

PIERS Environmental Services, Inc.  
DEC 02 2004  
Environmental Health

PL2567

***Report of November 2004  
Quarterly Groundwater Sampling  
at  
2942 San Pablo Avenue  
Oakland, CA***

***Performed For:***

Mr. James Chung  
San Pablo Auto Body  
2942 San Pablo Avenue  
Oakland, CA 94608

***Prepared By:***

PIERS Environmental Services, Inc.  
1330 S. Bascom Avenue, Suite F  
San Jose, CA 95128

**November 2004**

**Project Number: 04256**



November 30, 2004

Mr. Robert W. Schultz, R. G.  
Alameda County Environmental Health Services  
1131 Harbor Bay Parkway  
Alameda, CA 94502

Re: Report of November 2004 Quarterly Groundwater Sampling  
2942 San Pablo Avenue, Oakland, CA

Dear Mr. Schultz:

On November 15, 2004, groundwater samples were obtained from monitoring wells MW-1 through MW-3 at the above-referenced site by North State Environmental of South San Francisco, CA. The wells were also monitored. A Vicinity Map showing the location of the site is included as Figure 1.

The groundwater samples were collected as follows: prior to sampling, the wells were checked for depth to water, and for the presence of free product and sheen. No free product or sheen was noted in any of the wells. Monitoring data collected this quarter is summarized on Table 1 and Figure 2.

Each well was bailed until the volume of water withdrawn was equal to at least three well casing volumes. To assure that a representative groundwater sample was collected, periodic measurements of the temperature, pH and specific conductivity were made. The sample was collected only when the temperature, pH, and/or specific conductivity reached relatively constant values.

Water samples were collected using new, disposable bailers. An effort was made to minimize exposure of the sample to air. The samples were decanted into clean VOA vials and/or one-liter amber bottles, as appropriate, which were then sealed with Teflon-lined screw caps, labeled, and stored in a cooler, on ice, until delivery to a state-certified laboratory. Sample containers were obtained directly from the analytical laboratory. Sampling equipment was cleaned before its use at each sampling location. Thermometers, pH electrodes, and conductivity probes were also cleaned before sampling at each location.

Subsequent to collection, the samples were immediately stored on ice in an appropriate ice chest. Samples were transported under Chain-of-Custody procedures to North State Environmental Laboratory in South San Francisco, CA. Excess water resulting from the sampling and cleaning procedures was collected and contained in pre-labeled, 55-gallon drums on-site pending receipt of laboratory analyses.

## **Laboratory Analyses**

All samples analyzed were accompanied by properly executed Chain of Custody documentation. The samples were analyzed for volatile organic compounds by EPA Method 8260, and for TPH as gasoline by EPA method 8015- Modified, and benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA method 8020. The analytical results of the groundwater samples collected on November 15, 2004 are tabulated in Tables 2A and 2B. Copies of the laboratory analyses and the Chain of Custody documentation are attached to this report.

## **Hydrology**

On November 15, 2004, the measured depth to groundwater in the three monitoring wells and piezometer B-11 varied between 12.86 and 13.75 feet below the tops of the well casings. The elevation of groundwater in the wells increased between 0.34 and 0.56 feet since the last monitoring event on July 30, 2004. The monitoring data is summarized in Table 1 and on Figure 2. On this event, the direction of groundwater flow at the Property and vicinity was to the west, consistent with the previous events, at a hydraulic gradient of 0.03 feet per foot.

## **Discussion**

The primary Contaminant of Concern at the Property in groundwater is trichloroethene (TCE). The concentrations of TCE in MW-1, at the source area, were relatively unchanged. The concentrations at down-gradient well MW-2, at the down-gradient Property boundary, was somewhat less (15 ppb vs. 219 ppb on the last event). The concentrations in well MW-3, also at the Property boundary were slightly elevated (11.6 ppb vs. 6.6 ppb on the last event). The laboratory continued to report that the concentrations of Total Petroleum Hydrocarbons (TPH) as gasoline detected in the monitoring wells was partly due to a single peak of TCE.

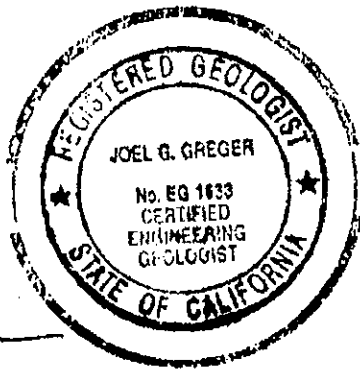
The next quarterly monitoring event will take place in February 2005.

## **Limitations**

The observations and conclusions presented in this report are professional opinions based on the scope of work outlined herein. This report was prepared in accordance with generally accepted standards of environmental geological practice in California at the time this investigation was performed. The opinions presented apply to site conditions existing at the time of our study and cannot apply to site conditions or changes of which we are not aware or have not had the opportunity to evaluate. This investigation was conducted solely to evaluate environmental conditions beneath the property at specific locations. Subsurface conditions may vary away from the data points available. Additional work, including subsurface investigation, can reduce the inherent uncertainties associated with this type of investigation. It must be recognized that any conclusions drawn from these data rely on the integrity of the information available at the time of investigation and that a full and complete determination of environmental contamination and risks cannot be made.

If you have any questions regarding this report, please do not hesitate to contact our office.

Sincerely,  
**PIERS Environmental Services, Inc.**



Joel G. Greger  
Senior Project Manager  
CEG # EG1633, REA # 07079



Kay Pannell  
Chief Operations Officer  
REP #5800, REA-II #20236

Attachments  
Tables 1 -3  
Figures 1 and 2  
Laboratory Analytical Data  
Well Purging/Sampling Data

**ATTACHMENTS**

**TABLES 1 -3**

**TABLE 1**  
**GROUNDWATER MONITORING DATA**  
**2942 San Pablo Avenue, Oakland**

Well No.	Date	Groundwater Elevation	Top of casing Elevation	Depth to Water	Well Depth	Product Thickness	Sheen	Water purged (gallons)
MW1	7/27/2004	13.17	26.32	13.15				0
	7/30/2004	13.12		13.20	36.55	0	No	5
	11/15/2004	13.46		12.86	36.60	0	No	1.5
MW2	7/27/2004	9.93	24.60	14.67				0
	7/30/2004	10.30		14.30	33.10	0	No	4
	11/15/2004	10.85		13.75	33.11	0	No	1.2
MW3	7/27/2004	11.36	25.69	14.33				0
	7/30/2004	11.50		14.40	36.00	0	No	5
	11/15/2004	12.06		13.63	36.05	0	No	1.5

**TABLE 2A  
GROUNDWATER ANALYTICAL RESULTS - MONITORING WELLS  
2942 San Pablo Avenue, Oakland**

Sample/ Depth (feet)	Date Sampled	TCE (ppb)	cis-1,2- DCE	Acetone (ppb)	Chloroform (ppb)
MW1	7/30/2004	5,670	2	<10	2.1
MW1*	11/15/2004	5,610	6	<10	2.1
MW2	7/30/2004	219	<1	51	3
MW2	11/15/2004	15	<1	<10	<0.5
MW3	7/30/2004	6.6	<1	<10	<0.5
MW3	11/15/2004	11.6	<1	<10	<0.5
ESL		5.0/360	6.0/590	700/1500	5.0/350

**EXPLANATION:**

ppb = parts per billion

DCE = Dichloroethene

TCE = Trichloroethene

ESL = Environmental Screening Level, groundwater is/is not a resource (Tables A + C/ B + D).

\* Vinyl Chloride and trans-1,2-DCE were also detected at concentrations of 1.7 and 1 ppb, respectively.

**ANALYTICAL METHODS:**

EPA Method 8260.



**TABLE 2B**  
**GROUNDWATER ANALYTICAL RESULTS - HYDROCARBONS - MONITORING WELLS**  
**2942 San Pablo Avenue, Oakland**

Sample/ Depth (feet)	Date Sampled	TPH-g (ppb)	Benzene (ppb)	Ethylbenzene (ppb)	Toluene (ppb)	Xylenes (ppb)	MTBE (ppb)
MW1	7/30/2004	2,280	<0.5	<0.5	<0.5	<1	<0.5
	11/15/2004	2,200	3.7/2.9	<0.5	<0.5	<1	<0.5
MW2	7/30/2004	144	<0.5	<0.5	<0.5	<1	<0.5
	11/15/2004	<50	<0.5	<0.5	<0.5	<1	<0.5
MW3	7/30/2004	63	<0.5	<0.5	<0.5	<1	<0.5*
	11/15/2004	<50	<0.5	<0.5	<0.5	<1	<0.5
ESL		100/500	1.0/46	30/290	40/130	13/13	5.0/1,800

**EXPLANATION:**

\* Di - isopropyl ether (DIPE) was detected at a concentration of 1.6 ppb.

ppb = parts per billion

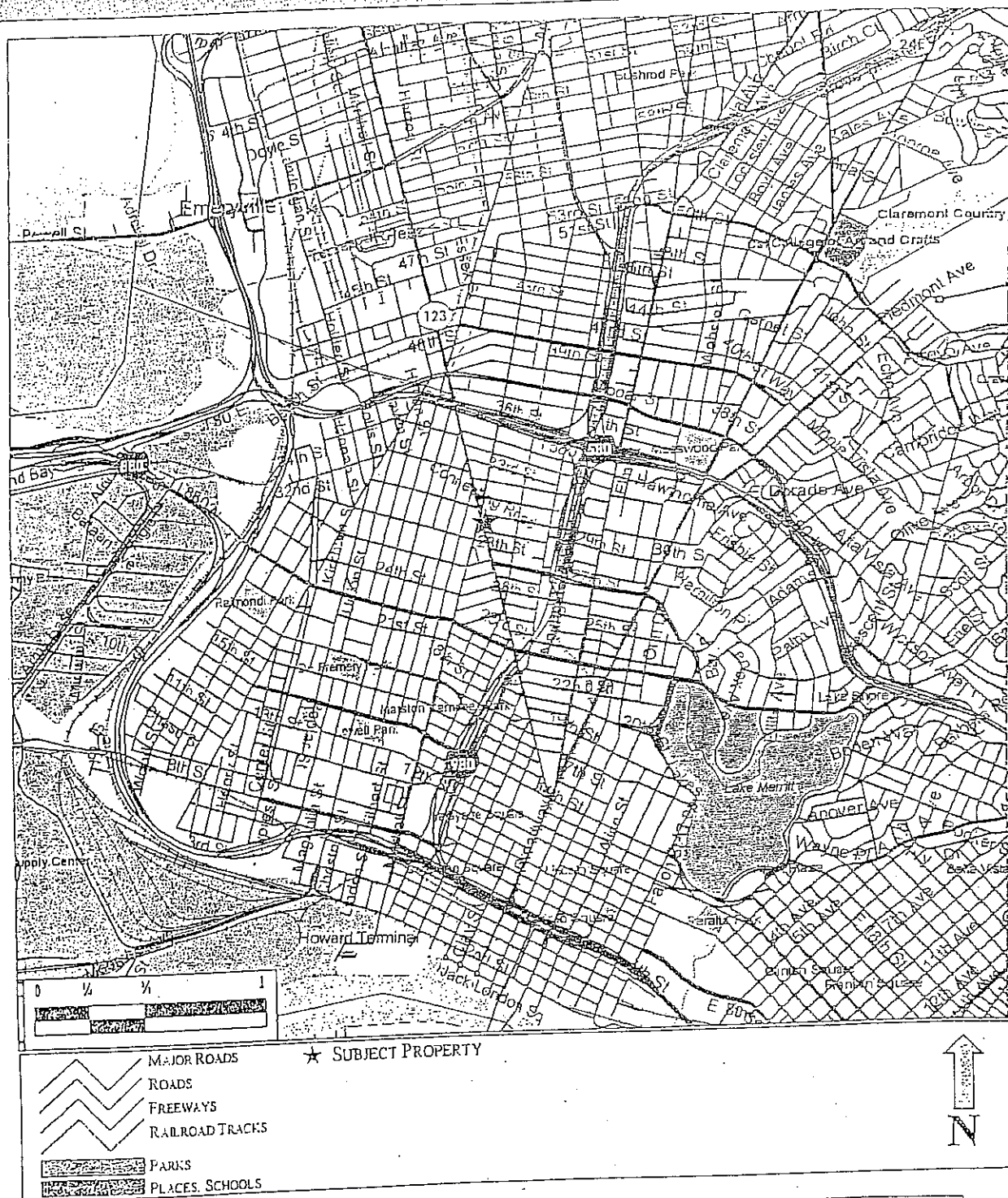
Analytical results are by EPA Methods 8015 and/or 8260.

TPHg/ss = Total Petroleum Hydrocarbons as gasoline/stoddard solvent

ESL = Environmental Screening Level, groundwater is/is not a resource (Tables A + C/ B + D).

**FIGURES 1 AND 2**

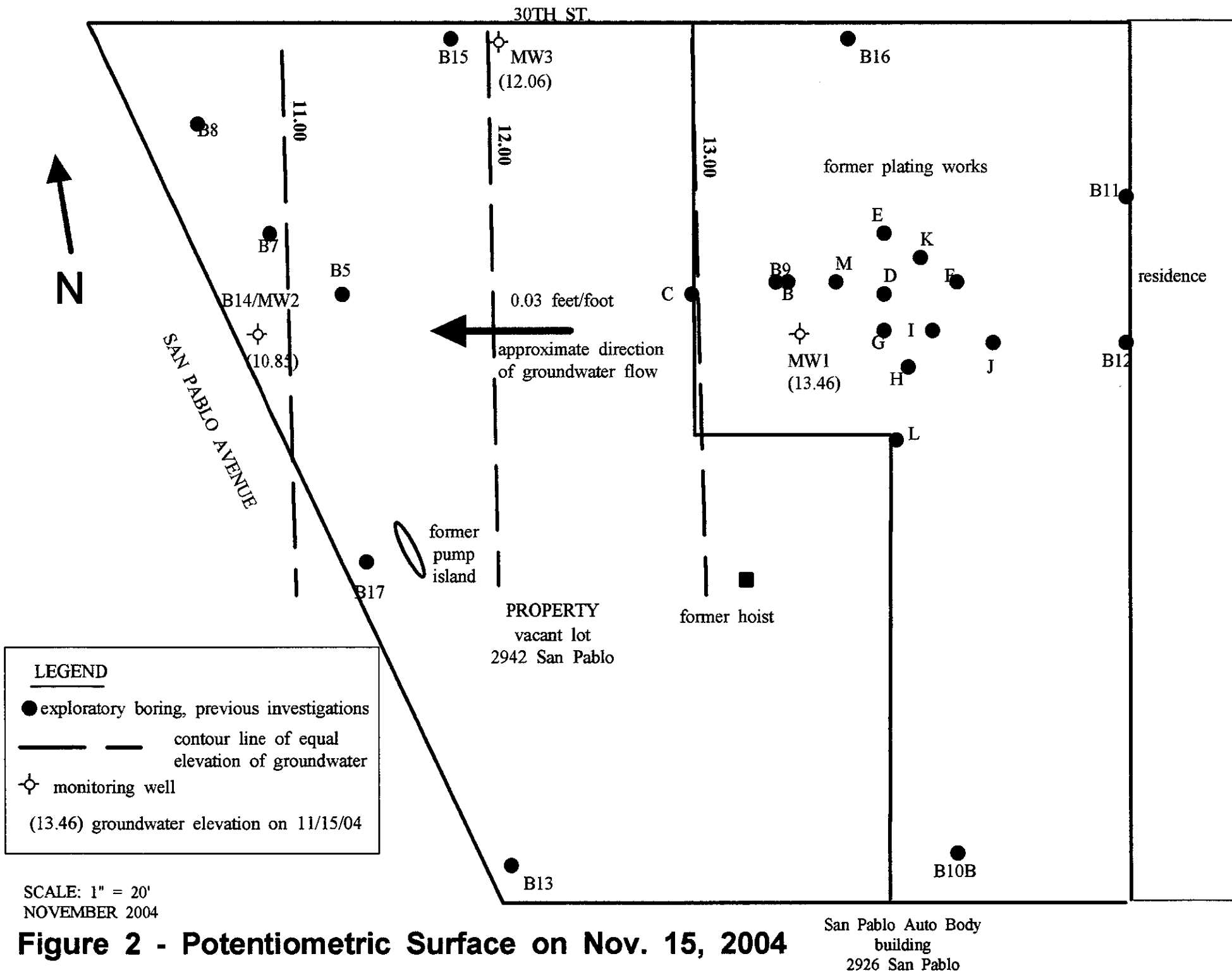
**IDENTIFIED HAZARDOUS MATERIALS SITES  
RADIUS REPORT  
Site Vicinity Map**



**FIGURE 1  
PROPERTY VICINITY MAP**

2926-2942 SAN PABLO AVENUE  
OAKLAND, CALIFORNIA

NOT TO SCALE  
SEPTEMBER 2003



30TH ST.

B15  
MW3  
(12.06)

B16

B8

11.00

12.00

13.00

former plating works

B11

residence

B7

B5

0.03 feet/foot

C

B9

M

E

K

D

F

B14/MW2

(10.84)

approximate direction  
of groundwater flow

MW1  
(13.46)

G

I

J

B12

SAN PABLO AVENUE

former  
pump  
island

B17

PROPERTY  
vacant lot  
2942 San Pablo

former hoist

L

N

B13

B10B

**LABORATORY ANALYTICAL DATA  
WELL PURGING/SAMPLING DATA**

# NORTH STATE LABS

## FLUID-LEVEL MONITORING DATA

Project No: \_\_\_\_\_ Date: 11-15-04

Project/Site Location: 2926-42 SAN PABLO AVE, OAKLAND, CA

Technician: SC Method: ELECTRONIC

Well	Depth to Water (feet)	Depth to Product (feet)	Product Thickness (feet)	Total Well Depth (feet)	Comments
MW-1	12.86			36.60	1415
MW-2	13.75			33.11	1410
MW-3	13.63			36.05	1405

Measurements referenced to top of well casing. NORTH

# NORTH STATE LABS

## WELL PURGING/SAMPLING DATA

Project Number: \_\_\_\_\_ Date: 11-16-04  
 Project / Site Location: 2926-42 SAN PABLO AVE.  
OAKLAND, CA

**Sampler/Technician:** \_\_\_\_\_

Casing Diameter (inches)	<u>0.75</u>	2	4	6
Casing Volumes (gallons)	<u>0.02</u>	0.2	0.7	1.52

Well No. MW-1

A. Total Well Depth	<u>36.60</u>
B. Depth To Water	<u>12.86</u>
C. Water Height (A-B)	<u>23.74</u>
D. Well Casing Diameter	<u>0.75</u>
E. Casing Volume	<u>0.02</u>
F. Single Case Volume (CxEx)	<u>.48</u>
G. Case Volume(s)(CxEx )	<u>1.44</u>
H. 80% Recharge Level	<u>13.34</u>

Well No. MW-2

A. Total Well Depth	<u>33.11</u>
B. Depth To Water	<u>13.75</u>
C. Water Height (A-B)	<u>19.36</u>
D. Well Casing Diameter	<u>0.75</u>
E. Casing Volume	<u>0.02</u>
F. Single Case Volume (CxEx)	<u>.39</u>
G. Case Volume(s)(CxEx )	<u>1.17</u>
H. 80% Recharge Level	<u>14.14</u>

**Purge Event**

Start Time: 1040

Finish Time: 1100

**Post Purge Measurement**

Depth to Water 17.60

Time Measured: 1105

**Recharge/Sample Time**

Depth to Water: 13.04

Time Measured: 1140

**Purge Event**

Start Time: 0930

Finish Time: 1005

**Post Purge Measurement**

Depth to Water 18.41

Time Measured: 1015

**Recharge/Sample Time**

Depth to Water: 13.66

Time Measured: 1125

**Well Fluid Parameters:**

Gals.	0	0.5	1.0	1.5
pH	<u>7.63</u>	<u>7.71</u>	<u>7.76</u>	<u>7.65</u>
T(°C)	<u>18.8</u>	<u>18.7</u>	<u>18.8</u>	<u>19.0</u>
Cond.	<u>758</u>	<u>756</u>	<u>776</u>	<u>750</u>
DO mg/L				
DO %				
Turbidity				
ORP				

**Well Fluid Parameters:**

Gals.	0	0.5	1.0	1.2
pH	<u>6.95</u>	<u>7.04</u>	<u>7.47</u>	<u>7.45</u>
T(°C)	<u>19.7</u>	<u>19.2</u>	<u>19.3</u>	<u>18.9</u>
Cond.	<u>740</u>	<u>664</u>	<u>649</u>	<u>669</u>
DO mg/L				
DO %				
Turbidity				
ORP				

**Summary Data:**

Total Gallons Purged: 1.5

Purge device: BLADDER PUMP

Sampling Device: DISP. BAILER

Sample Collection Time: 1145

Sample Appearance/Odor: CLEAR / N/A

**Summary Data:**

Total Gallons Purged: 1.3

Purge device: BLADDER PUMP

Sampling Device: DISP. BAILER

Sample Collection Time: 1130

Sample Appearance/Odor: CLEAR / N/A

# NORTH STATE LABS

## WELL PURGING/SAMPLING DATA

Project Number: \_\_\_\_\_ Date: 11-15-04  
 Project / Site Location: 2926-42 SAN PABLO AVE.  
OAKLAND, CA

**Sampler/Technician:** \_\_\_\_\_

Casing Diameter (inches)	<u>0.75</u>	2	4	6
Casing Volumes (gallons)	<u>0.02</u>	0.2	0.7	1.52

<p>Well No. <u>MW-3</u></p> <table border="1" style="width: 100%;"> <tr><td>A. Total Well Depth</td><td><u>36.05</u></td></tr> <tr><td>B. Depth To Water</td><td><u>13.63</u></td></tr> <tr><td>C. Water Height (A-B)</td><td><u>22.42</u></td></tr> <tr><td>D. Well Casing Diameter</td><td><u>0.75</u></td></tr> <tr><td>E. Casing Volume</td><td><u>0.02</u></td></tr> <tr><td>F. Single Case Volume (CxEx)</td><td><u>.45</u></td></tr> <tr><td>G. 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pH	<u>6.54</u>	<u>6.70</u>	<u>7.01</u>	<u>6.95</u>																																																																																																																																																																																																																							
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Cond.	<u>609</u>	<u>583</u>	<u>710</u>	<u>764</u>																																																																																																																																																																																																																							
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<b>Summary Data:</b>																																																																																																																																																																																																																											
Total Gallons Purged:	<u>1.5</u>																																																																																																																																																																																																																										
Purge device:	<u>BLADDER PUMP</u>																																																																																																																																																																																																																										
Sampling Device:	<u>DISP. BAILER</u>																																																																																																																																																																																																																										
Sample Collection Time:	<u>1115 (11-16-04)</u>																																																																																																																																																																																																																										
Sample Appearance/Odor:	<u>CLEAR / N/A</u>																																																																																																																																																																																																																										
A. Total Well Depth																																																																																																																																																																																																																											
B. Depth To Water																																																																																																																																																																																																																											
C. Water Height (A-B)																																																																																																																																																																																																																											
D. Well Casing Diameter																																																																																																																																																																																																																											
E. Casing Volume																																																																																																																																																																																																																											
F. Single Case Volume (CxEx)																																																																																																																																																																																																																											
G. Case Volume(s)(CxEx )																																																																																																																																																																																																																											
H. 80% Recharge Level																																																																																																																																																																																																																											
<b>Purge Event</b>																																																																																																																																																																																																																											
Start Time:																																																																																																																																																																																																																											
Finish Time:																																																																																																																																																																																																																											
<b>Post Purge Measurement</b>																																																																																																																																																																																																																											
Depth to Water																																																																																																																																																																																																																											
Time Measured:																																																																																																																																																																																																																											
<b>Recharge/Sample Time</b>																																																																																																																																																																																																																											
Depth to Water:																																																																																																																																																																																																																											
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Sample Collection Time:																																																																																																																																																																																																																											
Sample Appearance/Odor:																																																																																																																																																																																																																											





# North State Labs

90 South Spruce Avenue, Suite W, South San Francisco, CA 94080  
Phone: (650) 266-4563 Fax: (650) 266-4560

04-1809

Chain of Custody / Request for Analysis

Lab Job No.: \_\_\_\_\_ Page 1 of 1

Nov 22 04 04:21P

North State Environmental

6502664560

P.2

Client: <b>PIERS ENVIRONMENTAL SERVICES</b>				Report to: <b>KAY / JOEL</b>				Phone: <del>(650) 559-1248</del> <b>(650) 787-6867</b>		Turnaround Time <b>3 DAY RUSH - NEEDS STP TEST BY 11/19</b>	
Mailing Address: <b>PIERS ENVIRONMENTAL SERVICES 1330 S. BASCOM AVE. SUITE F SAN JOSE, CA 95128</b>				Billing to: <b>→ SAUE</b>				Fax: <del>(650) 559-1224</del> <b>(650) 787-1457</b>		Date: <b>11-16-04</b>	
Project / Site Address / Global ID: <b>2942 SAN PABLO AVE, OAKLAND CA</b>				Analysis Requested				email:		Sampler: <b>SC</b>	
				<b>TPH-GV/BROV MTBE/CHELL/ROZU EPA 1260 VOCs/PEL OSG/STANB</b>						EDF <input type="checkbox"/>	
										Field Point ID	
Sample ID	Sample Type	Container No./Type	Pres.	Sampling Date/Time							
1	MW-1	GW 5/VOA	HCl	11-16-04 / 1145	X	X					
2	MW-2	↓	HCl	↓ / 1130	X	X					
3	MW-3	↓	HCl	↓ / 1115	X	X					
Relinquished by: <b>Scott Cassidy</b>				Date: <b>11-16-04</b> Time: <b>1740</b>		Received by: <b>[Signature]</b>		Lab Comments/ Hazards			
Relinquished by:				Date: Time:		Received by:					
Relinquished by:				Date: Time:		Received by:					

TERMS: NET 30 OAC

**North State Labs**

CA ELAP# 1753

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## Case Narrative

Client: PIERS ENVIRONMENTAL

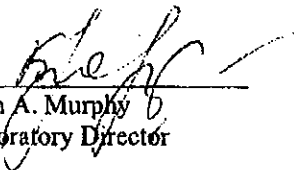
Project: 2924 SAN PABLO AVE., OAKLAND

Lab No: 04-1809

Date Received: 11/16/2004

Date reported: 11/22/2004

Report for three water samples analyzed for gasoline by method 8015M, BTEX and MTBE by method 8021B, VOCs including fuel oxygenates by GC/MS method 8260B. No errors occurred during analysis. MS recovery for 1,1-DCE by GC/MS was out of control limits and was substituted by LCS result. Except for the 1,1-DCE, all results for QC/QA samples were within acceptance limits. No errors occurred during analysis.

  
\_\_\_\_\_  
John A. Murphy  
Laboratory Director



## North State Labs

CA ELAP# 1753

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## C E R T I F I C A T E O F A N A L Y S I S

Lab Number: 04-1809  
 Client: PIERS Environmental  
 Project: 2942 SAN PABLO AVE OAKLAND

Date Reported: 11/22/2004

Gasoline, BTEX and MTBE by Methods 8015M/8021B

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 04-1809-01 Client ID: MW-1				11/16/2004	W
Benzene	SW8020F	3.7	UG/L		11/18/2004
Ethylbenzene	SW8020F	ND<0.5	UG/L		11/18/2004
Gasoline Range Organics	SW8020F	*2200	UG/L		11/18/2004
Methyl-tert-butyl ether	SW8020F	**ND<0.5	UG/L		11/18/2004
Toluene	SW8020F	ND<0.5	UG/L		11/18/2004
Xylenes	SW8020F	ND<1.0	UG/L		11/18/2004
Sample: 04-1809-02 Client ID: MW-2				11/16/2004	W
Benzene	SW8020F	ND<0.5	UG/L		11/18/2004
Ethylbenzene	SW8020F	ND<0.5	UG/L		11/18/2004
Gasoline Range Organics	SW8020F	ND<50	UG/L		11/18/2004
Methyl-tert-butyl ether	SW8020F	**ND<0.5	UG/L		11/18/2004
Toluene	SW8020F	ND<0.5	UG/L		11/18/2004
Xylenes	SW8020F	ND<1.0	UG/L		11/18/2004
Sample: 04-1809-03 Client ID: MW-3				11/16/2004	W
Benzene	SW8020F	ND<0.5	UG/L		11/18/2004
Ethylbenzene	SW8020F	ND<0.5	UG/L		11/18/2004
Gasoline Range Organics	SW8020F	ND<50	UG/L		11/18/2004
Methyl-tert-butyl ether	SW8020F	**ND<0.5	UG/L		11/18/2004
Toluene	SW8020F	ND<0.5	UG/L		11/18/2004
Xylenes	SW8020F	ND<1.0	UG/L		11/18/2004

\*Confirmed by GC/MS method 8260B.\*\*Result due to single peak



North State Labs

CA ELAP# 1753

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## C E R T I F I C A T E O F A N A L Y S I S

Quality Control/Quality Assurance

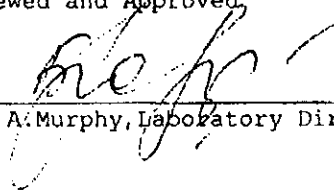
Lab Number: 04-1809  
Client: PIERS Environmental  
Project: 2942 SAN PABLO AVE OAKLAND

Date Reported: 11/22/2004  
Gasoline, BTEX and MTBE by Methods 8015M/8021B

Analyte	Method	Reporting Unit Limit	Blank	Avg MS/MSD Recovery	RPD
Gasoline Range Organics	SW8020F	50 UG/L	ND	109/111	2
Benzene	SW8020F	0.5 UG/L	ND	98/111	12
Toluene	SW8020F	0.5 UG/L	ND	103/104	1
Ethylbenzene	SW8020F	0.5 UG/L	ND	103/104	1
Xylenes	SW8020F	1.0 UG/L	ND	109/109	0
Methyl-tert-butyl ether	SW8020F	0.5 UG/L	ND	92/89	3

ELAP Certificate NO:1753

Reviewed and Approved

  
John A. Murphy, Laboratory Director

Page 2 of 2



## North State Labs

CA ELAP# 1753

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## C E R T I F I C A T E O F A N A L Y S I S

Job Number: 04-1809  
 Client : PIERS Environmental  
 Project : 2942 SAN PABLO AVE OAKLAND

Date Sampled : 11/16/2004  
 Date Analyzed: 11/19/2004  
 Date Reported: 11/22/2004

## Volatile Organics by GC/MS Method 8260B

Laboratory Number	04-1809-01	04-1809-02	04-1809-03
Client ID	MW-1	MW-2	MW-3
Matrix	W	W	W
Analyte	UG/L	UG/L	UG/L
Bromochloromethane	ND<1	ND<1	ND<1
Dichlorodifluoromethane	ND<1	ND<1	ND<1
Chloromethane	ND<1	ND<1	ND<1
Vinyl chloride	1.7	ND<0.5	ND<0.5
Bromomethane	ND<1	ND<1	ND<1
Chloroethane	ND<1	ND<1	ND<1
Trichlorofluoromethane	ND<1	ND<1	ND<1
1,1-Dichloroethene	ND<0.5	ND<0.5	ND<0.5
Acetone	ND<10	ND<10	ND<10
Methylene chloride	ND<25	ND<25	ND<25
trans-1,2-Dichloroethene	1	ND<1	ND<1
Methyl-tert-butyl ether	ND<0.5	ND<0.5	ND<0.5
1,1-Dichloroethane	ND<0.5	ND<0.5	ND<0.5
2,2-Dichloropropane	ND<1	ND<1	ND<1
cis-1,2-Dichloroethene	6	ND<1	ND<1
2-Butanone	ND<5	ND<5	ND<5
Chloroform	2.1	ND<0.5	ND<0.5
Carbon tetrachloride	ND<0.5	ND<0.5	ND<0.5
1,1-Dichloropropene	ND<1	ND<1	ND<1
Benzene	2.9	ND<0.5	ND<0.5
1,2-Dichloroethane	ND<1	ND<1	ND<1
Trichloroethene	5610	15	11.6
1,2-Dichloropropane	ND<1	ND<1	ND<1
Dibromomethane	ND<1	ND<1	ND<1
Bromodichloromethane	ND<1	ND<1	ND<1
trans-1,3-Dichloropropene	ND<1	ND<1	ND<1
4 Methyl-2-pentanone	ND<1	ND<1	ND<1
Toluene	ND<0.5	ND<0.5	ND<0.5
cis-1,3-Dichloropropene	ND<1	ND<1	ND<1
1,1,2-Trichloroethane	ND<1	ND<1	ND<1
Tetrachloroethene	ND<0.5	ND<0.5	ND<0.5
1,3-Dichloropropane	ND<1	ND<1	ND<1
2-Hexanone	ND<1	ND<1	ND<1
Dibromochloromethane	ND<1	ND<1	ND<1
1,2-Dibromoethane	ND<0.5	ND<0.5	ND<0.5

Comments:



# North State Labs

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CA ELAP# 1753

## C E R T I F I C A T E O F A N A L Y S I S

Job Number: 04-1809  
 Client : PIERS Environmental  
 Project : 2942 SAN PABLO AVE OAKLAND

Date Sampled : 11/16/2004  
 Date Analyzed: 11/19/2004  
 Date Reported: 11/22/2004

### Volatile Organics by GC/MS Method 8260B

Laboratory Number	04-1809-01	04-1809-02	04-1809-03
Client ID	MW-1	MW-2	MW-3
Matrix	W	W	W
Analyte	UG/L	UG/L	UG/L
Chlorobenzene	ND<1	ND<1	ND<1
1,1,1,2-Tetrachloroethane	ND<1	ND<1	ND<1
Ethylbenzene	ND<0.5	ND<0.5	ND<0.5
Xylene, Isomers m & p	ND<1	ND<1	ND<1
o-Xylene	ND<0.5	ND<0.5	ND<0.5
Styrene	ND<1	ND<1	ND<1
Bromoform	ND<1	ND<1	ND<1
Isopropylbenzene	ND<1	ND<1	ND<1
Bromobenzene	ND<1	ND<1	ND<1
1,1,2,2-Tetrachloroethane	ND<1	ND<1	ND<1
n-Propylbenzene	ND<1	ND<1	ND<1
2-Chlorotoluene	ND<1	ND<1	ND<1
4-Chlorotoluene	ND<1	ND<1	ND<1
1,3,5-Trimethylbenzene	ND<1	ND<1	ND<1
tert-Butylbenzene	ND<1	ND<1	ND<1
1,2,4-Trimethylbenzene	ND<1	ND<1	ND<1
1,3-Dichlorobenzene	ND<1	ND<1	ND<1
1,4-Dichlorobenzene	ND<1	ND<1	ND<1
sec-Butylbenzene	ND<1	ND<1	ND<1
1,2-Dichlorobenzene	ND<1	ND<1	ND<1
n-Butylbenzene	ND<1	ND<1	ND<1
Naphthalene	ND<1	ND<1	ND<1
1,2,4-Trichlorobenzene	ND<1	ND<1	ND<1
Hexachlorobutadiene	ND<1	ND<1	ND<1
1,2,3-Trichlorobenzene	ND<1	ND<1	ND<1
1,2,3-Trichloropropane	ND<1	ND<1	ND<1
Acetonitrile	ND<5	ND<5	ND<5
Acrylonitrile	ND<1	ND<1	ND<1
Isobutanol	ND<5	ND<5	ND<5
1,1,1-Trichloroethane	ND<1	ND<1	ND<1
SUR-Dibromofluoromethane	87	93	89
SUR-Toluene-d8	103	98	98
SUR-4-Bromofluorobenzene	93	91	92
SUR-1,2-Dichloroethane-d4	91	98	96

Comments:



# North State Labs

CA ELAP# 1753

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## C E R T I F I C A T E O F A N A L Y S I S

Job Number: 04-1809  
 Client : PIERS Environmental  
 Project : 2942 SAN PABLO AVE OAKLAND

Date Sampled : 11/16/2004  
 Date Analyzed: 11/19/2004  
 Date Reported: 11/22/2004

### Volatile Organics by GC/MS Method 8260B Quality Control/Quality Assurance Summary

Laboratory Number	04-1809	MS/MSD	RPD	Recovery	RPD
Client ID	Blank	Recovery		Limit	Limit
Matrix	W	W			
Analyte	Results UG/L	%Recoveries			
Bromochloromethane	ND<1				
Dichlorodifluoromethane	ND<1				
Chloromethane	ND<1				
Vinyl chloride	ND<0.5				
Bromomethane	ND<1				
Chloroethane	ND<1				
Trichlorofluoromethane	ND<1				
1,1-Dichloroethene	ND<0.5	72/72	0	70-130	30
Acetone	ND<10				
Methylene chloride	ND<25				
trans-1,2-Dichloroethene	ND<1				
Methyl-tert-butyl ether	ND<0.5				
1,1-Dichloroethane	ND<0.5				
2,2-Dichloropropane	ND<1				
cis-1,2-Dichloroethene	ND<1				
2-Butanone	ND<5				
Chloroform	ND<0.5				
Carbon tetrachloride	ND<0.5				
1,1-Dichloropropene	ND<1				
Benzene	ND<0.5	98/97	1	70-130	30
1,2-Dichloroethane	ND<1				
Trichloroethene	ND<0.5	108/108	0	70-130	30
1,2-Dichloropropane	ND<1				
Dibromomethane	ND<1				
Bromodichloromethane	ND<1				
trans-1,3-Dichloropropene	ND<1				
4-Methyl-2-pentanone	ND<1				
Toluene	ND<0.5	106/105	1	70-130	30
cis-1,3-Dichloropropene	ND<1				
1,1,2-Trichloroethane	ND<1				
Tetrachloroethene	ND<0.5				
1,3-Dichloropropane	ND<1				
2-Hexanone	ND<1				
Dibromochloromethane	ND<1				
1,2-Dibromoethane	ND<0.5				
Chlorobenzene	ND<1	110/110	0	70-130	30
1,1,1,2-Tetrachloroethane	ND<1				
Ethylbenzene	ND<0.5				
Xylene, Isomers m & p	ND<1				
o-Xylene	ND<0.5				
Styrene	ND<1				







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CA ELAP# 1753

## C E R T I F I C A T E O F A N A L Y S I S

Job Number: 04-1809  
 Client : PIFRS Environmental  
 Project : 2942 SAN PABLO AVE OAKLAND

Date Sampled : 11/16/2004  
 Date Analyzed: 11/19/2004  
 Date Reported: 11/22/2004

### Fuel Oxygenates by Method 8260B

Laboratory Number	04-1809-01	04-1809-02	04-1809-03
Client ID	MW-1	MW-2	MW-3
Matrix	W	W	W
Analyte	UG/L	UG/L	UG/L
Methyl-tert-butyl ether	ND<0.5	ND<0.5	ND<0.5
Ethyl tert-butyl ether	ND<1	ND<1	ND<1
tert-Amyl methyl ether	ND<1	ND<1	ND<1
Di-isopropyl ether (DIPE)	ND<0.5	ND<0.5	ND<0.5
tert-Butyl alcohol	ND<10	ND<10	ND<10
1,2-Dichloroethane	ND<1	ND<1	ND<1
1,2-Dibromoethane	ND<0.5	ND<0.5	ND<0.5
Ethanol	ND<100	ND<100	ND<100
SUR-Dibromofluoromethane	87	93	89
SUR-Toluene-d8	103	98	98
SUR-4-Bromofluorobenzene	93	91	92
SUR-1,2-Dichloroethane-d4	91	98	96

Comments:



## North State Labs

CA ELAP# 1753

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# C E R T I F I C A T E O F A N A L Y S I S

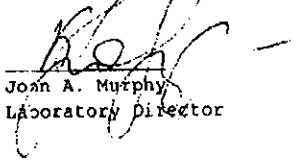
Job Number: 04-1809  
 Client : PIERS Environmental  
 Project : 2942 SAN PABLO AVE OAKLAND

Date Sampled : 11/16/2004  
 Date Analyzed: 11/19/2004  
 Date Reported: 11/22/2004

### Fuel Oxygenates by Method 8260B Quality Control/Quality Assurance Summary

Laboratory Number	04-1809	MS/MSD	RPD	Recovery	RPD
Client ID	Blank	Recovery		Limit	Limit
Matrix	W	W			
Analyte	Results UG/L	%Recoveries			
Ethanol	ND<100				
Methyl-tert-butyl ether	ND<0.5				
Di-isopropyl ether (DIPE)	ND<0.5				
tert-butyl Alcohol	ND<10				
Ethyl tert-butyl ether	ND<1				
tert-Amyl methyl ether	ND<1				
1,1-Dichloroethene	ND<0.5	72/72	0	70-130	30
Benzene	ND<0.5	98/97	1	70-130	30
Trichloroethene	ND<0.5	108/108	0	70-130	30
Toluene	ND<0.5	106/105	1	70-130	30
Chlorobenzene	ND<1	110/110	0	70-130	30
SUR-Dibromofluoromethane	89	89/94	5	85-115	30
SUR-Toluene-d8	98	98/99	1	85-115	30
SUR-4-Bromofluorobenzene	97	90/91	1	85-115	30
SUR-1,2-Dichloroethane-d4	92	99/108	9	85-115	30

Reviewed and Approved

  
 Joan A. Murphy  
 Laboratory Director