



**RESNA/GROUNDWATER
RESOURCES, INC.**

Working to Restore Nature

1500 SO. UNION AVE.
BAKERSFIELD, CALIFORNIA 93307

General Engineering Contractor
Class A/Haz License No. 609572

April 9, 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 February 21, 1991. 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 February 20, 1991 and calculated to Mean Sea Level as follows:

WELL	WELL ELEVATION	WATER ELEVATION	DEPTH TO WATER
MW-1	328.86	322.46 ft msl	6.40 ft
MW-2	329.50	323.44 ft msl	6.06 ft
MW-3	327.69	323.31 ft msl	4.38 ft
MW-4	329.19	321.37 ft msl	7.82 ft
MW-5	**	**	***
MW-6	328.16	***	***
MW-7	**	**	6.14 ft
MW-8	**	**	6.07 ft
RW-1	**	**	6.32 ft

** Well not surveyed

*** Pumping well - not measured

Calculations indicate the direction of the groundwater gradient to be 31 degrees west of south with a slope of approximately 0.31 feet per 100 feet (see Plate 1). 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 Plate 2. Groundwater is currently being pumped from MW-5 and MW-6 at a rate of 6,870 gallons per month. As of March 21, 1991 approximately 190,300 gallons of groundwater have been treated.

91 APR 12 AM 10:20

Gil Wistar
Alameda County Department
of Environmental Health
April 9, 1991
Page Two

The next quarterly report will be submitted to your office in June, 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.

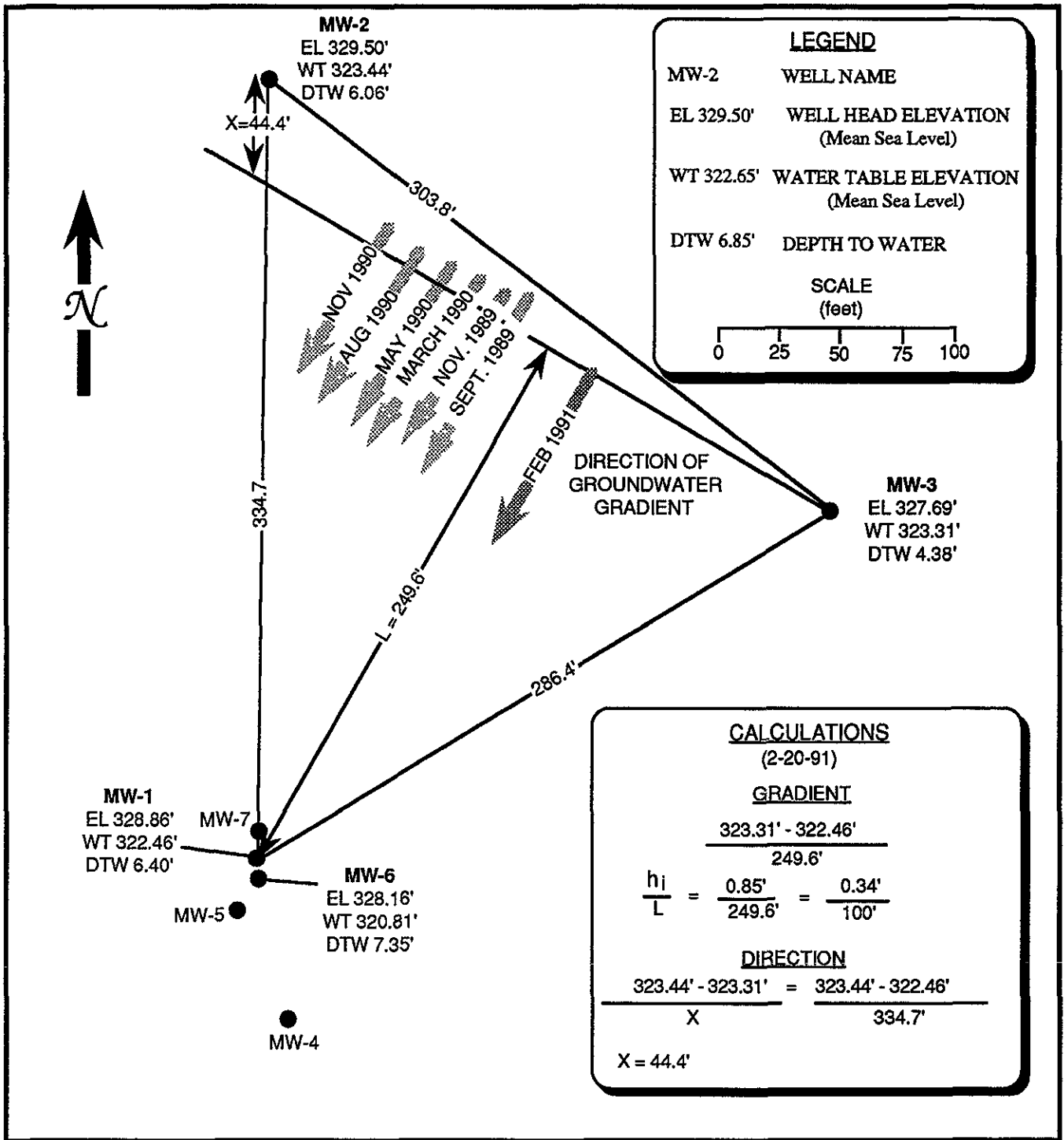
Sincerely,



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

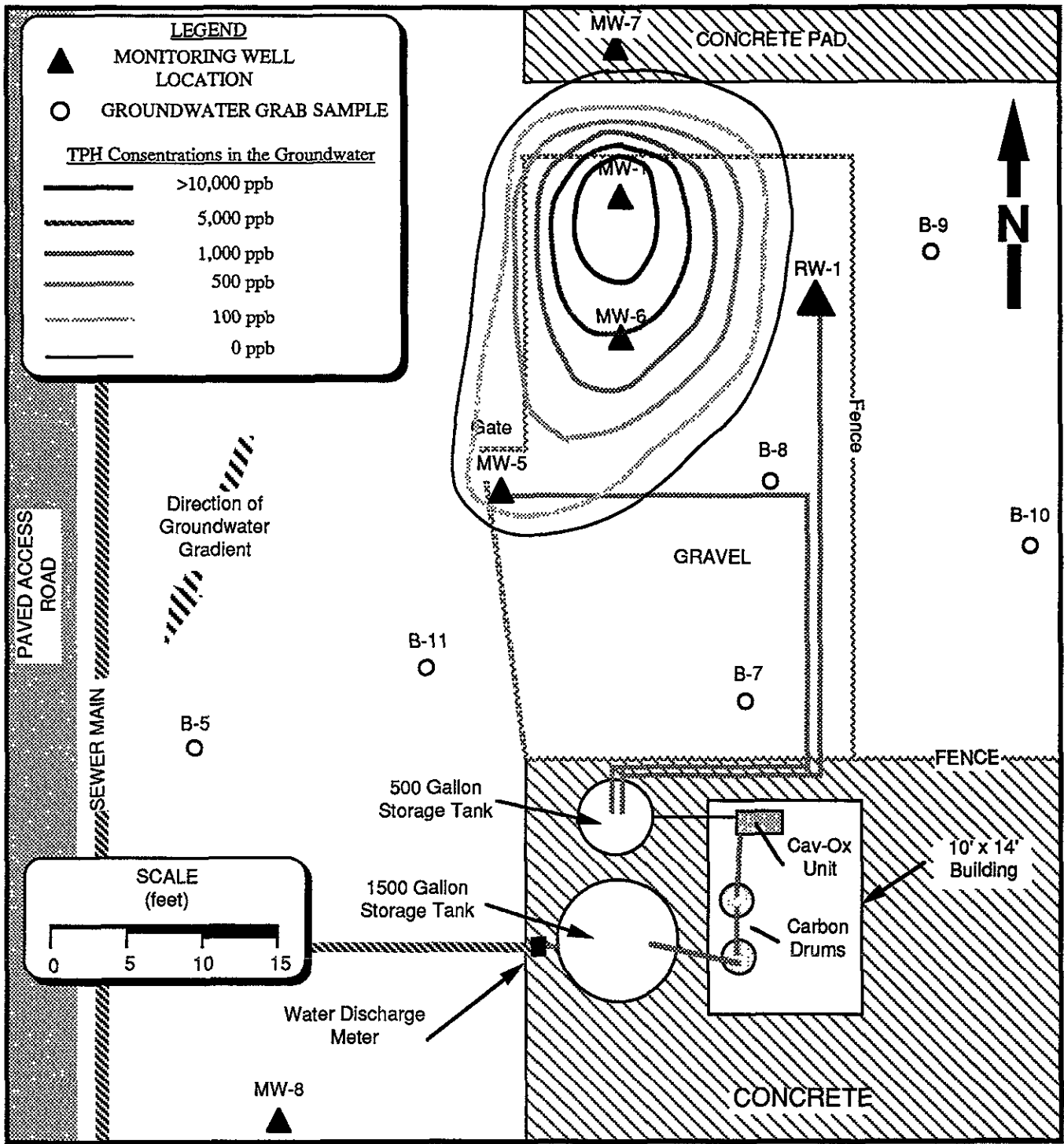
Project Number: 55018


4-4-91

SCOTSMAN CORPORATION
DUBLIN, CALIFORNIA

SHALLOW GROUNDWATER GRADIENT MAP
February 20, 1991

PLATE
1




groundwater resources, inc.
 environmental/geotechnical services
 Project Number: 55018
 4-9-91

SCOTSMAN CORP.
DUBLIN, CA.
TOTAL PETROLEUM
HYDROCARBON ISOPLETH MAP

PLATE
2

Client Name: Groundwater Resources Inc.
Address : 1500 S. Union Avenue
Bakersfield Ca. 93307

Date samples received : 2-22-91
Date analysis completed: 2-27-91
Date of report : 2-27-91

Project Name: Alameda
Project # : 55018
P.O. # : 5647G

RESULTS OF ANALYSIS:

#	ID	ugm/L	MDL, ugm/L
850	MW-2		
	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

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

# 851 ID: MW-3	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

# 852 ID: MW-4	ugm/L	MDL, ugm/L
Benzene	ND	0.5
Toluene	0.75	0.5
Ethylbenzene	1.1	0.5
p-Xylene	1.0	0.5
m-Xylene	0.88	0.5
o-Xylene	0.84	0.5
Isopropylbenzene	ND	0.5
TPH (Gasoline)	ND	50.0

# 853 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

Stan Comer
 Stan Comer
 Analytical Chemist

RESULTS OF ANALYSIS

# 854 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
# 855 ID: RW-1	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
# 856 ID: MW-5	ugm/L	MDL, ugm/L
Benzene	19	0.5
Toluene	1.2	0.5
Ethylbenzene	1.4	0.5
p-Xylene	0.89	0.5
m-Xylene	ND	0.5
o-Xylene	ND	0.5
Isopropylbenzene	ND	0.5
TPH (Gasoline)	280	50.0

Stan Comer
 Stan Comer
 Analytical Chemist

RESULTS OF ANALYSIS

# 857 ID: MW-6	ugm/L	MDL, ugm/L
Benzene	130	0.5
Toluene	25	0.5
Ethylbenzene	ND	0.5
p-Xylene	220	0.5
m-Xylene	40	0.5
o-Xylene	120	0.5
Isopropylbenzene	ND	0.5
TPH (Gasoline)	4900	50.0

# 858 ID: MW-1	ugm/L	MDL, ugm/L
Benzene	860	0.5
Toluene	850	0.5
Ethylbenzene	2500	0.5
p-Xylene	3200	0.5
m-Xylene	350	0.5
o-Xylene	1400	0.5
Isopropylbenzene	260	0.5
TPH (Gasoline)	49000	50.0

# 859 ID: WS-1	ugm/L	MDL, ugm/L
Benzene	30	0.5
Toluene	27	0.5
Ethylbenzene	ND	0.5
p-Xylene	8.9	0.5
m-Xylene	ND	0.5
o-Xylene	20	0.5
Isopropylbenzene	ND	0.5
TPH (Gasoline)	850	50.0

Stan Comer
 Stan Comer
 Analytical Chemist

RESULTS OF ANALYSIS

# 860 ID: WS-2	ugm/L	MDL, ugm/L
Benzene	29	0.5
Toluene	5.0	0.5
Ethylbenzene	ND	0.5
p-Xylene	5.0	0.5
m-Xylene	ND	0.5
o-Xylene	14	0.5
Isopropylbenzene	ND	0.5
TPH (Gasoline)	410	50.0

# 861 ID: WS-3	ugm/L	MDL, ugm/L
Benzene	3.0	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

# 862 ID: TB	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
 Stan Comer
 Analytical Chemist



groundwater resources, inc.

1500 S. Union Avenue.
Bakersfield, CA 93307
Telephone: (805) 835-7700
Tele-Fax: (805) 835-7717

CHAIN OF CUSTODY RECORD

LAB DESTINATION: <u>SMC</u>	PROJECT NUMBER: <u>55018</u> P.O. NUMBER: <u>56476</u>	PROJECT CONTACT: <u>Tim Reed</u>
--------------------------------	---	----------------------------------

SAMPLER(S): (Signature) <u>Tim Moor</u>	COUNTY: <u>Alameda</u>
--	------------------------

LAB NUMBER	SAMPLE NUMBER	DATE	TIME	SAMPLE LOCATION	CONDITION ON RECEIPT	ANALYSIS REQUESTED	SAMPLE TYPE	CONTAINER TYPE
850	MW-2	2/21/91	8:05	Dublin (Scotsman)	✓	BTEX+E, TPH (GAS)	Water	VOA
851	MW-3	↓	8:20		✓		↓	↓
852	MW-4	↓	8:40		✓		↓	↓
853	MW-8	↓	8:55		✓			
854	MW-7		9:20		✓			
855	RW-1		9:40		✓			
856	MW-5		10:00		✓			
857	MW-6		3:00		✓			
858	MW-1		10:20		✓			
859	WS-1		10:35		✓			
860	WS-2		10:45		✓			
861	WS-3		11:00		✓			
862	TB							

SPECIAL INSTRUCTIONS: _____

POSSIBLE SAMPLE HAZARDS: _____

- Relinquished by: Tim Moor Date/Time: 2/22/91 10:17 Received by: T. Ward ^{SMC} _{CABS} Date/Time: 2/22/91
- Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____
- Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____
- Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____