



**RESNA/GROUNDWATER  
RESOURCES, INC.**  
*Working to Restore Nature*

1500 SO. UNION AVE.  
BAKERSFIELD, CALIFORNIA 93307

91 JAN -9 PM 4: 18

General Engineering Contractor  
Class A/Haz License No. 520768

January 4, 1991

Gil Wistar  
Alameda County Department  
of Environmental Health  
80 Swan Way, Rm. 200  
Oakland, CA 94621

Re: Scotsman Corp., Dublin CA  
Groundwater Remediation Update

Dear Mr. Wistar:

This letter is an update on the groundwater remediation project underway at the Scotsman Corporation facility, 6055 Scarlett Ct., Dublin. Water samples were collected from all of the monitoring wells at the site on November 28, 1990 and December 27, 1990. All samples were analyzed for BTX&E and TPH (gasoline). Enclosed are the analysis results from the samples collected from the wells.

Depth to groundwater measurements were recorded on November 28, 1990 and calculated to Mean Sea Level as follows:

WELL	WELL ELEVATION	WATER ELEVATION	DEPTH TO WATER
MW-1	328.86	321.18 ft msl	7.68 ft
MW-2	329.50	322.65 ft msl	6.85 ft
MW-3	327.69	322.37 ft msl	5.32 ft
MW-4	329.19	321.46 ft msl	7.73 ft
MW-5	**	**	***
MW-6	328.16	320.81 ft msl	7.35 ft
MW-7	**	**	7.43 ft
MW-8	**	**	7.03 ft
RW-1	**	**	***

\*\* Well not surveyed

\*\*\* Well not measured

Calculations indicate the direction of the groundwater gradient to be 30 degrees west of south with a slope of approximately .61 feet per 100 feet (see Plate 1). The pump from RW-1 has been relocated into MW-6 so that groundwater from the heart of the plume could be pumped. An isopleth map showing the areas of equal concentrations for the total petroleum hydrocarbons remaining in the groundwater have been mapped and are presented on Plates 2. As of December 27, 1990 approximately 177,145 gallons of groundwater have been treated. Groundwater levels in all of the wells has dropped an average of 1.5 feet since the last measurements taken in August. The largest water level drop was 2.13 feet in MW-6.

Gil Wistar  
Alameda County Department  
of Environmental Health  
October 8, 1990  
Page Two

The next quarterly report will be submitted to your office in March, 1990 with results of analysis for the monitoring wells and an update on remediation progress. Samples of the effluent water are sampled on a monthly basis and results are submitted to the Dublin San Ramon Services District.

If you have further questions or require additional information, please give me a call at (805) 835-7700.

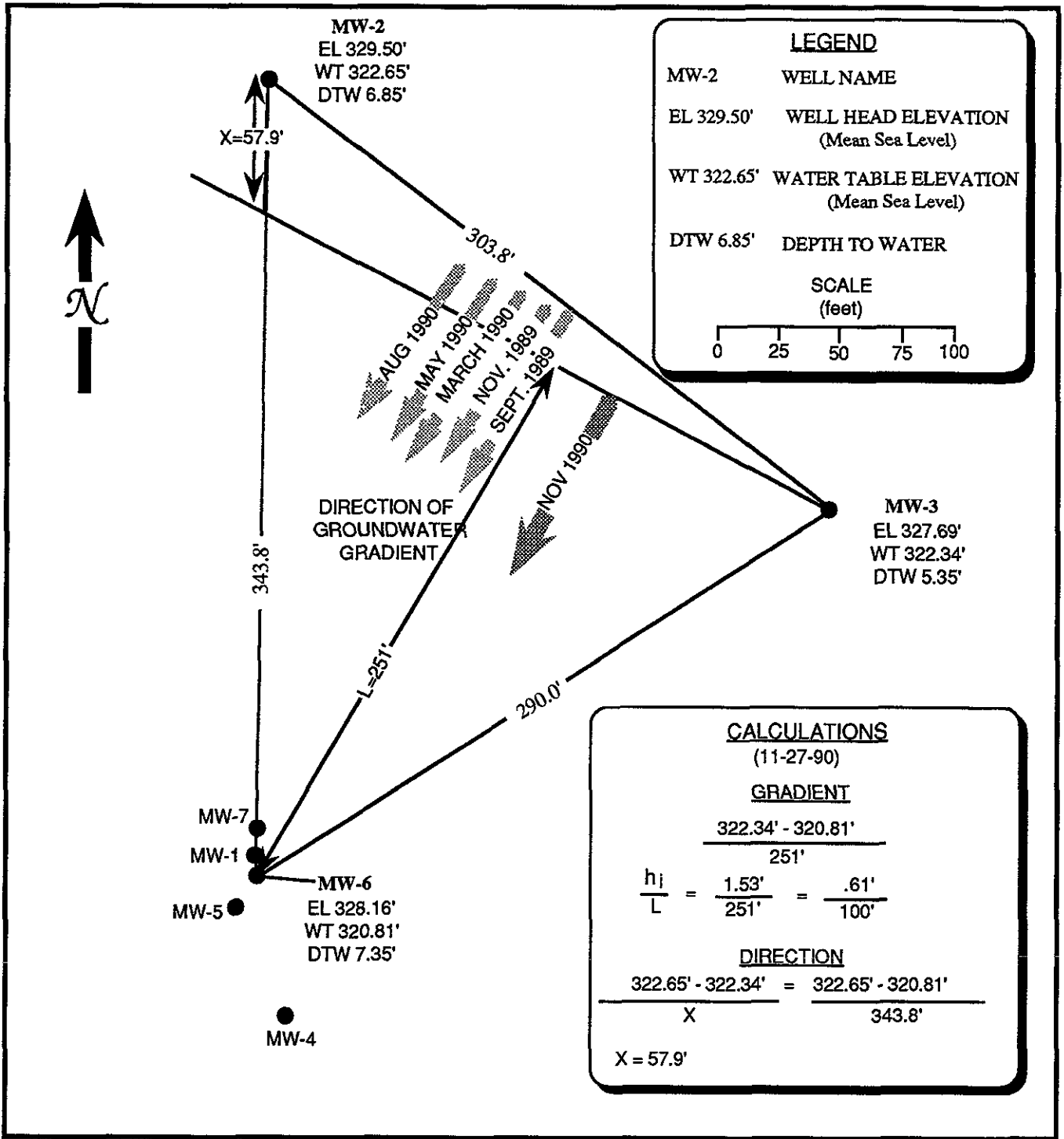
Sincerely,

A handwritten signature in cursive script that reads "Timothy C. Reed". The signature is written in black ink and is positioned above the typed name.

Timothy C. Reed  
Project Geologist

Encl.

cc: Ms. Amanda Howard, First Interstate Bank  
Bud Gennoy, J.P. Gennoy Realty



**groundwater resources, inc.**  
environmental/geotechnical services

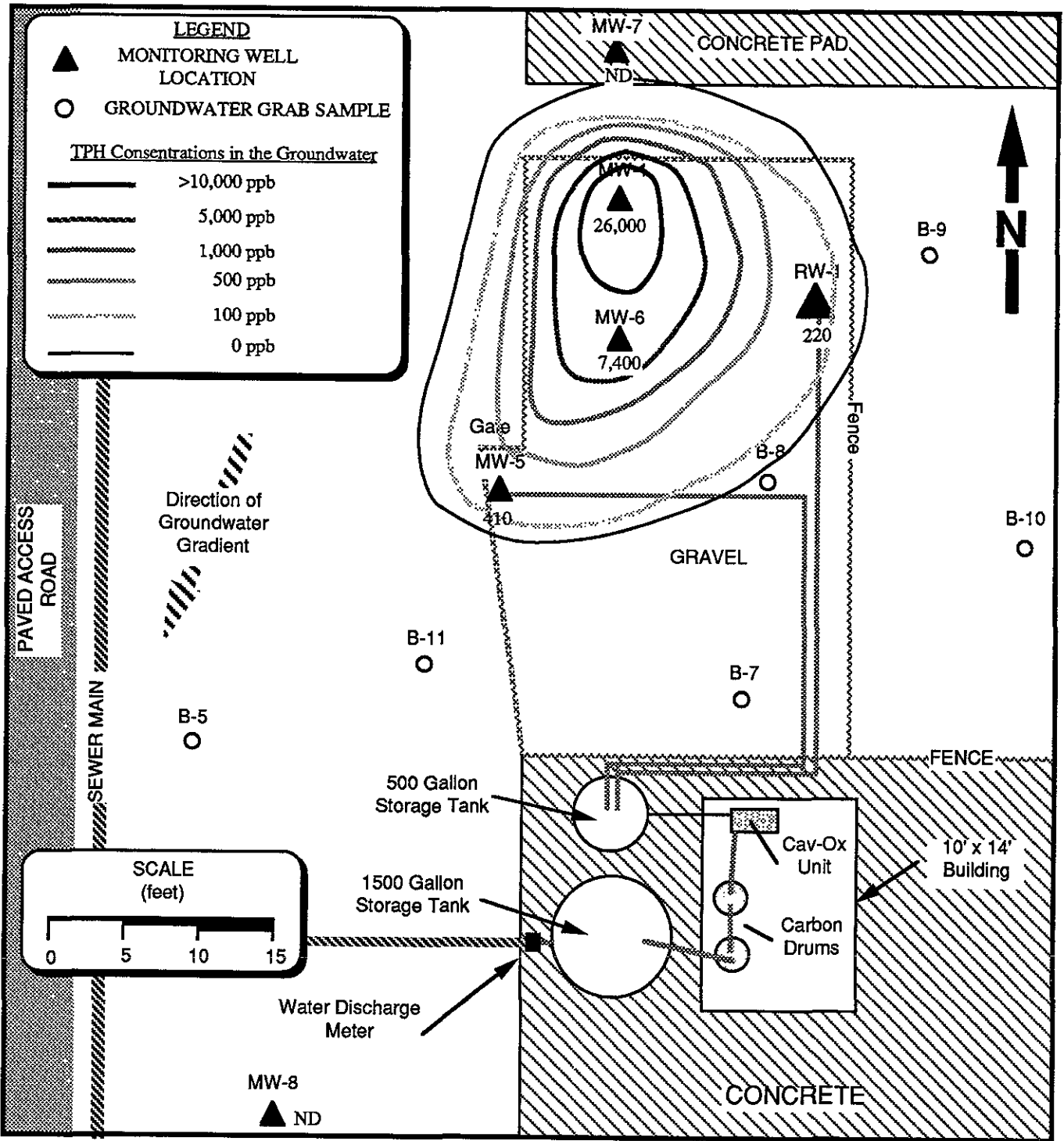
Project Number: 55018


1-4-90

**SCOTSMAN CORPORATION**  
DUBLIN, CALIFORNIA

**SHALLOW GROUNDWATER GRADIENT MAP**  
November 27, 1990

**PLATE**  
**1**



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 Project Number: 55018  
 1-4-91

**SCOTSMAN CORP.**  
**DUBLIN, CA.**

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**TOTAL PETROLEUM  
 HYDROCARBON ISOPLETH MAP**

**PLATE**  
**2**

**GROUNDWATER RESOURCES INC.**

A RESNA Company

P.O Box 9383  
Bakersfield, California  
Telephone: (805) 835-7700  
Tele-Fax: (805) 835-7717

**CHAIN OF CUSTODY RECORD**

LAB DESTINATION: <u>SINIC</u>		PROJECT NUMBER: <u>5275 G</u>			CONDITION ON RECEIPT	PROJECT CONTACT: <u>TIM REED</u>			
SAMPLER(S): (Signature) <u>T. Moore</u>		P.O. NUMBER: <u>5275 G</u>				COUNTY: <u>Alameda</u>			
LAB NUMBER	SAMPLE NUMBER	DATE	TIME	SAMPLE LOCATION		ANALYSIS REQUESTED	SAMPLE TYPE	CONTAINER TYPE	
4360	MW-1	11/26/90	1:35	D. Hill Section	COLO/SEALED	BTEX, TPH <sub>gas</sub>	Water	VCA (-)	
4361	MW-1	↓	1:00	}			↓	↓	
4362	MW-6	↓	2:00					↓	↓
4363	MW-7	↓	1:00						
4364	MW-5	↓	2:20						
4365	Influent	11/26/90	2:10						
4366	Effluent	"	2:00						
4367	TB							VCA (1)	

SPECIAL INSTRUCTIONS: \_\_\_\_\_

POSSIBLE SAMPLE HAZARDS:

1. Relinquished by: Tom Moore Date/Time: 11/29/90 10:05 Received by: J. Wolf Date/Time: 11/29/90 11:06  
 1. Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 1. Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Client Name: Groundwater Resources, Inc.  
Address : 1500 So. Union Avenue  
Bakersfield, CA 93307

Attention : Tim Reed


Date samples received : 11-29-90  
Date analysis completed: 12-03-90  
Date of report : 12-04-90

Project Site: Alameda County  
Project # : 55030-4  
P.O. # : 5275 G

### RESULTS OF ANALYSIS:

# 4360 ID: MW-1	ugm/L	MDL, ugm/L
Benzene	660	0.5
Toluene	430	0.5
Ethylbenzene	1900	0.5
p-Xylene	2600	0.5
m-Xylene	110	0.5
o-Xylene	610	0.5
Isopropylbenzene	110	0.5
TPH (Gasoline)	26,000	50.0

Method of Analysis for BTX/TPH (Gasoline): 5030/8020 (PID)  
MDL = Minimum Detection Level  
TPH = Total Petroleum Hydrocarbons  
ugm/L = micrograms per liter (ppb)  
ND = None Detected

  
Stan Comer  
Analytical Chemist

RESULTS OF ANALYSIS

# 4361 ID: MW-4	ugm/L	MDL, ugm/L
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
p-Xylene	ND	0.5
m-Xylene	ND	0.5
o-Xylene	ND	0.5
Isopropylbenzene	ND	0.5
TPH (Gasoline)	ND	50.0

# 4362 ID: MW-6	ugm/L	MDL, ugm/L
Benzene	720	0.5
Toluene	3.0	0.5
Ethylbenzene	11	0.5
p-Xylene	78	0.5
m-Xylene	ND	0.5
o-Xylene	3.4	0.5
Isopropylbenzene	7.3	0.5
TPH (Gasoline)	7,400	50.0

# 4363 ID: MW-7	ugm/L	MDL, ugm/L
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
p-Xylene	ND	0.5
m-Xylene	ND	0.5
o-Xylene	ND	0.5
Isopropylbenzene	ND	0.5
TPH (Gasoline)	ND	50.0


Stan Comer  
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 Analytical Chemist

RESULTS OF ANALYSIS

# 4364 ID: MW-8	ugm/L	MDL, ugm/L
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
p-Xylene	ND	0.5
m-Xylene	ND	0.5
o-Xylene	ND	0.5
Isopropylbenzene	ND	0.5
TPH (Gasoline)	ND	50.0

# 4365 ID: Influent	ugm/L	MDL, ugm/L
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
p-Xylene	ND	0.5
m-Xylene	ND	0.5
o-Xylene	ND	0.5
Isopropylbenzene	ND	0.5
TPH (Gasoline)	ND	50.0


# 4366 ID: Effluent	ugm/L	MDL, ugm/L
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
p-Xylene	ND	0.5
m-Xylene	ND	0.5
o-Xylene	ND	0.5
Isopropylbenzene	ND	0.5
TPH (Gasoline)	ND	50.0

  
Stan Comer  
Analytical Chemist



RESULTS OF ANALYSIS

# 4367 ID: Travel Blank	ugm/L	MDL, ugm/L
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
p-Xylene	ND	0.5
m-Xylene	ND	0.5
o-Xylene	ND	0.5
Isopropylbenzene	ND	0.5
TPH (Gasoline)	ND	50.0

  
\_\_\_\_\_  
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Analytical Chemist

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**CHAIN OF CUSTODY RECORD**

LAB DESTINATION: <u>SMC</u>		PROJECT NUMBER: <u>55018</u>			CONDITION ON RECEIPT	PROJECT CONTACT: <u>Tim Reed</u>		
SAMPLER(S): (Signature) <u>Tim Moore</u>		P.O. NUMBER: <u>5430 G</u>				COUNTY: <u>Alameda</u>		
LAB NUMBER	SAMPLE NUMBER	DATE	TIME	SAMPLE LOCATION	12/28/90 12/29/90	ANALYSIS REQUESTED	SAMPLE TYPE	CONTAINER TYPE
4750	RW-1	12/21/90	4:30			BTEX TPH Gas	water	VOA
4751	MW-5	12/21/90	4:35			(DOH's LUFT method)		
4752	TB							

SPECIAL INSTRUCTIONS: \_\_\_\_\_

POSSIBLE SAMPLE HAZARDS:

- 1. Relinquished by: Tim Moore Date/Time: 12/28/90 12:00 Received by: Tim Reed Date/Time: 12/27/90 12:00
- 1. Relinquished by: Tim Reed Date/Time: 12/29/90 13:30 Received by: Thom Ward Date/Time: 12/29/90 13:30
- 1. Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Received by: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Client Name: Groundwater Resources, Inc.  
Address : 1500 South Union Ave.  
Bakersfield, CA 93307

Attention : Mr. Tim Reed


Date samples received : 12-28-90  
Date analysis completed: 12-31-90  
Date of report : 12-31-90

Project Name: Alameda County  
Project # : 55018  
P.O. # : 5430 G

### RESULTS OF ANALYSIS:

#	ID:		ugm/L	MDL, ugm/L
	RW-1			
		Benzene	9.9	0.5
		Toluene	7.6	0.5
		Ethylbenzene	2.8	0.5
		p-Xylene	ND	0.5
		m-Xylene	ND	0.5
		o-Xylene	ND	0.5
		Isopropylbenzene	ND	0.5
		TPH (Gasoline)	220.	50.0

Method of Analysis for BTX/TPH (Gasoline): 5030/8020 (PID)  
MDL = Minimum Detection Level  
TPH = Total Petroleum Hydrocarbons  
ugm/L = micrograms per liter (ppb)  
ND = None Detected

  
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Analytical Chemist

RESULTS OF ANALYSIS

# 4751 ID: MW-5	ugm/L	MDL, ugm/L
Benzene	16.	0.5
Toluene	2.0	0.5
Ethylbenzene	13.	0.5
p-Xylene	2.6	0.5
m-Xylene	.98	0.5
o-Xylene	ND	0.5
Isopropylbenzene	2.6	0.5
TPH (Gasoline)	410.	50.0

# 4752 ID: Travel Blank	ugm/L	MDL, ugm/L
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
p-Xylene	ND	0.5
m-Xylene	ND	0.5
o-Xylene	ND	0.5
Isopropylbenzene	ND	0.5
TPH (Gasoline)	ND	50.0

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Analytical Chemist