



December 19, 1994

Ms. LeArta McNeal  
Tracy Federal Bank  
2151 Salvio Street  
Concord, California 94520

Subject: Groundwater Monitoring at 16505 Worthley Drive, San Lorenzo, California  
(RECON Project No. S40180)

Dear Ms. McNeal:

This report has been prepared by Recon Environmental Corp. (RECON) to summarize the results of the groundwater sampling event performed during December 1994 by RECON at 16505 Worthley Drive, San Lorenzo, California (site; Figure 1). This report presents discussions of data collected and technical procedures performed at the site by RECON. Included in this report are the following:

- A summary of the groundwater sampling event
- Laboratory reports and a cumulative tabulation of analytical data for the wells monitored
- Groundwater level data for the wells monitored
- Monitoring well location map

## **GROUNDWATER SAMPLING**

Groundwater sampling was conducted on December 1, 1994, by personnel of RECON. Groundwater samples were analyzed by Superior Precision Analytical, Inc. This monitoring event included the collection and analysis of groundwater samples from five on-site monitoring wells. Wells MW-2 and MW-7 were not sampled because they have not been located.

Groundwater levels in each of the monitoring wells (Table 1) were measured to the nearest 0.01 foot. Preparation for groundwater sample collection included purging approximately five well-casing volumes of groundwater from each monitoring well

immediately prior to sample collection. Monitoring well purging was accomplished by hand bailing. During the purging procedure measurements of temperature, electrical conductivity, and pH of the purge water were recorded (Attachment A). Once the temperature, specific conductance, and pH were judged to have stabilized and five casing volumes of groundwater removed, the groundwater level within the well was allowed to recover to at least approximately 80% of the pre-purge level and a groundwater sample was collected from the monitoring well using a disposable polyethylene bailer. The locations of the monitoring wells from which samples were collected are presented in Figure 2.

Groundwater samples were transferred from the bailer into laboratory-supplied containers, labeled for identification purposes, and stored on ice in an insulated chest pending delivery to the laboratory for analysis. Samples were collected, retained, and transported to the laboratory using chain-of-custody procedures. Groundwater samples collected at the site on December 1, 1994 were analyzed for total petroleum hydrocarbons as diesel (TPHd) and gasoline (TPHg) in general accordance with U.S. Environmental Protection Agency (EPA) Method No. 8015 modified; and benzene, toluene, xylene, and ethylbenzene (BTXE) in general accordance with EPA Method No. 8020. Laboratory results are presented on Table 1. The chain-of-custody forms and laboratory reports are presented in Attachment B.

## **SUMMARY OF HYDROGEOLOGIC AND GROUNDWATER QUALITY DATA**

Water level measurements were collected on December 1, 1994, by personnel of RECON. The water level data are presented on Table 1. Groundwater elevations could not be calculated because well head elevation data were not available. However, based on the location of the site adjacent to San Francisco Bay, it is the judgment of RECON that the groundwater gradient slopes to the west.

TPHg and BTXE were not reported in the groundwater samples analyzed in concentrations exceeding the laboratory analytical reporting limits (Table 1). TPHd was not reported in the groundwater samples analyzed in concentrations exceeding the laboratory analytical reporting limits, except for the sample collected from well MW-4. The reported concentration in this sample was 190 micrograms per liter ( $\mu\text{g/l}$ ).

## **RECOMMENDATIONS**

Based on the information presented in this report and the professional judgment of RECON, the following recommendations are presented:

16505 Worthley Drive  
S40180

- The well elevations should be surveyed by a licensed land surveyor or civil engineer to second order accuracy to allow for the evaluation of groundwater elevations and gradient.
- Wells MW-2 and MW-7 should be located and made accessible for monitoring.
- The accessible wells on the site should be monitored during the first quarter of 1995. Following monitoring, the status of the case should be evaluated for closure.

If you have any questions regarding the material presented in this report, please feel free to contact either of us at your convenience at (415) 742-9900.

Sincerely,

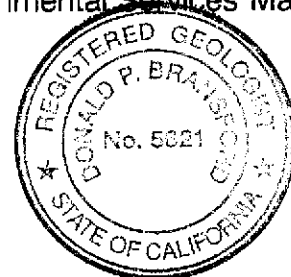


Marc Papineau  
Project Manager

Enclosures



Donald P. Bransford, R.G. 5621  
Environmental Services Manager



**TABLE 1**  
**SUMMARY OF GROUNDWATER ANALYTICAL DATA (1)**

Monitoring Well No.	Depth to Water (2)	TPHd (3)	TPHg (4)	Benzene	Toluene	Ethyl-benzene	Xylene
MW-1	6.19	<50 (5)	<50	<0.5	<0.5	<0.5	<0.5
MW-3	6.67	<50	<50	<0.5	<0.5	<0.5	<0.5
MW-4	7.20	190	<50	<0.5	<0.5	<0.5	<0.5
MW-5	7.15	<50	<50	<0.5	<0.5	<0.5	<0.5
MW-6	6.44	<50	<50	<0.5	<0.5	<0.5	<0.5

Notes:

1. Concentrations are reported in micrograms per liter.
2. Depths are reported in feet below the ground surface.
3. TPHd = total petroleum hydrocarbons as diesel.
4. TPHg = total petroleum hydrocarbons as gasoline.
5. "<" = not reported in concentrations exceeding the indicated analytical method reporting limit.

16505 Worthley Drive  
S40180

**ATTACHMENT A**  
**GROUNDWATER SAMPLE COLLECTION LOGS**









GROUNDWATER COLLECTION LOG

WELL NO. MW-5

Project Name WORTHLEY DR SAN LORENZO  
 Project Number S40180  
 Date 12/1/94

Sample Number MW-5  
 Depth to Well Bottom 19 feet  
 Depth to Water 7.15 feet 12:40PM  
 Purge Method PVC Bailer  
 Sample Method Disposable Bailer

Time	Cumulative Volume of Water Purged	pH	Electrical Conductivity	Temperature	Comments
2:56P					
3:02	2.5	6.81	19.16 10 <sup>3</sup>	65.6	
3:09	5.0	6.81	19.38 10 <sup>3</sup>	68.1	
3:16	7.0	6.66	off scale	68.9	>2010 <sup>3</sup> μmhos
3:21	8.0	6.73	off scale	68.0	>2000 <sup>3</sup> μmhos

Sample Turbidity Turbid

Total Number of Samples Collected \_\_\_\_\_ Laboratory SUPERIOR PRECISION ANALYTICAL

40 ml VOA Vials 3 Date Shipped 12/1/94 6 PM.

200 ml Plastic Bottles \_\_\_\_\_ Shipped Via MARC PAPINEAU

1 Liter Amber Bottles 1 Sampled By Mark R. Payne

1 Gal. Amber Bottles \_\_\_\_\_

Other \_\_\_\_\_

Estimated Volume to Purge = 3.14 x (5 casing vol.) x (7.5 gal. per cubic ft) x (height of water in ft) x (radius of well in ft squared)  
 = 3.14 x 5 x 7.5 x [ ] x ([ ] squared) =

GROUNDWATER COLLECTION LOG

WELL NO. MW-6

Project Name WORTHLEY  
SAN LORENZO, CA  
Project Number S40180  
Date 12/1/94

Sample Number MW-6  
Depth to Well Bottom 19 feet  
Depth to Water 6.44 feet 12:49 P  
Purge Method PVC Bailers  
Sample Method Disposable Bailers

Time	Cumulative Volume of Water Purged	pH	Electrical Conductivity	Temperature	Comments
<del>2:13 P</del>					
2:18 P	3.0	7.09	1.18 10 <sup>3</sup>	68.3	
2:24 P	5.0	6.94	8.46 10 <sup>3</sup>	67.7	
2:30	7.5	<del>5.32</del> 7.09 <del>MP</del>	5.32 10 <sup>3</sup>	67.6	
2:36 P	10.0	6.93	6.19 10 <sup>3</sup>	67.7	

Sample Turbidity Clean  
Total Number of Samples Collected \_\_\_\_\_  
40 ml VOA Vials 3  
200 ml Plastic Bottles \_\_\_\_\_  
1 Liter Amber Bottles 1  
1 Gal. Amber Bottles \_\_\_\_\_  
Other \_\_\_\_\_

Laboratory SUPERIOR PRECISION ANALYTICAL  
Date Shipped 12/1/94 6 P.M.  
Shipped Via MARC PAPINEAU REA 791  
Sampled By M. P. Ray

Estimated Volume to Purge = 3.14 x (5 casing vol.) x (7.5 gal. per cubic ft) x (height of water in ft) x (radius of well in ft squared)  
 = 3.14 x 5 x 7.5 x [ ] x ([ ] squared) =

16505 Worthley Drive  
S40180

**ATTACHMENT B**  
**LABORATORY ANALYTICAL REPORTS**  
**AND CHAIN OF CUSTODY FORMS**



# Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

RECON

7000 Marina Blvd 4/F  
Brisbane, CA 94005

Attn: Marc Papineau

Date: December 5, 1994

Laboratory Number : 50109

Project Number/Name : NA

---

This report has been reviewed and  
approved for release.

---

*Cecilia J. Gonzalez 12/5/94*  
Senior Chemist  
Account Manager

---

Certified Laboratories

B25 Arnold Dr., Suite 114  
Mammoth, California 94553  
(510) 229-1512 / fax (510) 229-1526

1555 Burke St., Unit 1  
San Francisco, California 94124  
(415) 647-2081 / fax (415) 821-7123

309 S. Cloverdale St., Suite B-24  
Seattle, Washington 98108  
(206) 763-2992 / fax (206) 763-8429



# Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

RECON

Attn: Marc Papineau

Project NA

Reported on December 5, 1994

Total Petroleum Hydrocarbons as Diesel  
by EPA SW-846 Method 8015M  
Diesel Range quantitated as all compounds from C10-C25

Laboratory Number 50109

### Chronology

Sample ID	Sampled	Received	Extract.	Analyzed	QC Batch	LAB #
MW-4	12/01/94	12/01/94	12/03/94	12/05/94	AL011.29	02
MW-5	12/01/94	12/01/94	12/03/94	12/05/94	AL011.29	03
MW-6	12/01/94	12/01/94	12/03/94	12/05/94	AL011.29	04
MW-3	12/01/94	12/01/94	12/03/94	12/05/94	AL011.29	05

### QC Samples

QC Batch #	QC Sample ID	TypeRef.	Matrix	Extract.	Analyzed
AL011.29-02	Laboratory Spike	LS	Water	12/01/94	12/01/94
AL011.29-03	Laboratory Spike Duplicate	LSD	Water	12/01/94	12/01/94
AL011.29-04	Method Blank	MB	Water	12/03/94	12/05/94

Certified Laboratories

825 Arnold Dr., Suite 114  
Martinez, California 94553  
(510) 229-1512 / fax (510) 229-1526

1555 Burke St., Unit I  
San Francisco, California 94124  
(415) 647-2081 / fax (415) 871-7123

309 S. Cloverdale St., Suite B-24  
Seattle, Washington 98108  
(206) 763-2992 / fax (206) 763-8429



# Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

RECON  
Attn: Marc Papiheau

Project NA  
Reported on December 5, 1994

Total Petroleum Hydrocarbons as Diesel  
by EPA SW-846 Method 8015M  
Diesel Range quantitated as all compounds from C10-C25

LAB ID	Sample ID	Matrix	Moisture
50109-02	MW-4	Water	-
50109-03	MW-5	Water	-
50109-04	MW-6	Water	-
50109-05	MW-3	Water	-

### RESULTS OF ANALYSIS

Compound	50109-02		50109-03		50109-04		50109-05	
	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
	ug/L		ug/L		ug/L		ug/L	
Diesel	190	50	ND	50	ND	50	ND	50
>> Surrogate Recoveries (%) << Tetracosane	ND		ND		ND		ND	



# Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

Total Petroleum Hydrocarbons as Diesel  
by EPA SW-846 Method 8015M  
Diesel Range quantitated as all compounds from C10-C25

Quality Assurance and Control Data

Laboratory Number: 50109  
Method Blank(=)

AL011.29-04  
Conc. RL  
ug/L

---

Diesel	ND	50
--------	----	----

>> Surrogate Recoveries (%) <<  
Tetracosane ND



# Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

Total Petroleum Hydrocarbons as Diesel  
by EPA SW-846 Method 8015M  
Diesel Range quantitated as all compounds from C10-C25

### Quality Assurance and Control Data

Laboratory Number: 50109

Compound	Sample conc.	SPK Level	SPK Result	Recovery %	Limits %	RPD %
For Water Matrix (ug/L)						
AL011.29 02 / 03 - Laboratory Control Spikes						
Diesel		5000	5304/5089	106/102	50-150	4
>> Surrogate Recoveries (%) <<						
Tetracosane				95/92	50-150	

#### Definitions:

ND = Not Detected  
 RL = Reporting Limit  
 NA = Not Analysed  
 RPD = Relative Percent Difference  
 ug/L = parts per billion (ppb)  
 mg/L = parts per million (ppm)

ug/kg = parts per billion (ppb)  
 mg/kg = parts per million (ppm)





# Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

RECON  
Attn: Marc Papineau

Project NA  
Reported on December 2, 1994

Gasoline Range Petroleum Hydrocarbons and BTXE  
by EPA SW-846 5030/8015M/8020  
Gasoline Range quantitated as all compounds from C6-C10

Chronology	Laboratory Number 50109					
Sample ID	Sampled	Received	Extract.	Analyzed	QC Batch	LAB #
MW-1	12/01/94	12/01/94	12/02/94	12/02/94	AK291.19	01
MW-4	12/01/94	12/01/94	12/02/94	12/02/94	AK291.19	02
MW-5	12/01/94	12/01/94	12/02/94	12/02/94	AK291.19	03
MW-6	12/01/94	12/01/94	12/02/94	12/02/94	AK291.19	04
MW-3	12/01/94	12/01/94	12/02/94	12/02/94	AK291.19	05

### QC Samples

QC Batch #	QC Sample ID	TypeRef.	Matrix	Extract.	Analyzed
AK291.19-01	Method Blank	MB	Water	11/29/94	11/29/94
AK291.19-02	MW51310	MS 50088-08	Water	11/29/94	11/29/94
AK291.19-03	MW51310	MSD 50088-08	Water	11/29/94	11/29/94
AK291.19-04	Laboratory Spike	LS	Water	11/29/94	11/29/94



# Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

RECON  
Attn: Marc Papineau

Project NA  
Reported on December 2, 1994

Gasoline Range Petroleum Hydrocarbons and BTXE  
by EPA SW-846 5030/8015M/8020  
Gasoline Range quantitated as all compounds from C6-C10

LAB ID	Sample ID	Matrix	Moisture
50109-01	MW-1	Water	-
50109-02	MW-4	Water	-
50109-03	MW-5	Water	-
50109-04	MW-6	Water	-

## RESULTS OF ANALYSIS

Compound	50109-01		50109-02		50109-03		50109-04	
	Conc.	RL	Conc.	RL	Conc.	RL	Conc.	RL
	ug/L		ug/L		ug/L		ug/L	
Gasoline Range	ND	50	ND	50	ND	50	ND	50
Benzene	ND	0.5	ND	0.5	ND	0.5	ND	0.5
Toluene	ND	0.5	ND	0.5	ND	0.5	ND	0.5
Ethyl Benzene	ND	0.5	ND	0.5	ND	0.5	ND	0.5
Total Xylenes	ND	0.5	ND	0.5	ND	0.5	ND	0.5
>> Surrogate Recoveries (%) <<								
Trifluorotoluene (SS)	105		97		94		97	



# Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

RECON  
Attn: Marc Papineau

Project NA  
Reported on December 2, 1994

Gasoline Range Petroleum Hydrocarbons and BTXE  
by EPA SW-846 5030/8015M/8020  
Gasoline Range quantitated as all compounds from C6-C10

LAB ID	Sample ID	Matrix	Moisture
50109-05	MW-3	Water	-

## RESULTS OF ANALYSIS

Compound	50109-05 Conc. RL ug/L
Gasoline_Range	ND 50
Benzene	ND 0.5
Toluene	ND 0.5
Ethyl Benzene	ND 0.5
Total Xylenes	ND 0.5

>> Surrogate Recoveries (%) <<  
Trifluorotoluene (SS) 99



# Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

Gasoline Range Petroleum Hydrocarbons and BTXE  
by EPA SW-846 5030/8015M/8020  
Gasoline Range quantitated as all compounds from C6-C10

## Quality Assurance and Control Data

Laboratory Number: 50109  
Method Blank(s)

AK291.19-01  
Conc. RL  
ug/L

---

Gasoline_Range	ND	50
Benzene	ND	0.5
Toluene	ND	0.5
Ethyl Benzene	ND	0.5
Total Xylenes	ND	0.5

>> Surrogate Recoveries (%) <<  
Trifluorotoluene (SS) 91



# Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

Gasoline Range Petroleum Hydrocarbons and BTXE  
by EPA SW-846 5030/8015M/8020  
Gasoline Range quantitated as all compounds from C6-C10

### Quality Assurance and Control Data

Laboratory Number: 50109

Compound	Sample conc.	SPK Level	SPK Result	Recovery %	Limits %	RPD %
For Water Matrix (ug/L)						
AK291.19 04 / - Laboratory Control Spikes						
Gasoline_Range		1400	1869	134	65-135	
Benzene		10	10.4	104	65-135	
Toluene		10	11.0	110	65-135	
Ethyl Benzene		10	11.4	114	65-135	
Total Xylenes		30	35.5	118	65-135	
>> Surrogate Recoveries (%) <<						
Trifluorotoluene (SS)				99	50-150	

For Water Matrix (ug/L)  
AK291.19 02 / 03 - Sample Spiked: 50088 - 08

Gasoline_Range	ND	1400	1792/1794	128/128	65-135	0
Benzene	ND	10	10.9/10.9	109/109	65-135	0
Toluene	ND	10	11.5/11.4	115/114	65-135	1
Ethyl Benzene	ND	10	11.8/11.7	118/117	65-135	1
Total Xylenes	ND	30	35.8/35.1	119/117	65-135	2
>> Surrogate Recoveries (%) <<						
Trifluorotoluene (SS)				104/103	50-150	

#### Definitions:

ND = Not Detected  
 RL = Reporting Limit  
 NA = Not Analysed  
 RPD = Relative Percent Difference  
 ug/L = parts per billion (ppb)  
 mg/L = parts per million (ppm)

ug/kg = parts per billion (ppb)  
 mg/kg = parts per million (ppm)

RECON ENVIRONMENTAL CORP.  
 7000 Marina Boulevard, 4th Floor, Brisbane, California 94005  
 Phone: 415-742-9900; Fax: 415-742-1033

CHAIN OF CUSTODY RECORD

Project Name		Project Number		Send Report Attention of:		Analytical Laboratory:		No. of Containers	Type of Containers	Preservative	TPH <sub>g</sub>	BTEX	TPH <sub>d</sub>	Type of Analysis										Condition of Samples
Sample Number	Date	Time P.M.	Matrix	Location																				
16505 WORTHLEY SAN LORENZO				MARC PAPINEAU		SUPERIOR																		
MW-1	12/1/94	1:47	Water		4	1 1L Amber	No		✓															
MW-4	12/1/94	4:02	Water		4	3 40ml VOA	No		✓	✓														
MW-5	12/1/94	3:30	Water		4		No		✓	✓														
MW-6	12/1/94	2:40	Water		4		No		✓	✓														
MW-3	12/1/94	4:45	Water		4	1 1L Amber 3 40ml VOA	No		✓	✓														

Relinquished by: *M. Papineau* Date/Time: 12/1/94 6:05 PM  
 Received by: *Seydl Syed* Date/Time: 12/1/94 6:10  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Remarks: RUSH ANALYSIS FOR TRACY FEDERAL BANK