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Private Client Services
Specialty Assets - Real Estate

345 California Street, 10th Floor
P.O Box 63939
San Francisco, CA 94163
FAX (415) 983-0701

January 24, 1997

Blumert

Mr. Dale Klettke
Alameda County Health Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502

Re: **Blumert Trust • Account #308-107222**
490 - 43rd Street/4300 Telegraph Avenue, Oakland, CA
Property #001156

Dear Mr. Klettke:

Enclosed you will find a copy of the Quarterly Groundwater Monitoring Report for the captioned property.

The contact person at ACC Environmental Consultants is Dave DeMent (510) 638 - 8400.

Please contact the undersigned or Mr. DeMent if we can be of any further assistance.

Sincerely,

Jeffrey A. Hirsch
Assistant Vice President
and Senior Asset Manager
(415) 396 - 6743

cc: Dave DeMent (w/out encl)
Clarence Stump (w/encl)
Cassandra Miller (w encl)
Ken Cheitlen, Esq (w out encl)

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QUARTERLY GROUNDWATER MONITORING REPORT

January 10, 1997

Blumert Trust
490 43rd Street
Oakland, California

Prepared For:
Mr. Jeffrey A. Hirsch
Wells Fargo Trust

OAKLAND • SACRAMENTO
SEATTLE • LOS ANGELES

ACC Project No. 96-6305-1.1

A·C·C
ENVIRONMENTAL
CONSULTANTS

GROUNDWATER MONITORING REPORT

490 43rd Street
Oakland, California

ACC Project No. 6305-1.1

Prepared for:

Mr. Jeffrey A. Hirsch
Wells Fargo Trust
525 Market Street, 18th Floor
San Francisco, California

January 10, 1997

Prepared by: _____
Martha Rindfleisch
Technical Editor

Reviewed by: _____
David R. DeMent, RG
Senior Geologist

REGISTERED GEOLOGIST
DAVID R. DEMENT
NO. 5674
STATE OF CALIFORNIA

7977 Oakport Drive, Suite 120 • Oakland, CA 94621 • (510) 638-8400 • FAX (510) 638-8404
Orange • Los Angeles • Sacramento • San Jose

A·C·C ENVIRONMENTAL CONSULTANTS

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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, 490 43rd Street, Oakland, California (Figure 1). Groundwater monitoring and sampling was conducted at the request of the Alameda County Health Care Services Agency, Department of Environmental Health (ACHCSA) for additional site investigation and delineation of impacted groundwater.

The purpose of the work was to monitor groundwater flow direction and gradient and evaluate the presence of petroleum hydrocarbons in the local groundwater associated with former gasoline and paint thinner (mineral spirits) underground storage tanks (USTs) prior to the proposed introduction of oxygen releasing compound (ORC™) at the site. ORC™ dissolves slowly and releases oxygen into groundwater, which enhances natural bioremedial processes and increases degradation of petroleum hydrocarbon compounds. Dissolved oxygen (DO) migrates by diffusion in areas with negligible groundwater velocity and is actively transported with groundwater in zones of preferential movement. ORC™ is a proprietary compound developed by Regenesis Bioremediation Products, San Diego, California. 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 spirit UST, which were removed on December 11, 1991 (Figure 2). Laboratory analysis of soil samples collected underneath the gasoline tank indicated concentrations 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 tank 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 contained both former USTs, was overexcavated on March 31, 1992, to remove additional impacted soil. Laboratory analysis of soil samples collected from excavation sidewalls indicated concentrations 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 has been calculated at approximately 0.01 foot/foot and flow direction has consistently been to the south-southwest.

Groundwater samples collected from the three groundwater monitoring wells have 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 were detected in soil samples collected from boring EB2 at depths of 10 and 12 feet bgs ranging from 28 to 180 ppm. 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 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 samples collected from borings B3 and B8 to 46,000 ppb in boring B6. Concentrations of mineral spirits ranged from nondetectable in samples collected from borings B3 and B8 to 16,000 ppb in 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. General aquifer quality appears to be poor, and subsurface groundwater migration is believed to be minimal based on soil type, flat hydraulic gradient, and minimal surface water infiltration.

ACC arranged a meeting between the responsible parties and ACHCSA on August 29, 1996. In a letter to Wells Fargo Bank dated October 17, 1996, ACHCSA approved biannual groundwater monitoring, installing one additional monitoring well, and evaluating options to artificially introduce DO into shallow groundwater to assist natural bioremediation processes.

3.0 GROUNDWATER MONITORING AND SAMPLING

ACC monitored and sampled wells MW-1 through MW-3 on December 6, 1996. This sampling event was performed primarily to confirm previous decreases in TPHg and mineral spirit concentrations reported in September 1996 and characterize groundwater conditions prior to the proposed use of ORC™ at the site. Work at the site included measuring depth to water, subjectively evaluating groundwater in the wells, 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	04/14/94	11.19	79.83
(91.02')	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
MW-2	04/14/94	10.95	79.60
(90.55')	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
MW-3	04/14/94	11.23	79.67
(90.90')	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

Notes: * Depth to water measured in feet below top of casing
(91 02') = Surveyed elevations to the top of the well casing

3.2 Groundwater Gradient

The groundwater flow direction as determined from monitoring well data collected on December 6, 1996, is illustrated on Figure 3. Based on groundwater elevation calculations, groundwater flow is

predominantly toward the southeast at an average gradient of 0.036 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

3.3 Groundwater Sampling

Prior to groundwater sampling, each well was purged using a disposable polyethylene bailer. ACC measured pH, conductivity, temperature, salinity, and turbidity during well purging. When temperature, pH, and conductivity of the water stabilized and a minimum of 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.

Wells were 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 a state-certified laboratory for analysis.

Water purged during the development and sampling of the monitoring wells was 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 groundwater monitoring wells MW-1 through MW-3 were submitted to Chromalab, Inc., in Pleasanton, California, following chain of custody protocol. Groundwater samples collected from the wells were analyzed for TPHg, BTEX, and mineral spirits using EPA Method 8015 Modified/8020. Methyl tertiary butyl ether (MTBE) has been confirmed to be absent and therefore is no longer included for analysis. 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	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
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	--
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	--

Well / Date	Mineral Spirits	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE
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	--
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	--

Notes: All water results are reported in µg/L = ppb
< = Not detected at laboratory reporting limit indicated (see analytical report)
-- = 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

5.0 DISCUSSION

Groundwater gradient tripled from 0.012 in September 1996 to 0.036 in December 1996. Calculated groundwater flow direction was southwest versus southeast during the previous sampling event. Since September 1996, groundwater elevation increased in wells MW-1, MW-2, and MW-3 by 2.78, 2.45, and 3.28 feet, respectively. These fluctuations in groundwater gradient, flow direction, and elevation can be interpreted as evidence of the general lack of regional groundwater influences.

The three groundwater monitoring wells were monitored and sampled for gasoline and mineral spirit constituents. The December 6, 1996, sampling event indicates that the concentrations of TPHg increased in wells MW-1 and MW-2, and decreased in well MW-3 compared with the groundwater samples collected in September 1996 and analyzed by Chromalab.

In previous sampling events, concentrations of dissolved petroleum hydrocarbons did not appear to correspond with fluctuations in groundwater elevation. This correspondence is normally observed at sites with similar hydrogeological conditions. However, groundwater elevations were calculated in December 1996 at the highest levels since monitoring was initiated in April 1993, and dissolved-phase petroleum hydrocarbon constituents concentrations increased only slightly in two of the three monitoring wells. Because high groundwater elevations typically

represent a "worse-case" scenario for dissolved-phase concentrations, this sampling event indicates generally decreasing concentrations of petroleum hydrocarbon constituents.

6.0 CONCLUSIONS

Based on results of 12 consecutive sampling events and ACC's third sampling and monitoring event, we conclude the following:

- Dissolved TPHg, BTEX, and to a much lesser degree mineral spirits, continue to be detected in groundwater in the immediate vicinity of wells MW-1 through MW-3; the concentration in each respective well appears to correspond more to the groundwater flow direction than the groundwater elevation;

- Groundwater samples from monitoring wells MW-1 through MW-3 appear to be indicative of a single area of impacted groundwater being sampled three times;

- Groundwater flow direction shifted approximately 80 degrees to the southwest and the gradient tripled to 0.036; and

- Concentrations of dissolved constituents continue to fluctuate and petroleum hydrocarbon impacts to groundwater appear to be slowly declining through natural bioremedial processes.

7.0 RECOMMENDATIONS

Groundwater monitoring and sampling data have essentially characterized groundwater conditions at the site. Natural bioremedial processes are slowly degrading petroleum hydrocarbon residues and these processes can be assisted by introducing DO. Therefore, ACC recommends the following:

- Install one groundwater monitoring well for the purpose of evaluating the downgradient extent of the constituents of concern and monitoring DO levels at the location proposed on Figure 2; and

- As soon as possible, artificially introduce DO via ORC™ into shallow groundwater utilizing monitoring wells MW-1, MW-2, and MW-3 to assist natural bioremediation processes, and use the proposed groundwater monitoring well to evaluate downgradient groundwater conditions.

A low dissolved oxygen level is considered the limiting factor in bioremedial degradation of petroleum hydrocarbons. Using ORC™ will effectively remove this limiting factor and decreased concentrations of petroleum hydrocarbons should result. If the groundwater gradient does not remain above 0.01, diffusion may be the primary DO transport mechanism and confirming DO levels in downgradient wells may be difficult or require a longer duration of time.

The next sampling event should be scheduled in July 1997 to evaluate DO levels in the wells.

8.0 REFERENCES

Chevron Research and Technology Company. March 1995. *Protocol for Monitoring Intrinsic Bioremediation in Groundwater.* T. Buscheck, P.E., and K. O'Reilly, Ph.D.

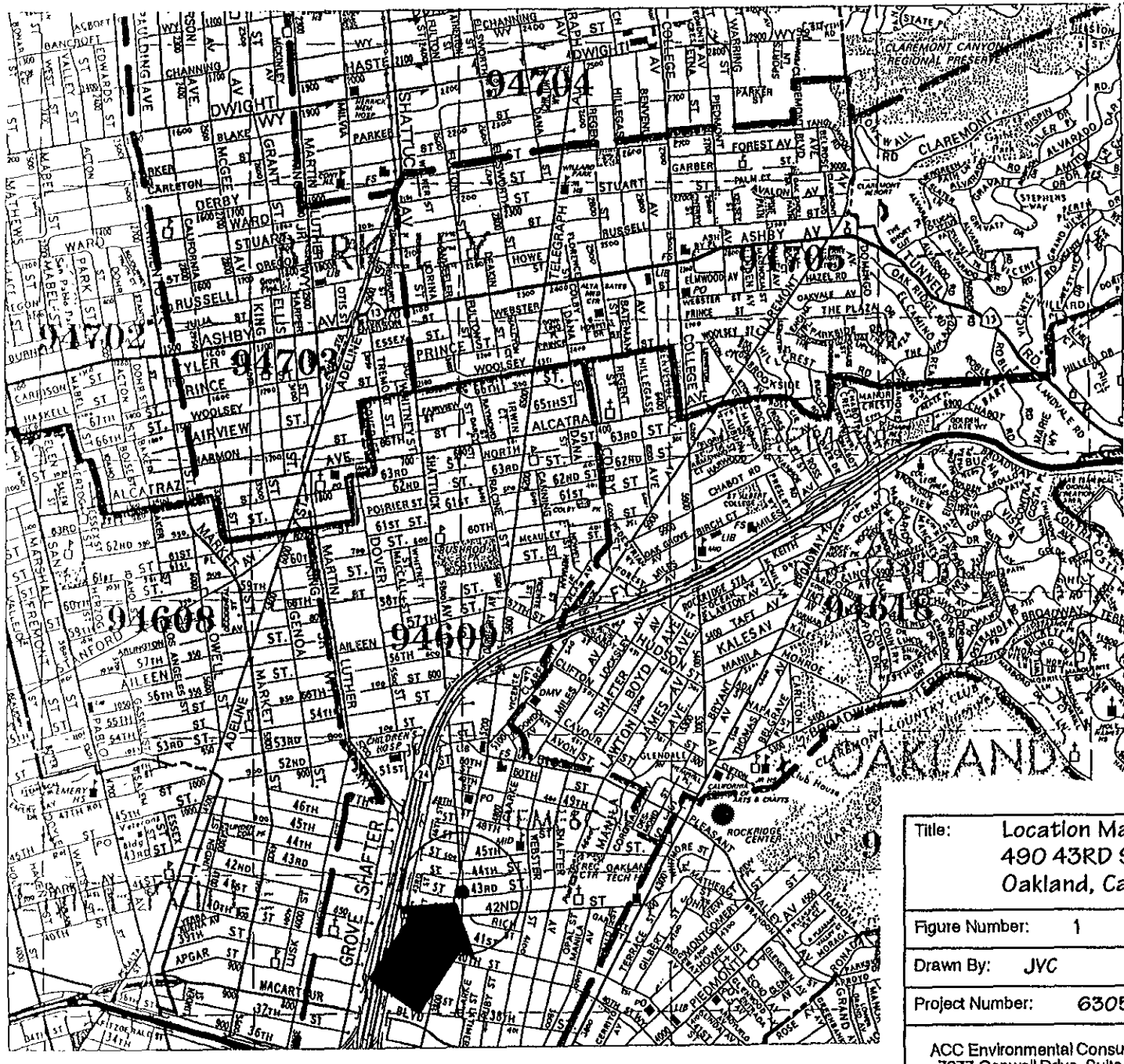
ACC Environmental Consultants, Inc. September 25, 1996. *Groundwater Monitoring Report, 490 43rd Street, Oakland, CA.* Prepared for Wells Fargo Trust on behalf of the Blumert Trust.

ACC Environmental Consultants, Inc. May 23, 1996. *Additional Site Investigation Report, 490 43rd Street, Oakland, CA.* Prepared for Wells Fargo Trust on behalf of the Blumert Trust.

Kaprealian Engineering, Inc. July 27, 1996. *Quarterly Report, Walter Blumert Co., Inc., 490 43rd Street, Oakland, California.* Prepared for Wells Fargo Bank.

Kaprealian Engineering, Inc. July 20, 1994. *Continuing Subsurface Investigation and Quarterly Report, Walter Blumert Co., Inc., 490 43rd Street, Oakland, California.* Prepared for Wells Fargo Bank.

California Regional Water Quality Control Board, San Francisco Bay Region. January 5, 1996. *Memorandum to: San Francisco Bay Area Agencies Overseeing UST Cleanup and Other Interested Parties.* Prepared by Mr. Kevin Graves, P.E.



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

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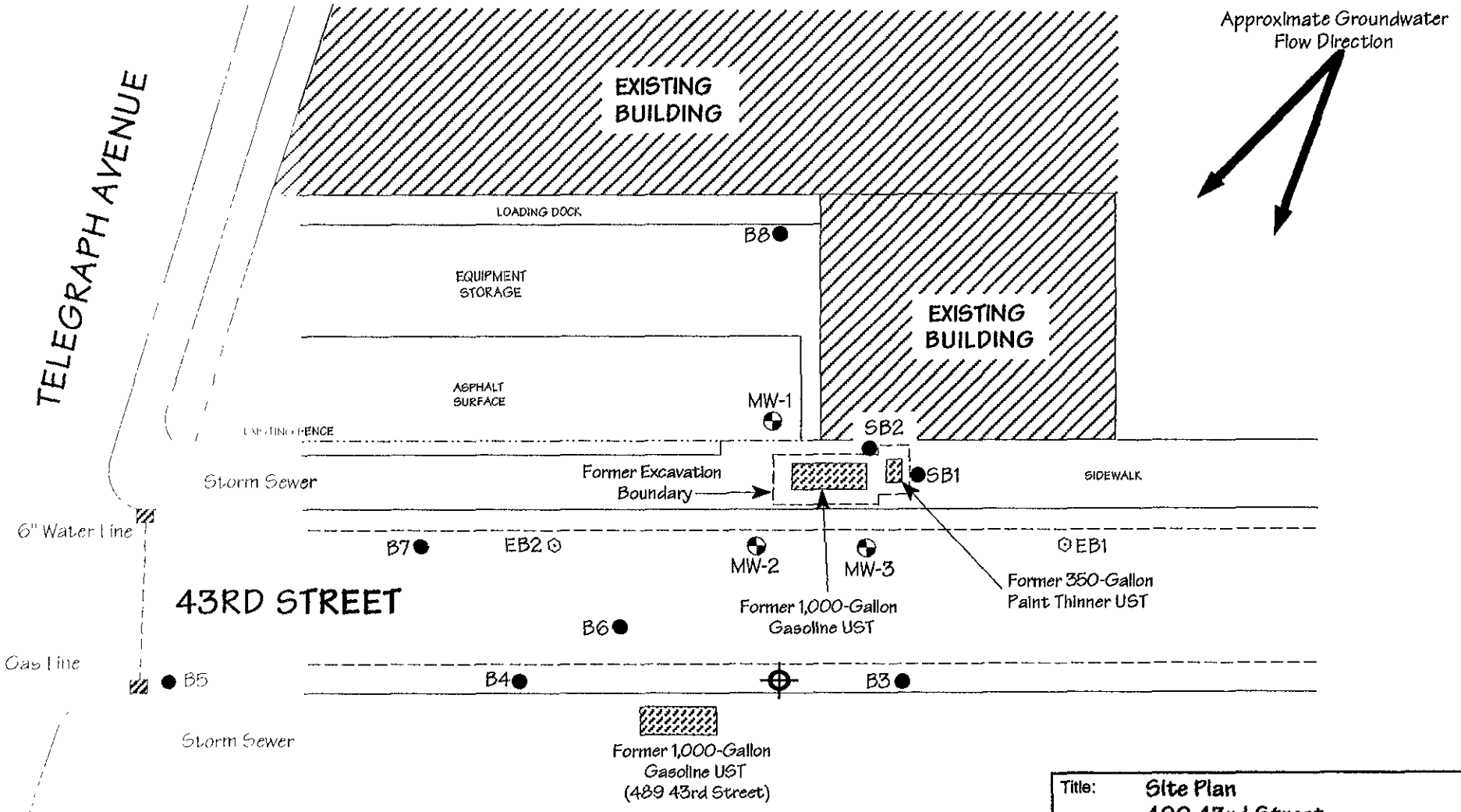

Legend

- MW-2 - Existing Groundwater Monitoring Well
- B4 - ACC Soil Boring Location (April 16, 1996)
- EB2 - Kaprealian Engineering Boring Location
- Former Underground Storage Tank
- Proposed Groundwater Monitoring Well

Scale In Feet

0 15 30 45

Title:	Site Plan 490 43rd Street Oakland, California
Figure Number: 2	Scale: 1" = 30"
Drawn By: JVC	Date: 4/17/96
Project Number: 6305-1.1	

ACC Environmental Consultants
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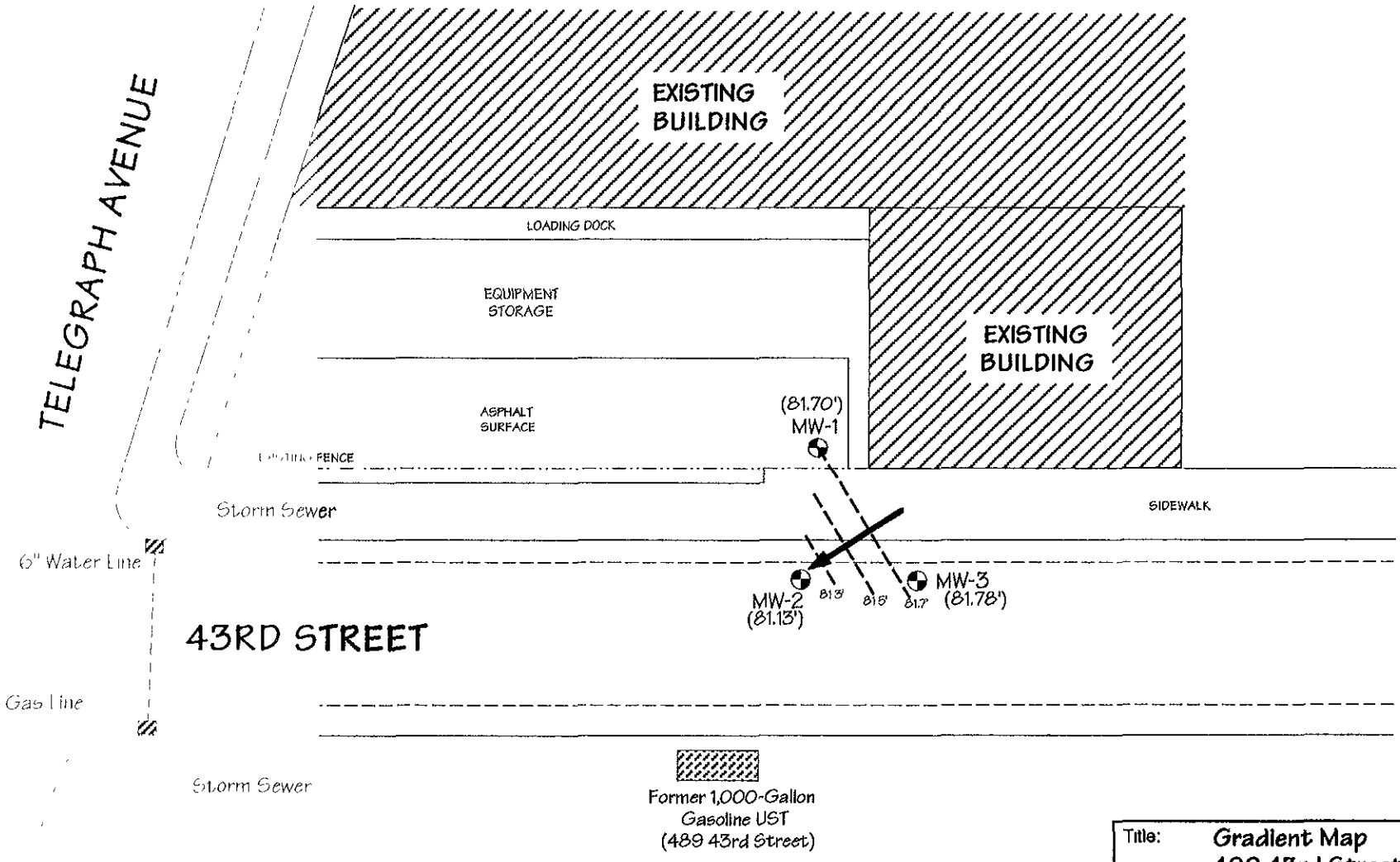
N W E S



Legend

MW-2 - Existing Groundwater Monitoring Well

Calculated Groundwater Flow Direction

Calculated Groundwater Elevation Contour

Groundwater Elevation Data collected on December 6, 1996

Scale In Feet

0 15 30 45

Title:	Gradient Map 490 43rd Street Oakland, California		
Figure Number:	3	Scale:	1" = 30"
Drawn By:	JVC	Date:	12/23/96
Project Number:	6305-1.1		

ACC Environmental Consultants
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N W E S

WELL MONITORING WORKSHEET

ENVIRONMENTAL CONSULTANTS

ACC MONITORING WELL WORKSHEET

JOB NAME: Blumert Trust	PURGE METHOD: Manual Bailing
SITE ADDRESS: 490 43rd St.	SAMPLED BY: E. Cisneros
JOB #: 6305 - 1.1	LABORATORY: Chromalab
DATE: 12/6/96	ANALYSIS: Gas, BTEX, Mineral Spirits
Onsite Drum Inventory SOIL:	MONITORING ☒ DEVELOPING ☐
EMPTY: WATER: 2 = 100% B 1 = 50%	SAMPLING ☒

WELL: MW-1

DEPTH OF BORING: 22.35'
DEPTH TO WATER: 9.32'
WATER COLUMN: 13.03'
WELL DIAMETER: 2"
WELL VOLUME: ≈2.1gal
COMMENTS:

PURGE VOLUME (Gal)	HYDAC READINGS pH	Temp. (F)	Cond. un/cm	OBSERVATIONS
2.1				☐ Froth
4.2				☐ Sheen
6.3				☐ Odor Type_____
				☐ Free Product
				Amount_____Type_____
				☐ Other
8.4				

WELL: MW-2

DEPTH OF BORING: 21.09'
DEPTH TO WATER: 9.42'
WATER COLUMN: 11.67'
WELL DIAMETER: 2"
WELL VOLUME: ≈2.0gal
COMMENTS:

PURGE VOLUME (Gal)	HYDAC READINGS pH	Temp. (F)	Cond. un/cm	OBSERVATIONS
2.0				☐ Froth
4.0				☐ Sheen
6.0				☒ Odor Type gas
				☐ Free Product
				Amount_____Type_____
				☐ Other
8.0				

WELL: MW-3

DEPTH OF BORING 21.52'
DEPTH TO WATER 9.12'
WATER COLUMN 12.40'
WELL DIAMETER 2"
WELL VOLUME ≈2.1gal
COMMENTS

PURGE VOLUME (Gal)	HYDAC READINGS pH	Temp. (F)	Cond. un/cm	OBSERVATIONS
2.1				☐ Froth
4.2				☐ Sheen
6.3				☐ Odor Type_____
				☐ Free Product
				Amount_____Type_____
				☐ Other
8.4				

ANALYTICAL RESULTS AND CHAIN OF CUSTODY RECORD

CHROMALAB, INC.

Environmental Services (SDB)

December 16, 1996 *Submission #:* 9612112

ACC ENVIRONMENTAL CONSULTANTS

Atten: David DeMent

Project: 490 43RD ST. *Project#:* 6305-1.1
Received: December 9, 1996

re: 1 sample for Gasoline and BTEX compounds analysis.
Method: *EPA 8015M SW846 8020A Nov 1990*

Matrix: WATER
Sampled: December 6, 1996 *Run#:* 4478 *Analyzed:* December 11, 1996

Spl# CLIENT SPL ID	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
110210 MW-1	2600	84	2.8	30	23
Note: Surrogate recovery was outside QA/QC limits due to sample interference. See Surrogate Summary page.					
Reporting Limits	50	0.50	0.50	0.50	0.50
Blank Result	N.D.	N.D.	N.D.	N.D.	N.D.
Blank Spike Result (%)	110	91.2	89.6	88.5	89.3

Kayvan Kimyai
Chemist

Marianne Alexander
Gas/BTEX Supervisor

510-638-8404 PM 12/16

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

December 16, 1996 Submission #: 9612112

ACC ENVIRONMENTAL CONSULTANTS

Atten: David DeMent

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Received: December 9, 1996

re: 1 sample for Gasoline and BTEX compounds analysis.
Method: EPA 8015M SW846 8020A Nov 1990

Matrix: WATER
Sampled: December 6, 1996 Run#: 4478 Analyzed: December 12, 1996

Spl#	CLIENT SPL ID	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
110211	MW-2	12000	850	8.0	140	36
	Note:	Surrogate recovery was outside QA/QC limits due to matrix interference. See Surrogate Summary page.				
	Reporting Limits	500	5.0	5.0	5.0	5.0
	Blank Result	N.D.	N.D.	N.D.	N.D.	N.D.
	Blank Spike Result (%)	110	91.2	89.6	88.5	89.3

Kayvan Kimyai
Chemist

Marianne Alexander
Gas/BTEX Supervisor

510-638-8404 PM 12/18

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

December 16, 1996 *Submission #:* 9612112

ACC ENVIRONMENTAL CONSULTANTS

Atten: David DeMent

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Matrix: WATER
Sampled: December 6, 1996 *Run#:* 4478 *Analyzed:* December 12, 1996

Spl#	CLIENT SPL ID	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
110212	MW-3	7000	740	N.D.	60	17
	Reporting Limits	500	5.0	5.0	5.0	5.0
	Blank Result	N.D.	N.D.	N.D.	N.D.	N.D.
	Blank Spike Result (%)	110	91.2	89.6	88.5	89.3

Note: Surrogate recovery was outside QA/QC limits due to matrix interference. See Surrogate Summary page.

Kayvan Kimyai
Chemist

Marianne Alexander
Gas/BTEX Supervisor

510-638-8404 PM 12/18

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

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CHROMALAB, INC.
Environmental Services (SDB)

December 16, 1996 *Submission #:* 9612112

ACC ENVIRONMENTAL CONSULTANTS

Atten: David DeMent

Project: 490 43RD ST. *Project#:* 6305-1.1
Received: December 9, 1996

re: **Surrogate** report for 3 samples for Gasoline and BTEX compounds
Method: EPA 8015M SW846 8020A Nov 1990
Lab Run#: 4478
Matrix: WATER

Sample#	Client Sample ID	Surrogate	% Recovered	Recovery Limits
110210-1	MW-1	TRIFLUOROTOLUENE	216	65-135
110210-1	MW-1	BROMOFLUOROBENZENE	142	65-135
110211-1	MW-2	TRIFLUOROTOLUENE	430	65-135
110211-1	MW-2	BROMOFLUOROBENZENE	479	65-135
110211-2	MW-2	TRIFLUOROTOLUENE	217	65-135
110211-2	MW-2	BROMOFLUOROBENZENE	90.6	65-135
110212-1	MW-3	TRIFLUOROTOLUENE	268	65-135
110212-1	MW-3	BROMOFLUOROBENZENE	589	65-135
110212-2	MW-3	TRIFLUOROTOLUENE	120	65-135
110212-2	MW-3	BROMOFLUOROBENZENE	91.0	65-135

Sample#	QC Sample Type	Surrogate	% Recovered	Recovery Limits
110694-1	*Reagent blank (MDB)*	TRIFLUOROTOLUENE	77.0	65-135
110694-1	*Reagent blank (MDB)*	BROMOFLUOROBENZENE	76.6	65-135
110695-1	*Spiked blank (BSP)*	TRIFLUOROTOLUENE	90.3	65-135
110695-1	*Spiked blank (BSP)*	BROMOFLUOROBENZENE	95.4	65-135
110696-1	*Spiked blank duplicate (BSD)*	TRIFLUOROTOLUENE	84.6	65-135
110696-1	*Spiked blank duplicate (BSD)*	BROMOFLUOROBENZENE	90.9	65-135
110697-1	*Matrix spike (MS)*	TRIFLUOROTOLUENE	77.4	65-135
110697-1	*Matrix spike (MS)*	BROMOFLUOROBENZENE	81.7	65-135
110698-1	*Matrix spike duplicate (MSD)*	TRIFLUOROTOLUENE	86.5	65-135
110698-1	*Matrix spike duplicate (MSD)*	BROMOFLUOROBENZENE	91.4	65-135

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CHROMALAB, INC.

Environmental Services (SDB)

December 16, 1996 Submission #: 9612112

ACC ENVIRONMENTAL CONSULTANTS
7977 CAPWELL DRIVE,SUITE 100
OAKLAND, CA 94621

Attn: David DeMent

RE: Analysis for project 490 43RD ST., number 6305-1.1.

REPORTING INFORMATION

Samples were received cold and in good condition on December 9, 1996. They were refrigerated upon receipt and analyzed as described in the attached report. ChromaLab followed EPA or equivalent methods for all testing reported.

No discrepancies were observed or difficulties encountered with the testing.

Hydrocarbon in the Diesel range was found in sample MW-1.
Hydrocarbon in the Diesel range was found in sample MW-2.
Hydrocarbon in the Diesel range was found in sample MW-3.

Bruce Havlik
Chemist

Alex Tam
Semivolatiles Supervisor

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Federal ID #68-0140157

CHROMALAB, INC.
Environmental Services (SDB)

December 18, 1996

Submission #: 9612112
revised from 12/16/96

ACC ENVIRONMENTAL CONSULTANTS

Atten: David DeMent

Project: 490 43RD ST. *Project#:* 6305-1.1
Received: December 9, 1996

re: One sample for TEPH analysis.
Method: *EPA 8015M*

Client Sample ID: **MW-1**
Spl#: 110210 *Matrix:* WATER *Extracted:* December 11, 1996
Sampled: December 6, 1996 *Run#:* 4443 *Analyzed:* December 12, 1996

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
MINERAL SPIRITS	N.D.	51	N.D.	--	1

Note: Hydrocarbon in the Mineral Spirits range was observed. It was reported as Gasoline.

NOTE: Quantitation for the above Analyte is based on the response factor of Diesel.

Bruce Havlik
Chemist

Alex Tam
Semivolatiles Supervisor

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(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

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CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1996

Submission #: 9612112
revised from 12/16/96

ACC ENVIRONMENTAL CONSULTANTS

Atten: David DeMent

Project: 490 43RD ST. *Project#:* 6305-1.1
Received: December 9, 1996

re: One sample for TEPH analysis.
Method: *EPA 8015M*

Client Sample ID: **MW-2**
Spl#: 110211 *Matrix:* WATER *Extracted:* December 11, 1996
Sampled: December 6, 1996 *Run#:* 4443 *Analyzed:* December 12, 1996

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
MINERAL SPIRITS	N.D.	54	N.D.	--	1

Note: Hydrocarbon in the Mineral Spirits range was observed. It was reported as Gasoline.

NOTE: Quantitation for the above Analyte is based on the response factor of Diesel.

Bruce Havlik
Chemist

Alex Tam
Semivolatiles Supervisor

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(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

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CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1996

Submission #: 9612112
revised from 12/16/96

ACC ENVIRONMENTAL CONSULTANTS

Atten: David DeMent

Project: 490 43RD ST. *Project#:* 6305-1.1
Received: December 9, 1996

re: One sample for TEPH analysis.
Method: *EPA 8015M*

Client Sample ID: **MW-3**
Spl#: 110212 *Matrix:* WATER *Extracted:* December 11, 1996
Sampled: December 6, 1996 *Run#:* 4443 *Analyzed:* December 13, 1996

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
MINERAL SPIRITS	N.D.	100	N.D.	--	2

Note: Hydrocarbon in the Mineral Spirits range was observed. It was reported as Gasoline.

NOTE: Quantitation for the above Analyte is based on the response factor of Diesel.

Bruce Havlik
Chemist

Alex Tam
Semivolatiles Supervisor

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Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB) (DOHS 1094)

SUBM #: 9612112 REP: PM
CLIENT: ACC
DUE: 12/16/96
REF #: 31114

Chain of Custody

DATE 12/6/96 PAGE 1 or 1

PROJ MGR Dave DeMent
COMPANY ACC Environmental
ADDRESS 7977 Capwell Dr, Suite 100
Oakland, Ca. 94621

SAMPLERS (SIGNATURE)

(PHONE NO.) (510) 638-8400
(FAX NO.) (510) 638-8404

ANALYSIS REPORT

SAMPLE ID.	DATE	TIME	MATRIX	PRESERV.	TPH - Gasoline (EPA 5030, 8015)	TPH - Gasoline (5030, 8015) w/BTEX (EPA 602, 8020)	TPH - Diesel, TEPH (EPA 3510/3550, 8015)	PURGEABLE AROMATICS BTEX (EPA 602, 8020)	PURGEABLE HALOCARBONS (EPA 601, 8010)	VOLATILE ORGANICS (EPA 624, 8240, 524.2)	BASE/NEUTRALS, ACIDS (EPA 625/627, 8270, 525)	TOTAL OIL & GREASE (EPA 5520, B+F, E+F)	PCB (EPA 608, 8080)	PESTICIDES (EPA 608, 8080)	TOTAL RECOVERABLE HYDROCARBONS (EPA 418.1)	Mineral Spirits	LUFT METALS: Cd, Cr, Pb, Zn, Ni	CAM METALS (17)	PRIORITY POLLUTANT METALS (13)	TOTAL LEAD	EXTRACTION (TCLP, STLC)			NUMBER OF CONTAINERS
MW-1	12/6/96	2:30	H_2O			X										X								4
MW-2	12/6/96	4:15	H_2O			X										X								4
MW-3	12/6/96	3:30	H_2O			X										X								2

PROJECT INFORMATION

PROJECT NAME 490 43rd St.
PROJECT NUMBER 6305-1.1
PO # 6305-1.1

TAT: STANDARD 5-DAY | 24 | 48 | 72 | OTHER

SPECIAL INSTRUCTIONS/COMMENTS

Fund Site - Billing

SAMPLE RECEIPT

TOTAL NO. OF CONTAINERS	12
HEAD SPACE	
REC'D GOOD CONDITION/COLD	
CONFORMS TO RECORD	

	RELINQUISHED BY 1.	RELINQUISHED BY 2.	RELINQUISHED BY
(SIGNATURE) (TIME)	A JOHNSON		Jeff Lindbergs 1820
(PRINTED NAME) (DATE)	ACC		Jeff Lindbergs 12/9
(COMPANY)			Chromalab
	RECEIVED BY 1.	**RECEIVED BY 2.**	**RECEIVED BY (LABORATORY)**
(SIGNATURE) (TIME)	1155		Chris Rowley 1817
(PRINTED NAME) (DATE)	Jeff Lindbergs 12/9/96		Chris Rowley 12/9/96
(COMPANY)	Chromalab		Chromalab
			(LAB)