

Ro 89

May 19, 2001

Mr. Kelly Engineer  
1791 Pine Street  
Concord, California 94520

Alameda County  
MAY 06 2003  
Environmental Health

RE: Groundwater Sampling Letter Report  
3820 San Leandro Street, Oakland, California  
ACC Project No. 00-6651-001.00

Dear Mr. Engineer:

ACC Environmental Consultants, Inc., (ACC) has prepared this letter report to document results of groundwater sampling at 3820 San Leandro Street, Oakland, California (Site). The project objectives were to obtain groundwater samples from three onsite monitoring wells, analyze the water samples for constituents of concern, and report the findings.

On your behalf, ACC will forward a copy of this report to Mr. Barney Chan of the Alameda County Health Care Services Agency (ACHCSA) for review.

**BACKGROUND**

The Site consists of a gasoline and diesel fueling station (Guy's Diesel) located at 3820 San Leandro Street in Oakland, California (Figure 1). In his letter dated June 12, 2000, Mr. Chan of the ACHCSA requested that groundwater monitoring and sampling be performed at the Site, and that the groundwater samples be analyzed for total petroleum hydrocarbons as gasoline (TPHg) and diesel (TPHd), benzene, toluene, ethylbenzene and total xylenes (BTEX), and methyl tertiary butyl ether (MTBE). In addition, one groundwater sample was analyzed for all fuel oxygenates in accordance with regulations recently enacted by the Regional Water Quality Control Board (RWQCB).

**FIELD PROCEDURES**

**Groundwater Sampling**

ACC performed groundwater sampling at the Site on April 10, 2001. The locations of the three monitoring wells are illustrated on Figure 2. Prior to groundwater sampling, the depth to the surface of the water table in each well was measured from the top of the well casing using an electronic water level meter. The water level measurements were recorded to the nearest 0.01 foot. The wells were constructed of 2-inch diameter polyvinyl chloride (PVC) with locked well caps, and appeared to be in good condition. The total depth of each of the wells was approximately 20 feet below ground surface (bgs), and the depth to groundwater was measured to be approximately 11 feet below the top of the well casing.

**TABLE 1 - GROUNDWATER DEPTH INFORMATION**

Well No.	Well Elevation* (above MSL)	Date Measured	Depth to Groundwater	Groundwater Elevation
MW-1	27.54	07/06/98**	7.77	19.77
		09/10/00	N/A	N/A
		04/10/01	7.34	20.20
MW-2	25.97	07/06/98**	8.15	17.82
		09/10/00	N/A	N/A
		04/10/01	7.32	18.65
MW-3	26.52	07/06/98**	8.42	18.10
		09/10/00	N/A	N/A
		04/10/01	7.73	18.79

Notes: All measurements in feet  
 \*Well elevation measured to top of casing  
 \*\*Groundwater elevations recorded by BACE Environmental

**Groundwater Gradient**

Groundwater elevations were calculated from data collected from the wells on January 15, 2003. The calculated groundwater flow direction and gradient values are south at 0.038 feet per foot. Historic values are summarized in Table 2.

**TABLE 2 - GROUNDWATER GRADIENT AND FLOW DIRECTION**

Date Monitored	Gradient (foot/foot)	Direction
07/06/98	0.04	South
09/10/00	N/A	N/A
04/10/01	0.038	South

After water level measurements were collected, wells MW-1, MW-2 and MW-3 were purged by hand using a designated disposable polyethylene bailer for each well. The wells were considered to be purged when approximately four volumes were removed from each well. The removed purge water was stored onsite in a steel 55-gallon drum.

designated disposable polyethylene bailers. Three 40-milliliter VOA vials and one amber glass liter were filled to overflowing with the water collected from the three wells. The samples were preserved in a pre-chilled, insulated container and submitted to STL Chromalab, Inc. (Chromalab), a state-certified analytical laboratory, following chain of custody protocol.

**Analytical Results**

Groundwater samples from wells MW-1, MW-2 and MW-3 were submitted to Chromalab for analysis of TPHg, TPHd, BTEX, and MTBE. In addition, the samples from well MW-2 were analyzed for fuel oxygenates as MTBE, tert-butyl alcohol (TBA), di-isopropyl ether (DIPE), ethyl tert-butyl ether (ETBE), and tert-amyl methyl ether (TAME).

Analytical results from the groundwater samples are summarized in Tables 3 and 4. Copies of the analytical results and chain of custody record are attached.

**TABLE 3 - GROUNDWATER SAMPLE ANALYTICAL RESULTS  
PETROLEUM HYDROCARBONS**

Sample ID	Date	TPHg (µg/L)	TPHd (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)
MW-1	07/06/98	4,100	< 100	36	53	< 5.0	20	80
	09/10/00	1,000 <sup>g</sup>	1,800 <sup>ndp</sup>	4.8	< 0.50	6.2	1.2	< 5.0
	04/10/01	1,100	N/A	12	7.7	< 2.5	< 2.5	73
MW-2	07/06/98	6,400	< 100	190	14	13	12	210
	09/10/00	760 <sup>g</sup>	270 <sup>edr</sup>	19	< 0.50	< 0.50	< 0.50	110
	04/10/01	320	N/A	3.6	1.1	1.2	0.79	< 5.0
MW-3	07/06/98	36,000	< 100	6,700	72	6.2	530	13,000
	09/10/00	20,000 <sup>g</sup>	4,200 <sup>ndp</sup>	9,200	70	710	79	6,400
	04/10/01	15,000	N/A	4,500	27	320	140	8,800

Notes: µg/L = micrograms per liter (approximately equivalent to parts per billion)  
 < Indicates the sample tested below the indicated laboratory reporting limit  
 g = hydrocarbon reported does not match the laboratory's gasoline standard  
 edr = hydrocarbon is in the early diesel range and does not match the laboratory's diesel standard  
 ndp = hydrocarbon reported does not match the laboratory diesel standard  
 N/A = sample not analyzed for this constituent

**TABLE 4 - GROUNDWATER SAMPLE ANALYTICAL RESULTS  
FUEL OXYGENATES**

Sample ID	TBA (µg/L)	MTBE (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)
MW-3	<1,000	10,000	<2,000	<1,000	<1,000

Notes: µg/L = micrograms per liter (approximately equivalent to parts per billion)  
< Indicates the sample tested below the indicated laboratory reporting limit

### DISCUSSION

This investigation was performed to determine the degree of petroleum hydrocarbon impact in groundwater at the Site by a former release from the former or onsite USTs. The groundwater sample from well MW-3 reported the highest concentrations of petroleum hydrocarbons and related constituents, with 20,000 parts per billion (ppb) TPHg and 9,200 ppb benzene. TPHd was reported at a concentration of 4,200 ppb in the sample from well MW-3, and MTBE was reported at 10,000 ppb. Concentrations of constituents of concern were significantly less in wells MW-1 and MW-2, indicating that the release(s) may be localized in the vicinity of well MW-3. No fuel oxygenates other than MTBE were detected above laboratory reporting limits.

ACC was not supplied with monitoring well elevation data, so the groundwater flow direction and gradient could not be determined. Due to the Site location, the inferred groundwater flow direction is to the west, so well MW-3 would likely be the most downgradient monitoring well.

### CONCLUSIONS

Based on groundwater sample analytical results, ACC has made the following conclusions:

- Groundwater at the Site has been impacted by a past release(s) of petroleum hydrocarbons as TPHg, TPHd, BTEX, and MTBE;
- The majority of impacted groundwater appears to be located in the vicinity of well MW-3; and
- No fuel oxygenates other than MTBE were detected above laboratory reporting limits.

MUST SURVEY  
10/2002

Mr. Kelly Engineer

May 19, 2001

Page 5

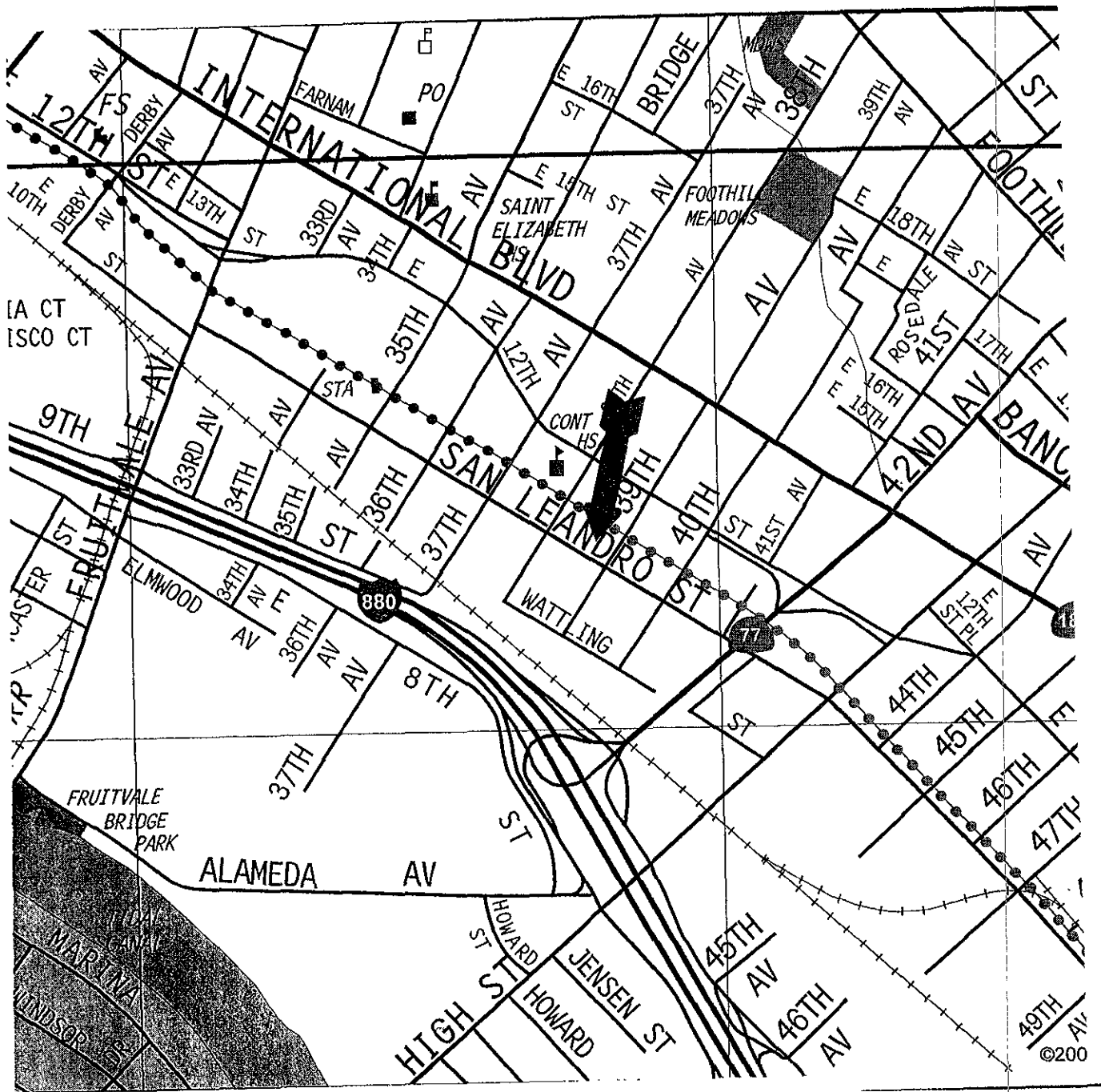
If you have any questions regarding this report or the findings of the work, please contact me at (510) 638-8400, extension 109.

Sincerely,

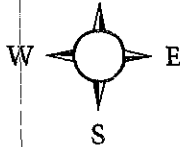
A handwritten signature in black ink, appearing to read "D. DeMent". The signature is written in a cursive style with a large initial "D" and a stylized "DeMent".

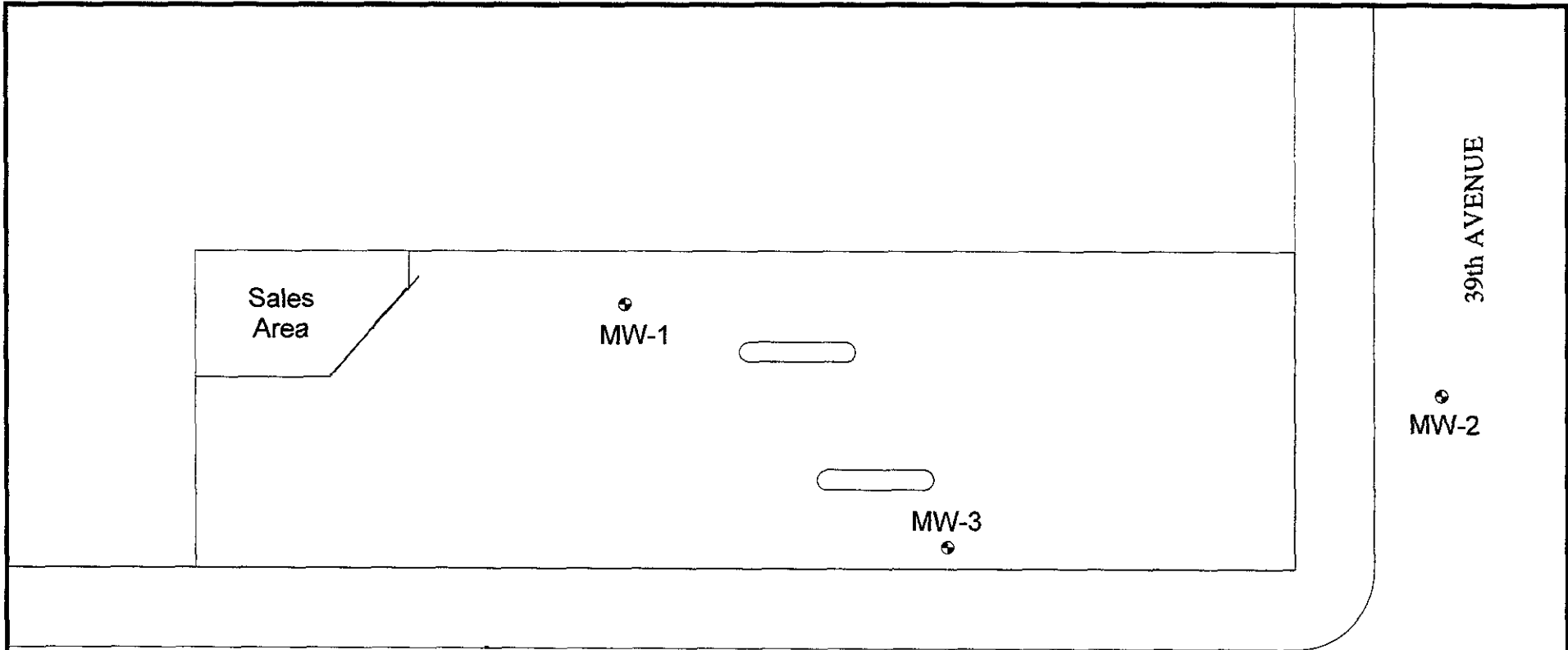
David R. DeMent, RG  
Environmental Division Manager

cc: Mr. Barney Chan, ACHCSA



Source: Thomas Guide Digital Edition 2000

<b>Title: Location Map</b> <b>3820 San Leandro Street</b> <b>Oakland, California</b>	
Figure Number: 1	Scale: None
Project No:6651-001.00	Drawn By: TRB
<b>A • C • C</b> <b>ENVIRONMENTAL</b> <b>CONSULTANTS</b>	
7977 Capwell Drive, Suite 100 Oakland, California 94621 (510) 638-8400 Fax: (510) 638-8404	
N W  E S	



SAN LEANDRO STREET

39th AVENUE

Sales Area

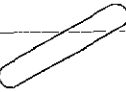
MW-1

MW-3

MW-2

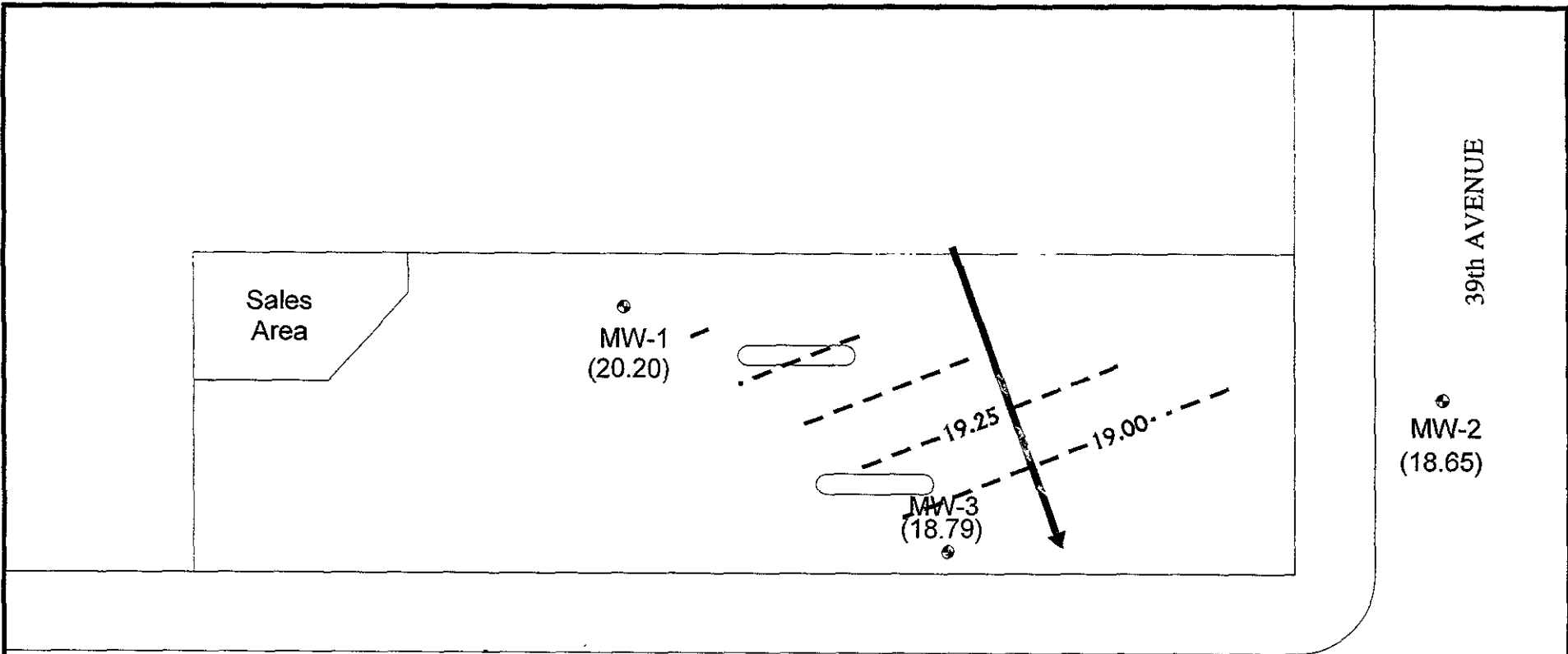
**LEGEND**

 - Groundwater Monitoring Well  
**MW-3**

 - Pump Island

<b>Title: Site Plan</b> <b>3820 San Leandro Street</b> <b>Oakland, California</b>	
Figure Number: 2	Scale: 1" = 20'
Project Number: 6651-01.00	Drawn By: TRB
<b>A • C • C</b> <b>ENVIRONMENTAL</b> <b>CONSULTANTS</b>	
7977 Capwell Drive, Suite 100 Oakland, California 94621 (510) 638-8400 Fax (510) 638-8404	
	

Date: 5/19/01



SAN LEANDRO STREET

39th AVENUE

Sales Area

MW-1  
(20.20)





MW-2  
(18.65)

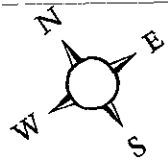
MW-3  
(18.79)

19.25

19.00

**LEGEND**

-  MW-3 (18.79) - Groundwater Monitoring Well
-  - Groundwater Elevation Contour
-  - Groundwater Flow Direction
-  - Pump Island

<b>Title: Gradient Map</b> <b>3820 San Leandro Street</b> <b>Oakland, California</b>	
Figure Number: 3	Scale: 1" = 20'
Project Number: 6651-01.00	Drawn By: TRB
<b>A • C • C</b> <b>ENVIRONMENTAL</b> <b>CONSULTANTS</b>	
7977 Capwell Drive, Suite 100 Oakland, California 94621 (510) 638-8400 Fax (510) 638-8404	
	



JOB NAME: <u>Guy's Gas/Diesel</u>	PURGE METHOD: <u>Manual Bailing</u>
SITE ADDRESS: <u>3820 San Leandro</u>	SAMPLED BY: <u>David DeMent</u>
JOB #: <u>01-6651-001-00</u>	LABORATORY: <u>STL/Chromalab</u>
DATE: <u>4/10/01</u>	ANALYSIS: <u>TPHg/BTEX/Diesel</u>
Onsite Drum Inventory SOIL: EMPTY: <u>WATER: 2</u>	MONITORING <input checked="" type="checkbox"/> DEVELOPING <input type="checkbox"/> SAMPLING <input checked="" type="checkbox"/>

	PURGE VOL.	PURGE WATER READINGS						OBSERVATIONS	
	(Gal)	pH	Temp.(C)	Cond.	Sal.	Turb.	D.O.	<input type="checkbox"/>	
<b>WELL: MW-1</b>								<input type="checkbox"/>	Froth
DEPTH OF BORING: <u>19.55</u>	<u>2.0</u>	<u>6.80</u>	<u>18.1</u>	<u>0.593</u>	<u>0.02</u>	<u>443</u>	<u>2.9</u>	<input type="checkbox"/>	Sheen
DEPTH TO WATER: <u>7.34</u>	<u>4.0</u>	<u>6.86</u>	<u>18.2</u>	<u>0.618</u>	<u>0.02</u>	<u>175</u>	<u>2.7</u>	<input checked="" type="checkbox"/>	Odor Type <u>gasoline</u>
WATER COLUMN: <u>12.21</u>	<u>6.0</u>	<u>6.90</u>	<u>18.10</u>	<u>0.623</u>	<u>0.02</u>	<u>999</u>	<u>2.5</u>	<input type="checkbox"/>	Free Product
WELL DIAMETER: <u>2"</u>	<u>8.0</u>	<u>6.94</u>	<u>18.6</u>	<u>0.637</u>	<u>0.02</u>	<u>999</u>	<u>2.6</u>	<input type="checkbox"/>	Amount _____ Type _____
WELL VOLUME: <u>2 gal</u>								<input checked="" type="checkbox"/>	Other
COMMENTS: <u>sampled at: 13:25</u>									<u>Very poor recharge well bailed dry sampled at 70% rec</u>
<b>WELL: MW-2</b>								<input type="checkbox"/>	Froth
DEPTH OF BORING: <u>20.60</u>	<u>2.1</u>	<u>6.77</u>	<u>17.9</u>	<u>-</u>	<u>0.02</u>	<u>999</u>	<u>3.1</u>	<input type="checkbox"/>	Sheen
DEPTH TO WATER: <u>7.32</u>	<u>4.2</u>	<u>6.77</u>	<u>17.9</u>	<u>0.509</u>	<u>0.02</u>	<u>999</u>	<u>3.2</u>	<input type="checkbox"/>	Odor Type _____
WATER COLUMN: <u>13.28</u>	<u>6.3</u>	<u>6.99</u>	<u>18.3</u>	<u>0.502</u>	<u>0.02</u>	<u>999</u>	<u>3.2</u>	<input type="checkbox"/>	Free Product
WELL DIAMETER: <u>2"</u>	<u>8.4</u>	<u>6.99</u>	<u>18.3</u>	<u>0.496</u>	<u>0.02</u>	<u>999</u>	<u>3.1</u>	<input type="checkbox"/>	Amount _____ Type _____
WELL VOLUME: <u>2.1 gal</u>								<input checked="" type="checkbox"/>	Other
COMMENTS: <u>sampled at 14:10</u>									<u>Turbid (brown)</u>
<b>WELL: MW-3</b>								<input type="checkbox"/>	Froth
DEPTH OF BORING: <u>20.02</u>	<u>2.0</u>	<u>6.85</u>	<u>17.4</u>	<u>0.620</u>	<u>0.02</u>	<u>962</u>	<u>3.1</u>	<input type="checkbox"/>	Sheen
DEPTH TO WATER: <u>7.73</u>	<u>4.0</u>	<u>6.84</u>	<u>17.4</u>	<u>0.626</u>	<u>0.02</u>	<u>999</u>	<u>3.1</u>	<input type="checkbox"/>	Odor Type _____
WATER COLUMN: <u>12.29</u>	<u>6.0</u>	<u>6.92</u>	<u>17.5</u>	<u>0.623</u>	<u>0.02</u>	<u>999</u>	<u>3.2</u>	<input type="checkbox"/>	Free Product
WELL DIAMETER: <u>2"</u>	<u>8.0</u>	<u>6.91</u>	<u>17.5</u>	<u>0.619</u>	<u>0.02</u>	<u>999</u>	<u>3.1</u>	<input type="checkbox"/>	Amount _____ Type _____
WELL VOLUME: <u>2 gal</u>								<input checked="" type="checkbox"/>	Other
COMMENTS: <u>sampled at 14:40</u>									<u>Turbid (gray)</u>

**ACC Environmental Consultants**  
7977 Capwell Drive, Suite 100  
Oakland, CA 94621

Attn.: Mr. Dave DeMent

Project: 00-6651-001.00  
3820 San Leandro

Dear Mr. DeMent,

Attached is our report for your samples received on Wednesday April 11, 2001  
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 May 26, 2001  
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. You can also contact me via email.  
My email address is: [vvancil@chromalab.com](mailto:vvancil@chromalab.com)

Sincerely,



Vincent Vancil

Gas/BTEX and MTBE

<b>ACC Environmental Consultants</b>	✉ 7977 Capwell Drive, Suite 100 Oakland, CA 94621
Attn: Dave DeMent	Phone: (510) 638-8400 Fax: (510) 638-8404
Project #: 00-6651-001.00	Project: 3820 San Leandro

**Samples Reported**

Sample ID	Matrix	Date Sampled	Lab #
MW-1	Water	04/10/2001 14:40	1
MW-2	Water	04/10/2001 17:30	2
MW-3	Water	04/10/2001 15:10	3

# STL ChromaLab

Environmental Services (CA 1094)

Submission #: 2001-04-0251

To: ACC Environmental Consultants

Test Method: 8020  
8015M

Attn.: Dave DeMent

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID: MW-1	Lab Sample ID: 2001-04-0251-001
Project: 00-6651-001.00 3820 San Leandro	Received: 04/11/2001 17:12
Sampled: 04/10/2001 14:40	Extracted: 04/13/2001 16:44
Matrix: Water	QC-Batch: 2001/04/13-01.01

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	320	50	ug/L	1.00	04/13/2001 16:44	g
Benzene	3.6	0.50	ug/L	1.00	04/13/2001 16:44	
Toluene	1.1	0.50	ug/L	1.00	04/13/2001 16:44	
Ethyl benzene	1.2	0.50	ug/L	1.00	04/13/2001 16:44	
Xylene(s)	0.79	0.50	ug/L	1.00	04/13/2001 16:44	
MTBE	ND	5.0	ug/L	1.00	04/13/2001 16:44	
<b>Surrogate(s)</b>						
Trifluorotoluene	112.1	58-124	%	1.00	04/13/2001 16:44	
4-Bromofluorobenzene-FID	74.3	50-150	%	1.00	04/13/2001 16:44	

1220 Quarry Lane \* Pleasanton, CA 94566-4756  
Telephone: (925) 484-1919 \* Facsimile: (925) 484-1096

# STL ChromaLab

Environmental Services (CA 1094)

Submission #: 2001-04-0251

To: ACC Environmental Consultants

Test Method: 8020  
8015M

Attn.: Dave DeMent

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID: MW-2	Lab Sample ID: 2001-04-0251-002
Project: 00-6651-001.00 3820 San Leandro	Received: 04/11/2001 17:12
Sampled: 04/10/2001 17:30	Extracted: 04/13/2001 13:17
Matrix: Water	QC-Batch: 2001/04/13-01.01

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	1100	250	ug/L	5.00	04/13/2001 13:17	g
Benzene	12	2.5	ug/L	5.00	04/13/2001 13:17	
Toluene	7.7	2.5	ug/L	5.00	04/13/2001 13:17	
Ethyl benzene	ND	2.5	ug/L	5.00	04/13/2001 13:17	
Xylene(s)	ND	2.5	ug/L	5.00	04/13/2001 13:17	
MTBE	73	25	ug/L	5.00	04/13/2001 13:17	
<b>Surrogate(s)</b>						
Trifluorotoluene	113.2	58-124	%	5.00	04/13/2001 13:17	
4-Bromofluorobenzene-FID	79.1	50-150	%	5.00	04/13/2001 13:17	

1220 Quarry Lane \* Pleasanton, CA 94566-4756  
Telephone: (925) 484-1919 \* Facsimile: (925) 484-1096

To: ACC Environmental Consultants

Test Method: 8020  
8015M

Attn.: Dave DeMent

Prep Method: 5030

Gas/BTEX and MTBE

Sample ID: MW-3	Lab Sample ID: 2001-04-0251-003
Project: 00-6651-001.00 3820 San Leandro	Received: 04/11/2001 17:12
Sampled: 04/10/2001 15:10	Extracted: 04/16/2001 11:59
Matrix: Water	QC-Batch: 2001/04/16-01.02

Compound	Result	Rep.Limit	Units	Dilution	Analyzed	Flag
Gasoline	15000	2500	ug/L	50.00	04/16/2001 11:59	
Benzene	4500	25	ug/L	50.00	04/16/2001 11:59	
Toluene	27	25	ug/L	50.00	04/16/2001 11:59	
Ethyl benzene	320	25	ug/L	50.00	04/16/2001 11:59	
Xylene(s)	140	25	ug/L	50.00	04/16/2001 11:59	
MTBE	8800	250	ug/L	50.00	04/16/2001 11:59	
<b>Surrogate(s)</b>						
Trifluorotoluene	110.2	58-124	%	1.00	04/16/2001 11:59	
4-Bromofluorobenzene-FID	95.2	50-150	%	1.00	04/16/2001 11:59	

To: ACC Environmental Consultants

Test Method: 8015M

Attn.: Dave DeMent

8020

Prep Method: 5030

**Batch QC Report**  
Gas/BTEX and MTBE

<b>Method Blank</b>	<b>Water</b>	<b>QC Batch # 2001/04/13-01.01</b>
MB: 2001/04/13-01.01-003		Date Extracted: 04/13/2001 08:07

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Gasoline	ND	50	ug/L	04/13/2001 08:07	
Benzene	ND	0.5	ug/L	04/13/2001 08:07	
Toluene	ND	0.5	ug/L	04/13/2001 08:07	
Ethyl benzene	ND	0.5	ug/L	04/13/2001 08:07	
Xylene(s)	ND	0.5	ug/L	04/13/2001 08:07	
MTBE	ND	5.0	ug/L	04/13/2001 08:07	
<b>Surrogate(s)</b>					
Trifluorotoluene	107.2	58-124	%	04/13/2001 08:07	
4-Bromofluorobenzene-FID	76.5	50-150	%	04/13/2001 08:07	

# STL ChromaLab

Environmental Services (CA 1094)

Submission #: 2001-04-0251

To: ACC Environmental Consultants

Test Method: 8015M

Attn.: Dave DeMent

8020

Prep Method: 5030

## Batch QC Report Gas/BTEX and MTBE

<b>Method Blank</b>	<b>Water</b>	<b>QC Batch # 2001/04/16-01.02</b>
MB: 2001/04/16-01.02-003		Date Extracted: 04/16/2001 08:18

Compound	Result	Rep.Limit	Units	Analyzed	Flag
Gasoline	ND	50	ug/L	04/16/2001 08:18	
Benzene	ND	0.5	ug/L	04/16/2001 08:18	
Toluene	ND	0.5	ug/L	04/16/2001 08:18	
Ethyl benzene	ND	0.5	ug/L	04/16/2001 08:18	
Xylene(s)	ND	0.5	ug/L	04/16/2001 08:18	
MTBE	ND	5.0	ug/L	04/16/2001 08:18	
<b>Surrogate(s)</b>					
Trifluorotoluene	122.4	58-124	%	04/16/2001 08:18	
4-Bromofluorobenzene-FID	105.7	50-150	%	04/16/2001 08:18	

1220 Quarry Lane \* Pleasanton, CA 94566-4756  
Telephone: (925) 484-1919 \* Facsimile: (925) 484-1096



To: ACC Environmental Consultants  
 Attn: Dave DeMent

Test Method: 8020  
 Prep Method: 5030

**Batch QC Report**  
 Gas/BTEX and MTBE

<b>Laboratory Control Spike (LCS/LCSD)</b>	<b>Water</b>	<b>QC Batch # 2001/04/13-01.01</b>
LCS: 2001/04/13-01.01-004	Extracted: 04/13/2001 08:39	Analyzed 04/13/2001 08:39
LCSD: 2001/04/13-01.01-005	Extracted: 04/13/2001 09:12	Analyzed 04/13/2001 09:12

Compound	Conc. [ ug/L ]		Exp. Conc. [ ug/L ]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD		Recovery	RPD	LCS	LCSD
Benzene	111	112	100.0	100.0	111.0	112.0	0.9	77-123	20		
Toluene	110	109	100.0	100.0	110.0	109.0	0.9	78-122	20		
Ethyl benzene	104	105	100.0	100	104.0	105.0	1.0	70-130	20		
Xylene(s)	323	326	300	300	107.7	108.7	0.9	75-125	20		
<b>Surrogate(s)</b>											
Trifluorotoluene	595	592	500	500	119.0	118.4		58-124			

To: ACC Environmental Consultants

Test Method: 8015M  
8020

Attn: Dave DeMent

Prep Method: 5030

**Batch QC Report**

Gas/BTEX and MTBE

<b>Laboratory Control Spike (LCS/LCSD)</b>	<b>Water</b>	<b>QC Batch # 2001/04/13-01.01</b>
LCS: 2001/04/13-01.01-006	Extracted: 04/13/2001 09:45	Analyzed 04/13/2001 09:45
LCSD: 2001/04/13-01.01-007	Extracted: 04/13/2001 10:17	Analyzed 04/13/2001 10:17

Compound	Conc. [ug/L]		Exp. Conc. [ug/L]		Recovery [%]		RPD [%]	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD		Recovery	RPD	LCS	LCSD
Gasoline	486	451	500	500	97.2	90.2	7.5	75-125	20		
<b>Surrogate(s)</b>											
4-Bromofluorobenzene-FI	352	352	500	500	70.4	70.4		50-150			

To: ACC Environmental Consultants  
Attn: Dave DeMent

Test Method: 8020  
Prep Method: 5030

**Batch QC Report**

Gas/BTEX and MTBE

<b>Laboratory Control Spike (LCS/LCSD)</b>	<b>Water</b>	<b>QC Batch # 2001/04/16-01.02</b>
LCS: 2001/04/16-01.02-004	Extracted: 04/16/2001 08:49	Analyzed 04/16/2001 08:49
LCSD: 2001/04/16-01.02-005	Extracted: 04/16/2001 09:20	Analyzed 04/16/2001 09:20

Compound	Conc. [ug/L]		Exp. Conc. [ug/L]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD		Recovery	RPD	LCS	LCSD
Benzene	104	96.8	100.0	100.0	104.0	96.8	7.2	77-123	20		
Toluene	106	98.4	100.0	100.0	106.0	98.4	7.4	78-122	20		
Ethyl benzene	103	97.0	100.0	100.0	103.0	97.0	6.0	70-130	20		
Xylene(s)	296	278	300	300	98.7	92.7	6.3	75-125	20		
<b>Surrogate(s)</b>											
Trifluorotoluene	601	555	500	500	120.2	111.0		58-124			

To: ACC Environmental Consultants

Test Method: 8015M  
8020

Attn: Dave DeMent

Prep Method: 5030

**Batch QC Report**

Gas/BTEX and MTBE

<b>Laboratory Control Spike (LCS/LCSD)</b>	<b>Water</b>	<b>QC Batch # 2001/04/16-01.02</b>
LCS: 2001/04/16-01.02-006	Extracted: 04/16/2001 09:51	Analyzed 04/16/2001 09:51
LCSD: 2001/04/16-01.02-007	Extracted: 04/16/2001 10:22	Analyzed 04/16/2001 10:22

Compound	Conc. [ug/L]		Exp. Conc. [ug/L]		Recovery [%]		RPD [%]	Ctrl. Limits [%]		Flags	
	LCS	LCSD	LCS	LCSD	LCS	LCSD		Recovery	RPD	LCS	LCSD
Gasoline	493	493	500	500	98.6	98.6	0.0	75-125	20		
<b>Surrogate(s)</b>											
4-Bromofluorobenzene-Fl	527	523	500	500	105.4	104.6		50-150			

To: ACC Environmental Consultants  
Attn.: Dave DeMent

Test Method: 8020  
Prep Method: 5030

**Batch QC Report**  
Gas/BTEX and MTBE

<b>Matrix Spike ( MS / MSD )</b>	<b>Water</b>	<b>QC Batch # 2001/04/13-01.01</b>
Sample ID: <b>MW-1</b>		Lab Sample ID: 2001-04-0251-001
MS: 2001/04/13-01.01-019	Extracted: 04/13/2001 17:16	Analyzed: 04/13/2001 17:16 Dilution: 1.0
MSD: 2001/04/13-01.01-020	Extracted: 04/13/2001 17:49	Analyzed: 04/13/2001 17:49 Dilution: 1.0

Compound	Conc. [ug/L]			Exp. Conc. [ug/L]		Recovery [%]		RPD	Ctrl. Limits [%]		Flags	
	MS	MSD	Sample	MS	MSD	MS	MSD		Recovery	RPD	MS	MSD
Benzene	111	108	3.59	100.0	100.0	107.4	108.0	0.6	65-135	20		
Toluene	106	105	1.15	100.0	100.0	104.9	105.0	0.1	65-135	20		
Ethyl benzene	104	101	1.24	100	100.0	102.8	101.0	1.8	65-135	20		
Xylene(s)	306	303		300	300	102.0	101.0	1.0	65-135	20		
<b>Surrogate(s)</b>												
Trifluorotoluene	559	517		500	500	111.8	103.4		58-124			

To: ACC Environmental Consultants

Test Method: 8015M  
8020

Attn.: Dave DeMent

Prep Method: 5030

**Batch QC Report**  
Gas/BTEX and MTBE

<b>Matrix Spike ( MS / MSD )</b>	<b>Water</b>	<b>QC Batch # 2001/04/13-01.01</b>
Sample ID: MW-1		Lab Sample ID: 2001-04-0251-001
MS: 2001/04/13-01.01-021	Extracted: 04/13/2001 18:22	Analyzed: 04/13/2001 18:22 Dilution: 1.0
MSD: 2001/04/13-01.01-022	Extracted: 04/13/2001 18:54	Analyzed: 04/13/2001 18:54 Dilution: 1.0

Compound	Conc. [ug/L]			Exp.Conc. [ug/L]		Recovery [%] RPD			Ctrl. Limits [%]		Flags	
	MS	MSD	Sample	MS	MSD	MS	MSD	[%]	Recovery	RPD	MS	MSD
Gasoline	673	518	318	500	500	71.0	40.0	55.9	65-135	20		rpd
<b>Surrogate(s)</b>												
4-Bromofluorobenzene-F	68.7	250		500	500	68.7	50.0		50-150			

To: **ACC Environmental Consultants**

Test Method: 8015M  
8020

Attn: Dave DeMent

Prep Method: 5030

**Legend & Notes**

Gas/BTEX and MTBE

**QC Compound Flags**

rpd

Analyte RPD was out of QC limits due to sample heterogeneity.

**Analyte Flags**

g

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

