ug/L	20.00	06/28/1999 23:57	
Toluene	ND	10	ug/L	20.00	06/28/1999 23:57	
Ethyl benzene	140	10	ug/L	20.00	06/28/1999 23:57	
Xylene(s)	ND	10	ug/L	20.00	06/28/1999 23:57	
MTBE	ND	100	ug/L	20.00	06/28/1999 23:57	
Surrogate(s)						
Trifluorotoluene	91.9	58-124	%	1.00	06/28/1999 23:57	
4-Bromofluorobenzene-FID	94.2	50-150	%	1.00	06/28/1999 23:57	

Environmental Services (SDB)

To: ACC Environmental Consultants

Test Method: 8015M

8020

Attn.: Dave DeMent

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID: MW-3	Lab Sample ID: 1999-06-0316-003
Project: 6305-001.01 490 43RD ST	Received: 06/22/1999 17:51
Sampled: 06/22/1999	Extracted: 06/29/1999 10:13
Matrix: Water	QC-Batch: 1999/06/29-01.03

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	3100	100	ug/L	2.00	06/29/1999 10:13	g
Benzene	190	1.0	ug/L	2.00	06/29/1999 10:13	
Toluene	ND	1.0	ug/L	2.00	06/29/1999 10:13	
Ethyl benzene	52	1.0	ug/L	2.00	06/29/1999 10:13	
Xylene(s)	ND	1.0	ug/L	2.00	06/29/1999 10:13	
MTBE	ND	10	ug/L	2.00	06/29/1999 10:13	
Surrogate(s)						
4-Bromofluorobenzene	87.4	50-150	%	1.00	06/29/1999 10:13	
4-Bromofluorobenzene-FID	127.3	50-150	%	1.00	06/29/1999 10:13	

Environmental Services (SDB)

To: ACC Environmental Consultants

Test Method: 8015M
8020

Attn.: Dave DeMent

Prep Method: 5030

Batch QC Report
Gas/BTEX and MTBE

Method Blank

Water

QC Batch # 1999/06/28-01.03

MB: 1999/06/28-01.03-001

Date Extracted: 06/28/1999 06:09

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Gasoline	ND	50	ug/L	06/28/1999 06:09	
Benzene	ND	0.5	ug/L	06/28/1999 06:09	
Toluene	ND	0.5	ug/L	06/28/1999 06:09	
Ethyl benzene	ND	0.5	ug/L	06/28/1999 06:09	
Xylene(s)	ND	0.5	ug/L	06/28/1999 06:09	
MTBE	ND	5.0	ug/L	06/28/1999 06:09	
Surrogate(s)					
Trifluorotoluene	94.4	58-124	%	06/28/1999 06:09	
4-Bromofluorobenzene-FID	113.4	50-150	%	06/28/1999 06:09	

Environmental Services (SDB)

To: ACC Environmental Consultants

Test Method: 8015M

8020

Attn.: Dave DeMent

Prep Method: 5030

Batch QC Report
Gas/BTEX and MTBE

Method Blank

Water

QC Batch # 1999/06/29-01.03

MB: 1999/06/29-01.03-001

Date Extracted: 06/29/1999 07:38

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Gasoline	ND	50	ug/L	06/29/1999 07:38	
Benzene	ND	0.5	ug/L	06/29/1999 07:38	
Toluene	ND	0.5	ug/L	06/29/1999 07:38	
Ethyl benzene	ND	0.5	ug/L	06/29/1999 07:38	
Xylene(s)	ND	0.5	ug/L	06/29/1999 07:38	
MTBE	ND	5.0	ug/L	06/29/1999 07:38	
Surrogate(s)					
Trifluorotoluene	79.6	58-124	%	06/29/1999 07:38	
4-Bromofluorobenzene-FID	100.8	50-150	%	06/29/1999 07:38	

Environmental Services (SDB)

To: ACC Environmental Consultants

Test Method: 8020
8015M

Attn: Dave DeMent

Prep Method: 5030

Batch QC Report

Gas/BTEX and MTBE

Laboratory Control Spike (LCS/LCSD)

Water

QC Batch # 1999/06/28-01.03

LCS: 1999/06/28-01.03-002

Extracted: 06/28/1999 06:36

Analyzed: 06/28/1999 06:36

LCSD: 1999/06/28-01.03-003

Extracted: 06/28/1999 07:56

Analyzed: 06/28/1999 07:56

Compound	Conc. [ug/L]		Exp. Conc. [ug/L]		Recovery [%] RPD			Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	RPD [%]	Recovery	RPD	LCS	LCSD
Gasoline	555	536	500	500	111.0	107.2	3.5	75-125	20		
Benzene	86.6	90.2	100.0	100.0	86.6	90.2	4.1	77-123	20		
Toluene	84.3	88.7	100.0	100.0	84.3	88.7	5.1	78-122	20		
Ethyl benzene	81.1	88.1	100.0	100.0	81.1	88.1	8.3	70-130	20		
Xylene(s)	233	245	300	300	77.7	81.7	5.0	75-125	20		
Surrogate(s)											
Trifluorotoluene	396	402	500	500	79.2	80.4		58-124			
4-Bromofluorobenzene-Fl	566	596	500	500	113.2	119.2		50-150			

Environmental Services (SDB)

To: ACC Environmental Consultants

Test Method: 8020
8015M

Attn: Dave DeMent

Prep Method: 5030

Batch QC Report

Gas/BTEX and MTBE

Laboratory Control Spike (LCS/LCSD)

Water

QC Batch # 1999/06/29-01.03

LCS: 1999/06/29-01.03-002

Extracted: 06/30/1999 14:25

Analyzed: 06/30/1999 14:25

LCSD: 1999/06/29-01.03-003

Extracted: 06/30/1999 08:58

Analyzed: 06/30/1999 08:58

Compound	Conc. [ug/L]		Exp. Conc. [ug/L]		Recovery [%] RPD			Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD	RPD [%]	Recovery	RPD	LCS	LCSD
Gasoline	479	480	500	500	95.8	96.0	0.2	75-125	20		
Benzene	96.6	89.0	100.0	100.0	96.6	89.0	8.2	77-123	20		
Toluene	94.0	87.8	100.0	100.0	94.0	87.8	6.8	78-122	20		
Ethyl benzene	92.7	87.4	100.0	100.0	92.7	87.4	5.9	70-130	20		
Xylene(s)	268	249	300	300	89.3	83.0	7.3	75-125	20		
Surrogate(s)											
Trifluorotoluene	415	394	500	500	83.0	78.8		58-124			
4-Bromofluorobenzene-FI	442	493	500	500	88.4	98.6		50-150			

Environmental Services (SDB)

To: ACC Environmental Consultants

Test Method: 8015M
8020

Attn: Dave DeMent

Prep Method: 5030

Legend & Notes

Gas/BTEX and MTBE

Analyte Flags

g

Hydrocarbon reported in the gasoline range does not match our gasoline standard.

Total Extractable Petroleum Hydrocarbons (TEPH)

ACC Environmental Consultants

✉ 7977 Capwell Drive, Suite 100
Oakland, CA 94621

Attn: Dave DeMent

Phone: (510) 638-8400 Fax: (510) 638-8404

Project #: 6305-001.01

Project: 490 43RD ST

Samples Reported

Sample ID	Matrix	Date Sampled	Lab #
MW-1	Water	06/22/1999	1
MW-2	Water	06/22/1999	2
MW-3	Water	06/22/1999	3

Environmental Services (SDB)

To: ACC Environmental Consultants

Test Method: 8015m

Attn.: Dave DeMent

Prep Method: 3510/8015M

Total Extractable Petroleum Hydrocarbons (TEPH)

Sample ID: MW-1	Lab Sample ID: 1999-06-0316-001
Project: 6305-001.01 490 43RD ST	Received: 06/22/1999 17:51
Sampled: 06/22/1999	Extracted: 06/23/1999 09:08
Matrix: Water	QC-Batch: 1999/06/23-01.10

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Mineral spirits	ND	50	ug/L	1.00	06/25/1999 01:16	
<i>Surrogate(s)</i> o-Terphenyl	61.2	60-130	%	1.00	06/25/1999 01:16	

1220 Quarry Lane * Pleasanton, CA 94566-4756

Telephone: (925) 484-1919 * Facsimile: (925) 484-1096

CHROMALAB, INC.

1220 Quarry Lane • Pleasanton, California 94566-4758
510/484-1010 • Facsimile 510/484-1088

Reference #: 46576

Chain of Custody

Environmental Services (SDB) (DOHS 1084)

DATE 6/22/99 PAGE 1 OF 1

PROJ MGR Dave DeMent
 COMPANY ACC
 ADDRESS 7977 Capwell
Oakland 94661

SAMPLERS (SIGNATURE) Neil H Doran (PHONE NO.) 510-638-8400
 (FAX NO.) 510-638-8404

ANALYSIS REPORT

SAMPLE ID.	DATE	TIME	MATRIX	PRESERV.	TPH-EPA 8015, 8020 Ex-Gas w/TPH, STEKEMTRE	PURGEABLE AROMATICS BTEX (EPA 8020)	TPH-Diesel (EPA 8015M)	TEPH (EPA 8015M) Dibenzodioxin, Dibenzofuran, DM.O.	FURANALZHALOCARBONS, (HVOCS) (EPA 8010)	VOLATILE ORGANICS (VOCs) (EPA 8260)	SEMI-VOLATILES (EPA 8270)	TOTAL OIL AND GREASE (SM 5520 B+F, E+F)	MINERAL SPIRITS	PESTICIDES (EPA 8060) PCB'S (EPA 8060)	PMA's by <input type="checkbox"/> 8270 <input type="checkbox"/> 8310	<input type="checkbox"/> Spec. Cond. <input type="checkbox"/> TSS <input type="checkbox"/> TDS	LUFT METALS: Cd, Cr, Pb, Ni, Zn	CAM 17 METALS (EPA 6010/7470/7471)	TOTAL LEAD	D.W.E.T. (STLC) DTCLY	<input type="checkbox"/> Barrelet Charcoal <input type="checkbox"/> PE (24 hr hold time for H2O)	NUMBER OF CONTAINERS	
MW-1	6/22/99	1040	H ₂ O	COOL/ICE	X								X										4
MW-2	↓	1010	H ₂ O	COOL/ICE	X								X										4
MW-3	↓	0925	H ₂ O	COOL/ICE	X								X										4

PROJECT INFORMATION

PROJECT NAME R9043rd Street
 PROJECT NUMBER 6305 001 01
 P O # _____

SAMPLE RECEIPT

TOTAL NO. OF CONTAINERS _____
 HEAD SPACE _____
 TEMPERATURE _____
 CONFORMS TO RECORD _____

TAT STANDARD 5 DAY

24 48 72 OTHER

Report: Routine Level 2 Level 3 Level 4 Electronic Report

SPECIAL INSTRUCTIONS/COMMENTS:
5.8°C

RELINQUISHED BY

1. Neil H Doran (SIGNATURE) (TIME) _____ (DATE) 6/22/99
 (PRINTED NAME) (DATE)
 ACC (COMPANY)

2. _____ (SIGNATURE) (TIME) _____ (DATE) _____ (PRINTED NAME) (DATE) _____ (COMPANY)

3. Neil H Doran (SIGNATURE) (TIME) _____ (DATE) _____ (PRINTED NAME) (DATE) _____ (COMPANY)

RECEIVED BY

1. B. Moran (SIGNATURE) (TIME) 12:25 (DATE) 6/22/99
 (PRINTED NAME) (DATE)
 Chromalab (COMPANY)

2. _____ (SIGNATURE) (TIME) _____ (DATE) _____ (PRINTED NAME) (DATE) _____ (COMPANY)

3. Denise Harrington (SIGNATURE) (TIME) _____ (DATE) 1751 (DATE) 6/22/99
 (PRINTED NAME) (DATE)
 Chromalab (LAB)