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**NOVEMBER 2003  
GROUNDWATER  
MONITORING REPORT**

January 8, 2004

1220 West Tennyson Road  
Hayward, California

Prepared For:  
Mr. Kelly Engineer  
All Star Inc.  
1791 Pine Street  
Concord, CA 94520

OAKLAND ▪ SACRAMENTO  
SEATTLE ▪ LOS ANGELES

ACC Project Number: 6651-004.00

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Prepared for:

Mr. Kelly Engineer  
All Star Inc.  
1791 Pine Street  
Concord, CA 94520

Alameda County  
JAN 13 2004  
Environmental Health

January 8, 2004

Prepared by:

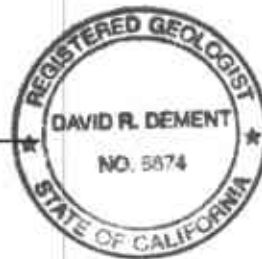


Edward Giacometti  
Staff Geologist

Reviewed by:



David R. DeMent, RG, REA II  
Environmental Division Manager X 109



## TABLE OF CONTENTS

	Page
<b>1.0 INTRODUCTION</b> .....	1
<b>2.0 BACKGROUND</b> .....	1
<b>3.0 GROUNDWATER SAMPLING AND MONITORING</b> .....	2
3.1 Groundwater Monitoring .....	2
3.2 Groundwater Gradient .....	3
3.3 Groundwater Sampling .....	3
<b>4.0 RESULTS OF GROUNDWATER SAMPLING</b> .....	3
<b>5.0 DISCUSSION</b> .....	4
<b>6.0 CONCLUSIONS</b> .....	5
<b>7.0 RECOMMENDATIONS</b> .....	5
<b>8.0 LIMITATIONS</b> .....	6

### TABLES

1 - Groundwater Depth Information .....	2
2 - Groundwater Gradient and Flow Direction .....	3
3 - Groundwater Sample Analytical Results .....	4

### FIGURES

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

### APPENDICES

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

**NOVEMBER 2003 GROUNDWATER MONITORING REPORT**  
**1220 West Tennyson Road**  
**Hayward, California**

## **1.0 INTRODUCTION**

This November 2003 Groundwater Sampling and Monitoring Report was prepared by ACC Environmental Consultants, Inc., (ACC) at the request of Kelly Engineer and All Star Inc., to describe work performed at 1220 West Tennyson Road, Hayward, California (Site). The project objectives were to purge and sample three groundwater monitoring wells and one observation well, calculate groundwater gradient and flow direction, and characterize concentrations of petroleum hydrocarbons in groundwater in the vicinity of four former underground storage tanks (USTs). No significant water was measured in the observation well and it was not purged and sampled.

## **2.0 BACKGROUND**

The subject site is located on the southwest corner of West Tennyson Road and Pompano Street, Hayward, California (Figure 1). An operating gasoline and automobile repair facility currently occupy the Site. The following information was obtained during file review at the City of Hayward Fire Department.

Environmental Geotechnical Consultants, Inc. removed one 6,000-gallon and three 4,000-gallon USTs from the site in October 1990. Four new USTs were subsequently installed at the site. One groundwater and eight soil samples were collected from the tank pit during removal of the USTs. Analysis of the soil samples revealed the presence of total petroleum hydrocarbons as gasoline (TPHg) at 4,300 parts per million (ppm), benzene at 29,000 parts per billion (ppb), toluene at 160,000 ppb, ethylbenzene at 68,000 ppb and total xylenes at 280,000 ppb. Analysis of the groundwater sample revealed the presence of TPHg at 26 ppm, benzene at 2,400 ppb, toluene at 1,800 ppb and total xylenes at 5,200 ppb.

Artesian Environmental Consultants (Artesian) performed a subsurface investigation at the Site in March 1992. Three soil borings were drilled at the Site and converted into groundwater monitoring wells (MW-1, MW-2 and MW-3). Analysis of seven soil samples collected from the borings revealed the presence of TPHg at 680 ppm, benzene at 8,100 ppb, toluene at 15,000 ppb, ethylbenzene at 11,000 ppm and total xylenes at 73,000 ppb. Analyses of soil samples collected from the tank pit revealed the presence of TPHg at 2,900 ppm, benzene at 12,000 ppm, toluene at 160,000 ppm, ethylbenzene at 35,000 ppb and total xylenes at 420,000 ppb. Analyses of groundwater samples collected from the groundwater monitoring wells revealed the presence of TPHg at 59,000 ppb, benzene at 13,000 ppb, toluene at 12,000 ppb, ethylbenzene at 1,600 ppb and total xylenes at 13,000 ppb.

The City of Hayward has requested additional site investigation and remediation at the Site.

### 3.0 GROUNDWATER SAMPLING AND MONITORING

ACC conducted groundwater sampling and monitoring on November 21, 2003. Work at the site included measuring depth to water, subjectively evaluating groundwater in the wells, purging and sampling the wells, and submitting the samples to a laboratory for 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 mean sea level (MSL). Worksheets of recorded groundwater monitoring data are included as Appendix 1. Information regarding well elevations and groundwater depths is summarized in Table 1.

**TABLE 1 - GROUNDWATER DEPTH INFORMATION**

Well No.	Well Elevation* (above MSL)	Date Measured	Depth to Groundwater	Groundwater Elevation
MW-1	21.86	04/07/92	10.08	11.78
		04/11/01	10.54	11.32
		07/16/01	11.18	10.68
		11/25/02	11.62	10.24
		2/24/03	11.29	10.57
		05/27/03	11.49	10.37
		08/27/03	11.85	10.01
		11/21/03	11.73	10.13
MW-2	21.56	04/07/92	9.49	12.07
		04/11/01	9.67	11.89
		07/16/01	10.36	11.20
		11/25/02	11.13	10.43
		2/24/03**	10.51	11.05
		05/27/03	10.99	10.57
		08/27/03	11.35	10.21
		11/21/03	11.23	10.33
MW-3	20.54	04/07/92	10.64	9.90
		04/11/01	11.40	9.14
		07/16/01	11.67	8.87
		11/25/02	10.22	9.68
		2/24/03	9.88	10.66
		05/27/03	10.09	10.45
		08/27/03	10.47	10.07
		11/21/03	10.31	10.23

Notes: All measurements in feet

\*Well elevation measured to top of casing

### 3.2 Groundwater Gradient

The groundwater flow direction, as determined from monitoring well data that was obtained on November 21, 2003, is illustrated on Figure 3. ACC utilized the well elevations relative to mean sea level reported by Artesian in its *Subsurface Investigation Report* dated April 1992. Based on groundwater elevation calculations, groundwater flow direction is toward the west-southwest at an average gradient of 0.005 foot per foot. These values are inconsistent with previous trends. Table 2 summarizes previous gradients and calculated groundwater flow directions.

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

Date Monitored	Gradient (foot/foot)	Direction
04/07/92	0.025	south-southeast
04/11/01	0.031	south
07/16/01	0.026	south
11/25/02	0.008	south
02/24/03	0.002	south
05/27/03	0.005	west-southwest
08/27/03	0.004	west-southwest
11/21/03	0.005	west-southwest

### 3.3 Groundwater Sampling

Before groundwater sampling, each well was purged using a disposable polyethylene bailer. Groundwater samples were collected when a minimum of four well casing volumes of water had been removed. Following purging, each well was allowed to recharge before sampling. When recovery to 80 percent of the static water level was observed, a sample was collected for analysis.

Wells were sampled using disposable polyethylene bailers attached to new rope for each well. From each monitoring well, approved, laboratory-supplied sample vials were filled to overflowing and sealed to eliminate trapped air in the vial. Once filled, sample vials were inverted and tapped to test for air bubbles. Sample containers were labeled with self adhesive, preprinted tags. The samples were stored in a prechilled, insulated container pending delivery to STL San Francisco, a state-certified laboratory for analysis.

Water purged prior to sampling the monitoring wells was temporarily stored on site in Department of Transportation-approved 55-gallon drums pending laboratory analysis and proper disposal.

### 4.0 RESULTS OF GROUNDWATER SAMPLING

Groundwater samples from monitoring wells MW-1, MW-2, MW-3 were collected and submitted to STL-San Francisco (STL-SF) for analysis of TPHg, BTEX, and MTBE by EPA Method 8260B. MTBE was reported in the samples at concentrations ranging from 22 to 3,100 ppb. Analytical

results from the groundwater samples are summarized in Table 3. A copy of the analytical results and chain of custody record for groundwater samples is included as Appendix 2.

**TABLE 3 - GROUNDWATER SAMPLE ANALYTICAL RESULTS**

Well No.	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MCHL (µg/L)	TBA* (µg/L)
MW-1	04/07/92	<50	2.1	0.56	<0.5	1.4	NA	NA
	04/11/01	<50	<0.5	<0.5	<0.5	<0.5	<5.0	NA
	07/16/01	<50	<0.5	<0.5	<0.5	<0.5	<5.0	NA
	11/25/02	16,000*	<100	<100	<100	<100	20,000	NA
	02/24/03	<25,000	<250	<250	<250	<500	59,000	NA
	05/27/03	38,000*	<250	<250	<250	<500	53,000	NA
	08/27/03	<13,000	<130	<130	<130	<250	36,000	NA
	11/21/03	<20,000	<200	<200	<200	<400	19,000	NA
MW-2	04/07/92	2,100	450	200	45	360	NA	NA
	04/11/01	<5,000	<50	<50	<50	150	5,200	NA
	07/16/01	6,300	<50	<50	<50	<50	6,500	NA
	11/25/02	13,000*	<50	<50	<50	<50	20,000	NA
	02/24/03**	<5,000	<50	<50	<50	<100	17,000	NA
	05/27/03	130*	<0.50	<0.50	<0.50	<1.0	190	NA
	08/27/03	<50	<0.50	<0.50	<0.50	<1.0	60	NA
	11/21/03	<50	<0.50	<0.50	<0.50	<1.0	22	NA
MW-3	04/07/92	59,000	13,000	12,000	1,600	13,000	NA	NA
	04/11/01	4,800	<5.0	5.1	320	<5	760	1,500
	07/16/01	4,300	<10	<10	100	60	2,400	NA
	11/25/02	2,900*	<10	<10	<10	<10	4,000	NA
	02/24/03	<5,000	<50	<50	<50	<100	4,900	NA
	05/27/03	<10,000	<100	<100	<100	<200	7,400	NA
	08/27/03	<2,500	<25	<25	<25	<50	4,500	NA
	11/21/03	<5,000	<50	<50	<50	<100	3,100	NA

Notes: µg/L = micrograms per liter (approximately equivalent to ppb)

< = concentrations were below reporting limits

NA = Not analyzed

\* = Hydrocarbon reported in the gasoline range does not match the gasoline standard

\*\* = ACC inadvertently sampled a 4-inch observation well located on the site instead of monitoring well MW-2

## 5.0 DISCUSSION

The November 2003 sampling event represents the eighth ACC groundwater monitoring event. The calculated groundwater flow direction and gradient were west-southwest at 0.005 foot per foot. These values have remained relatively consistent during the last 12 months.

Water sample analytical results are fairly consistent with previous analytical results. MTBE only was reported in the three water samples at concentrations ranging from 22 to less than 19,000 ppb. MTBE concentrations decreased in well MW-1 from 36,000 to less than 19,000 ppb, decreased in well MW-2 from 60 to 22 ppb, and decreased in well MW-3 from 4,500 to 3,100 ppb.

Since groundwater monitoring resumed in November 2002, reported TPHg values are likely comprised entirely of MTBE since they do not match the laboratory gasoline standard and no significant BTEX concentrations were reported. While reporting limits were raised due to interference effects of MTBE, TPHg and BTEX concentrations are significantly less than those reported by Artesian Environmental in 1992, especially in downgradient well MW-3.

## 6.0 CONCLUSIONS

Based on the results of groundwater sampling and monitoring performed at 1220 West Tennyson Road in November 2003, ACC concludes the following:

- Groundwater gradient and flow direction were calculated at 0.005 foot/foot to the west-southwest, which are consistent with historical trends;
- Groundwater sample analytical results indicate that previous TPHg, BTEX, and/or MTBE impacts in groundwater across the majority of the site appear to have decreased or are below laboratory reporting limits;
- Natural attenuation processes appear to be actively decreasing MTBE concentrations in groundwater; and
- MTBE, the primary constituent of concern, decreased in all three groundwater monitoring wells.

## 7.0 RECOMMENDATIONS

Based on the conclusions of previous investigation and recent groundwater monitoring performed, ACC recommends:

- Continuing quarterly groundwater monitoring in wells MW-1, MW-2, and MW-3;
- Analyzing all future water samples for TPHg, BTEX, and MTBE and all fuel oxygenates by EPA Method 8260B; and
- Discuss with STL San Francisco the methods available to achieve the lowest possible reporting limits for TPHg, BTEX, and MTBE for water samples collected during future sampling events.

The next monitoring event is tentatively scheduled for February 2003.



## **8.0 LIMITATIONS**

The service performed by ACC has been conducted in a manner consistent with the levels of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the area. No other warranty, expressed or implied, is made.

The conclusions presented in this report are professional opinions based on the indicated data described in this report and applicable regulations and guidelines currently in place. They are intended only for the purpose, site, and project indicated. Opinions and recommendations presented herein apply to site conditions existing at the time of our study.

ACC has included analytical results from a state-certified laboratory, which performs analyses according to procedures suggested by the U.S. Environmental Protection Agency and the State of California. ACC is not responsible for laboratory errors in procedure or result reporting.

## FIGURES

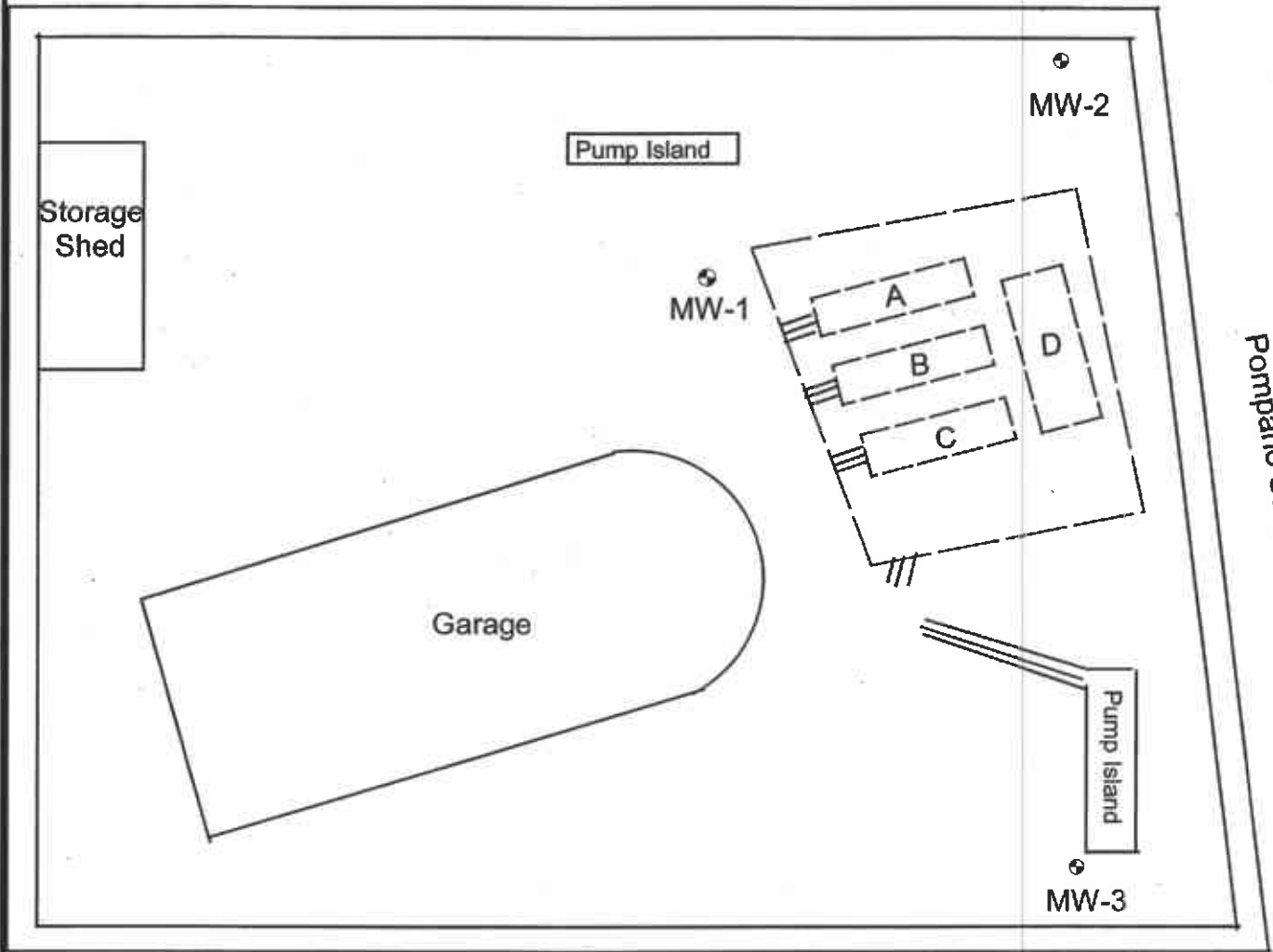
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Source: The Thomas Guide, Bay Area 2002

<b>Title: Location Map</b> <b>1220 West Tennyson Road</b> <b>Hayward, California</b>	
Figure Number: 1	Scale: None
Project No: 6551-004.00	Drawn By: E/JG
<b>A • C • C</b> <b>ENVIRONMENTAL</b> <b>CONSULTANTS</b>	Date: 9/29/03
7977 Capwell Drive, Suite 100 Oakland, California 94621 (510) 638-8400 Fax: (510) 638-8404	

West Tennyson Road



Mantilla Avenue

### Legend

● Groundwater Monitoring Well Location  
MW-3

--- Area of Excavation

--- Approximate Former Tank Location

Title: **Site Map**  
**1220 W. Tennyson Ave.**  
**Hayward, California**

Figure Number: 2 Scale: 1" = 20'

Project Number: 6551-004.00 Drawn By: EJG

**A · C · C**

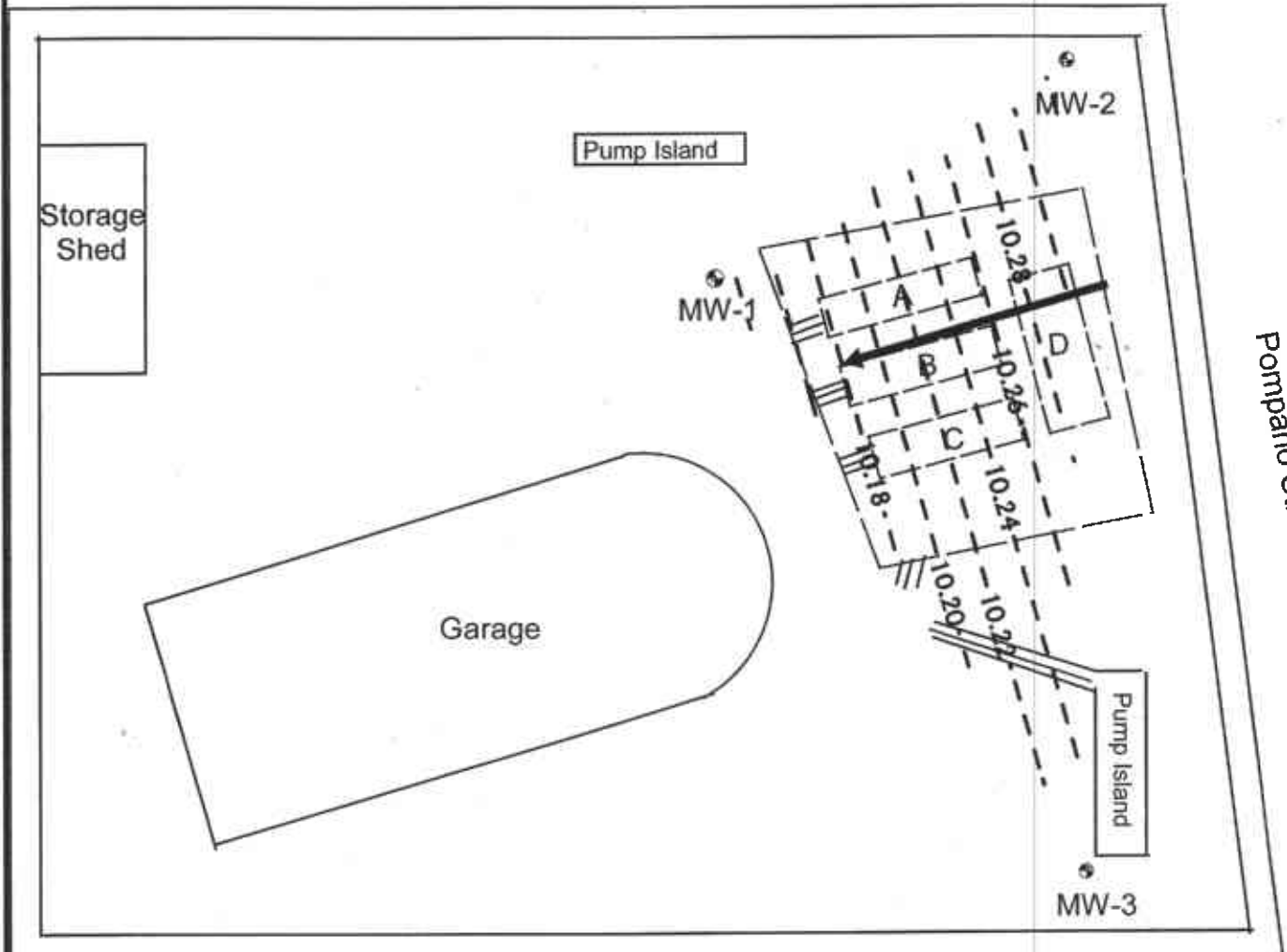
ENVIRONMENTAL  
CONSULTANTS

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

Date: 1/8/04






West Tennyson Road



Mantilla Avenue

### Legend

-  Groundwater Monitoring Well Location
-  Area of Excavation
-  Approximate Former Tank Location

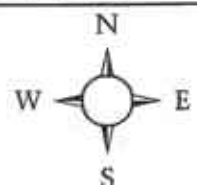
Title: **Groundwater Gradient Map**  
**1220 W. Tennyson Ave.**  
**Hayward, California**

Figure Number: 3 Scale: 1" = 20'

Project Number: 6551-004.00 Drawn By: EJJ

**A · C · C**  
ENVIRONMENTAL  
CONSULTANTS

Date: 1/8/04



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

JOB NAME:		PURGE METHOD: <u>Manual Bail</u>	
SITE ADDRESS: <u>1220 W. Temnyson Rd.</u>		SAMPLED BY: <u>Ed Giacometti</u>	
JOB #: <u>6651-004.00</u>		LABORATORY: <u>STL-SF</u>	
DATE: <u>11/21/03</u>		ANALYSIS: <u>TPHg/BTEX/MTBG</u>	
Onsite Drum Inventory SOIL:		MONITORING <input checked="" type="checkbox"/> DEVELOPING <input type="checkbox"/>	
EMPTY: WATER: <u>1 @ 35%</u>		SAMPLING <input checked="" type="checkbox"/>	

	PURGE VOL.	PURGE WATER READINGS						OBSERVATIONS
		pH	Temp.(C)	Cond.	Sal.	Turb.	D.O.	
<b>WELL: MW-1</b>	(Gal)							<input type="checkbox"/> Froth
DEPTH OF BORING: <u>18.81</u>	<u>1.1</u>		<u>21.5</u>				<u>2.17</u>	<input checked="" type="checkbox"/> Sheen
DEPTH TO WATER: <u>11.73</u>	<u>2.2</u>		<u>21.4</u>				<u>2.07</u>	<input checked="" type="checkbox"/> Odor Type <u>gas</u>
WATER COLUMN: <u>7.08</u>	<u>3.3</u>		<u>21.3</u>				<u>1.84</u>	<input type="checkbox"/> Free Product
WELL DIAMETER: <u>2"</u>	<u>4.4</u>		<u>21.2</u>				<u>2.00</u>	Amount _____ Type _____
WELL VOLUME: <u>1.1</u>								<input type="checkbox"/> Other
COMMENTS: <u>Purge: 13:00</u> <u>Sample: 14:00</u>								
<b>WELL: MW-2</b>	(Gal)							<input type="checkbox"/> Froth
DEPTH OF BORING: <u>17.14</u>	<u>1.0</u>		<u>22.5</u>				<u>2.12</u>	<input type="checkbox"/> Sheen
DEPTH TO WATER: <u>11.23</u>	<u>2.0</u>		<u>22.5</u>				<u>2.25</u>	<input type="checkbox"/> Odor Type _____
WATER COLUMN: <u>5.91</u>	<u>3.0</u>		<u>22.5</u>				<u>2.42</u>	<input type="checkbox"/> Free Product
WELL DIAMETER: <u>2"</u>	<u>4.0</u>		<u>22.4</u>				<u>2.35</u>	Amount _____ Type _____
WELL VOLUME: <u>1.0</u>								<input type="checkbox"/> Other
COMMENTS: <u>Purge: 13:20</u> <u>Sample: 14:10</u>								<u>silty</u>
<b>WELL: MW-3</b>	(Gal)							<input type="checkbox"/> Froth
DEPTH OF BORING: <u>18.24</u>	<u>1.3</u>		<u>21.6</u>				<u>1.48</u>	<input type="checkbox"/> Sheen
DEPTH TO WATER: <u>10.81</u>	<u>2.6</u>		<u>21.9</u>				<u>1.56</u>	<input type="checkbox"/> Odor Type _____
WATER COLUMN: <u>7.93</u>	<u>3.9</u>		<u>22.0</u>				<u>1.66</u>	<input type="checkbox"/> Free Product
WELL DIAMETER: <u>2"</u>	<u>5.2</u>		<u>21.9</u>				<u>1.74</u>	Amount _____ Type _____
WELL VOLUME: <u>1.3</u>								<input type="checkbox"/> Other
COMMENTS: <u>Purge: 13:40</u> <u>Sample: 14:15</u>								

**ACC Environmental Consultants**

December 04, 2003

7977 Capwell Drive, Suite 100  
Oakland, CA 94621

Attn.: Ed Giacometti

Project#: 6651-004.00

Project: 1220 W. Tennyson

Dear Mr. Giacometti,

Attached is our report for your samples received on 11/24/2003 14:00

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 01/08/2004 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@stl-inc.com](mailto:vvancil@stl-inc.com)

Sincerely,



Vincent Vancil  
Project Manager

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94566

Tel 925 484 1919 Fax 925 484 1096 \* [www.stl-inc.com](http://www.stl-inc.com) \* CA DHS ELAP# 2496

Fuel Oxygenates by 8260B

ACC Environmental Consultants

Attn.: Ed Giacometti

7977 Capwell Drive, Suite 100

Oakland, CA 94621

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

Project: 6651-004.00

1220 W. Tennyson

Received: 11/24/2003 14:00

Samples Reported

Sample Name	Date Sampled	Matrix	Lab #
MW-1	11/21/2003 14:00	Water	1
MW-2	11/21/2003 14:10	Water	2
MW-3	11/21/2003 14:15	Water	3



Fuel Oxygenates by 8260B

ACC Environmental Consultants

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Oakland, CA 94621

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

Project: 6651-004.00

1220 W. Tennyson

Received: 11/24/2003 14:00

Prep(s): 5030B Test(s): 8260B  
 Sample ID: MW-1 Lab ID: 2003-11-0824 - 1  
 Sampled: 11/21/2003 14:00 Extracted: 12/1/2003 16:55  
 Matrix: Water QC Batch#: 2003/12/01-01.62  
 Analysis Flag: 0 ( See Legend and Note Section )

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	20000	ug/L	400.00	12/01/2003 16:55	
Methyl tert-butyl ether (MTBE)	19000	200	ug/L	400.00	12/01/2003 16:55	
Benzene	ND	200	ug/L	400.00	12/01/2003 16:55	
Toluene	ND	200	ug/L	400.00	12/01/2003 16:55	
Ethylbenzene	ND	200	ug/L	400.00	12/01/2003 16:55	
Total xylenes	ND	400	ug/L	400.00	12/01/2003 16:55	
<b>Surrogate(s)</b>						
1,2-Dichloroethane-d4	93.2	76	%	400.00	12/01/2003 16:55	
Toluene-d8	95.7	88	%	400.00	12/01/2003 16:55	

Fuel Oxygenates by 8260B

ACC Environmental Consultants

Attn.: Ed Giacometti

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Oakland, CA 94621  
Phone: (510) 638-8400 Fax: (510) 638-8404

Project: 6651-004.00  
1220 W. Tennyson

Received: 11/24/2003 14:00

Prep(s): 5030B Test(s): 8260B  
Sample ID: MW-2 Lab ID: 2003-11-0824 - 2  
Sampled: 11/21/2003 14:10 Extracted: 12/1/2003 17:17  
Matrix: Water QC Batch#: 2003/12/01-01.62

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	50	ug/L	1.00	12/01/2003 17:17	
Methyl tert-butyl ether (MTBE)	22	0.50	ug/L	1.00	12/01/2003 17:17	
Benzene	ND	0.50	ug/L	1.00	12/01/2003 17:17	
Toluene	ND	0.50	ug/L	1.00	12/01/2003 17:17	
Ethylbenzene	ND	0.50	ug/L	1.00	12/01/2003 17:17	
Total xylenes	ND	1.0	ug/L	1.00	12/01/2003 17:17	
<b>Surrogate(s)</b>						
1,2-Dichloroethane-d4	91.5	76	%	1.00	12/01/2003 17:17	
Toluene-d8	101.3	88	%	1.00	12/01/2003 17:17	

Fuel Oxygenates by 8260B

ACC Environmental Consultants

Attn.: Ed Giacometti

7977 Capwell Drive, Suite 100

Oakland, CA 94621

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

Project: 6651-004.00

1220 W. Tennyson

Received: 11/24/2003 14:00

Prep(s): 5030B Test(s): 8260B  
 Sample ID: MW-3 Lab ID: 2003-11-0824 - 3  
 Sampled: 11/21/2003 14:15 Extracted: 12/1/2003 17:39  
 Matrix: Water QC Batch#: 2003/12/01-01.62  
 Analysis Flag: o ( See Legend and Note Section )

Compound	Conc.	RL	Unit	Dilution	Analyzed	Flag
Gasoline	ND	5000	ug/L	100.00	12/01/2003 17:39	
Methyl tert-butyl ether (MTBE)	3100	50	ug/L	100.00	12/01/2003 17:39	
Benzene	ND	50	ug/L	100.00	12/01/2003 17:39	
Toluene	ND	50	ug/L	100.00	12/01/2003 17:39	
Ethylbenzene	ND	50	ug/L	100.00	12/01/2003 17:39	
Total xylenes	ND	100	ug/L	100.00	12/01/2003 17:39	
<b>Surrogate(s)</b>						
1,2-Dichloroethane-d4	90.8	76	%	100.00	12/01/2003 17:39	
Toluene-d8	99.2	88	%	100.00	12/01/2003 17:39	

Fuel Oxygenates by 8260B

ACC Environmental Consultants

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Oakland, CA 94621  
Phone: (510) 638-8400 Fax: (510) 638-8404

Project: 6651-004.00  
1220 W. Tennyson

Received: 11/24/2003 14:00

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Method Blank

Water

QC Batch # 2003/12/01-01.62

MB: 2003/12/01-01.62-003

Date Extracted: 12/01/2003 16:03

Compound	Conc.	RL	Unit	Analyzed	Flag
Gasoline	ND	50	ug/L	12/01/2003 16:03	
Methyl tert-butyl ether (MTBE)	ND	0.5	ug/L	12/01/2003 16:03	
Benzene	ND	0.5	ug/L	12/01/2003 16:03	
Toluene	ND	0.5	ug/L	12/01/2003 16:03	
Ethylbenzene	ND	0.5	ug/L	12/01/2003 16:03	
Total xylenes	ND	1.0	ug/L	12/01/2003 16:03	
<b>Surrogates(s)</b>					
1,2-Dichloroethane-d4	88.4	76-114	%	12/01/2003 16:03	
Toluene-d8	97.8	88-110	%	12/01/2003 16:03	

Fuel Oxygenates by 8260B

ACC Environmental Consultants

Attn.: Ed Giacometti

7977 Capwell Drive, Suite 100  
Oakland, CA 94621  
Phone: (510) 638-8400 Fax: (510) 638-8404

Project: 6651-004.00  
1220 W. Tennyson

Received: 11/24/2003 14:00

Batch QC Report

Prep(s): 5030B

Test(s): 8260B

Laboratory Control Spike

Water

QC Batch # 2003/12/01-01.62

LCS 2003/12/01-01.62-019

Extracted: 12/01/2003

Analyzed: 12/01/2003 15:19

LCSD 2003/12/01-01.62-041

Extracted: 12/01/2003

Analyzed: 12/01/2003 15:41

Compound	Conc. ug/L		Exp.Conc.	Recovery %		RPD	Ctrl.Limits %		Flags	
	LCS	LCSD		LCS	LCSD		%	Rec.	RPD	LCS
Methyl tert-butyl ether (MTBE)	17.7	17.7	25.0	70.8	70.8	0.0	65-165	20		
Benzene	23.1	22.1	25.0	92.4	88.4	4.4	69-129	20		
Toluene	24.3	22.4	25.0	97.2	89.6	8.1	70-130	20		
<b>Surrogates(s)</b>										
1,2-Dichloroethane-d4	452	426	500	90.4	85.2		76-114			
Toluene-d8	524	484	500	104.8	96.8		88-110			

Severn Trent Laboratories, Inc.

STL San Francisco \* 1220 Quarry Lane, Pleasanton, CA 94568

Tel 925 484 1919 Fax 925 484 1096 \* www.stl-inc.com \* CA DHS ELAP# 2496

12/03/2003 15:04

Fuel Oxygenates by 8260B

ACC Environmental Consultants

Attn.: Ed Giacometti

7977 Capwell Drive, Suite 100

Oakland, CA 94621

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

Project: 6651-004.00

1220 W. Tennyson

Received: 11/24/2003 14:00

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Legend and Notes

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**Analysis Flag**

o

Reporting limits were raised due to high level of analyte present in the sample.

**2003-11-0824**

**Report To** **Analysis Request**

Attn: ED GIACOMETTI  
Company: ACC ENVIRONMENTAL CONSULTANTS  
Address: 7977 CAPWELL DRIVE, OAKLAND, CA  
P: (510) 638-8400 x 114 E: egiacometti@accenv.com  
Bill To: ACC ENVIRONMENTAL  
Sampled By: Ed Giacometti  
Attn: ED Phone ext: 114

Sample ID	Date	Time	Mat rix	Pres erv.	TPH EPA - <input type="checkbox"/> 8015/8021 <input checked="" type="checkbox"/> 8260B <input checked="" type="checkbox"/> Gas w/ <input checked="" type="checkbox"/> BTEX <input checked="" type="checkbox"/> MTBE	Purgeable Aromatics BTEX EPA - <input type="checkbox"/> 8021 <input type="checkbox"/> 8260B	TEPH EPA 8015M <input type="checkbox"/> Silica Gel <input type="checkbox"/> Diesel <input type="checkbox"/> Motor Oil <input type="checkbox"/> Other _____	Fuel Tests EPA 8260B: <input type="checkbox"/> Gas <input type="checkbox"/> BTEX <input type="checkbox"/> Five Oxygenates <input type="checkbox"/> DCA, EDB <input type="checkbox"/> Ethanol	Purgeable Halocarbons (HVOCs) EPA 8021	Volatile Organics GC/MS (VOCs) <input type="checkbox"/> EPA 8260B <input type="checkbox"/> 824	Semivolatiles GC/MS <input type="checkbox"/> EPA 8270 <input type="checkbox"/> 625	Oil and Grease <input type="checkbox"/> Petroleum (EPA 1664) <input type="checkbox"/> Total	Pesticides <input type="checkbox"/> EPA 8081 <input type="checkbox"/> 608 PCBs <input type="checkbox"/> EPA 8082 <input type="checkbox"/> 608	PNAs by <input type="checkbox"/> 8270 <input type="checkbox"/> 8310	CAM17 Metals (EPA 6010/7470/7471)	Metals: <input type="checkbox"/> Lead <input type="checkbox"/> LUFT <input type="checkbox"/> RCRA <input type="checkbox"/> Other: _____	<input type="checkbox"/> W.E.T (STLC) <input type="checkbox"/> TCLP	Hexavalent Chromium pH (24h hold time for H <sub>2</sub> O)	Spec Cond. <input type="checkbox"/> Alkalinity TSS <input type="checkbox"/> TDS	Anions: <input type="checkbox"/> Cl <input type="checkbox"/> SO <sub>4</sub> <input type="checkbox"/> NO <sub>3</sub> <input type="checkbox"/> F <input type="checkbox"/> Br <input type="checkbox"/> NO <sub>2</sub> <input type="checkbox"/> PO <sub>4</sub>	Number of Containers		
MW-1	11/21/03	14:00	H <sub>2</sub> O	H <sub>2</sub> /L <sub>2</sub>	X																	3	
MW-2	11/21/03	14:10	H <sub>2</sub> O	H <sub>2</sub> /L <sub>2</sub>	X																		3
MW-3	11/21/03	14:35	H <sub>2</sub> O	H <sub>2</sub> /L <sub>2</sub>	X																		3

**Project Info.**  
Project Name: 1220 W. Tennyson  
Project#: 6681-004-00  
PO#: \_\_\_\_\_  
Credit Card#: \_\_\_\_\_

**Sample Receipt**  
# of Containers: \_\_\_\_\_  
Head Space: \_\_\_\_\_  
Temp: 4 PC  
Conforms to record: \_\_\_\_\_  
Other: \_\_\_\_\_

Report:  Routine  Level 3  Level 4  EDD  State Tank Fund EDF  
Special Instructions / Comments: \_\_\_\_\_

1) Relinquished by:  
Edward Giacometti  
Signature \_\_\_\_\_ Time \_\_\_\_\_  
ED GIACOMETTI 11/21/03  
Printed Name \_\_\_\_\_ Date \_\_\_\_\_  
ACC ENVIRONMENTAL CONSULTANTS  
Company

1) Received by:  
Ramon 11/24/03  
Signature \_\_\_\_\_ Time \_\_\_\_\_  
Ramon 11/24/03  
Printed Name \_\_\_\_\_ Date \_\_\_\_\_  
STL-SF  
Company

2) Relinquished by:  
Ramon 11/24/03  
Signature \_\_\_\_\_ Time \_\_\_\_\_  
Ramon 11/24/03  
Printed Name \_\_\_\_\_ Date \_\_\_\_\_  
STL-SF  
Company

2) Received by:  
Signature \_\_\_\_\_ Time \_\_\_\_\_  
Printed Name \_\_\_\_\_ Date \_\_\_\_\_  
Company \_\_\_\_\_

3) Relinquished by:  
Signature \_\_\_\_\_ Time \_\_\_\_\_  
Printed Name \_\_\_\_\_ Date \_\_\_\_\_  
Company \_\_\_\_\_

3) Received by:  
Nounat 11/24/03  
Signature \_\_\_\_\_ Time \_\_\_\_\_  
Nounat. 11/24/03  
Printed Name \_\_\_\_\_ Date \_\_\_\_\_  
STL-SF  
Company