groundwater resources inc.

5400 ALDRIN CT.
BAKERSFIELD, CALIFORNIA 93313
General Engineering Contractor
Class A/Haz License No. 520768

April 18, 1990

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

Re: Scotsman Corp., Dublin CA

Dear Mr. Wistar,

This letter is an update on the activities underway and completed at the Scotsman Corporation facility, 6055 Scarlett Ct., Dublin. On February 27, 1990, a recovery well, designated RW-1, was constructed in the groundwater plume (Plate 1). The well was completed with six inch PVC casing and has a screened interval from five feet to thirty feet (Plate 2). Initial pump tests indicate that the well will produce at a steady rate of seven gallons per minute.

After completion of RW-1, the remediation equipment was installed at the site. A permit was obtained from the Dublin San Ramon Services District (DSRSD) for the disposal of the treated water in the sewer system. Test startup of the equipment began in March. On March 28, approval was obtained from the DSRSD to connect to the sewer system. Approval to dispose of the treated water was obtained on April 11. Full startup of the remediation project was initiated on April 13, 1990.

Water samples were collected from the wells near the groundwater plume and analyzed for BTX&E and TPH (gasoline). Enclosed are the analysis results from the samples collected from the wells and from the storage tanks before and after treatment. Samples WS-1 and WS-2 were samples collected before treatment while WS-3 was collected after treatment.

91 MAY 23 AM 11:34

Depth to groundwater measurements were recorded on March 20, 1990 and calculated to Mean Sea Level as follows:

WELL	WATER TABLE ELEVATION	DEPTH TO WATER
MW-2	325.21 ft msl	4.29 ft
MW-3	325.12 ft msl	2.57 ft
MW-4	323.97 ft msl	5.22 ft
MW-5	**	4.52 ft
MW-6	324.31 ft msl	3.85 ft
MW-7	**	4.51 ft
MW-8	**	4.63 ft
RW-1	**	4.65 ft

** Wells not surveyed

Calculations indicate the direction of the groundwater gradient to be 30 degrees west of south with a slope of approximately .31 feet per 100 feet (see Plate 3). Cone of depression and radius of influence calculations will be made after the system has had an opportunity to run uninterrupted for at least one week.

Samples of the effluent water will be sampled on a monthly basis as requested by the DSRSD. A quarterly report containing gradient information, water analysis results and cleanup progress will be submitted to your office.

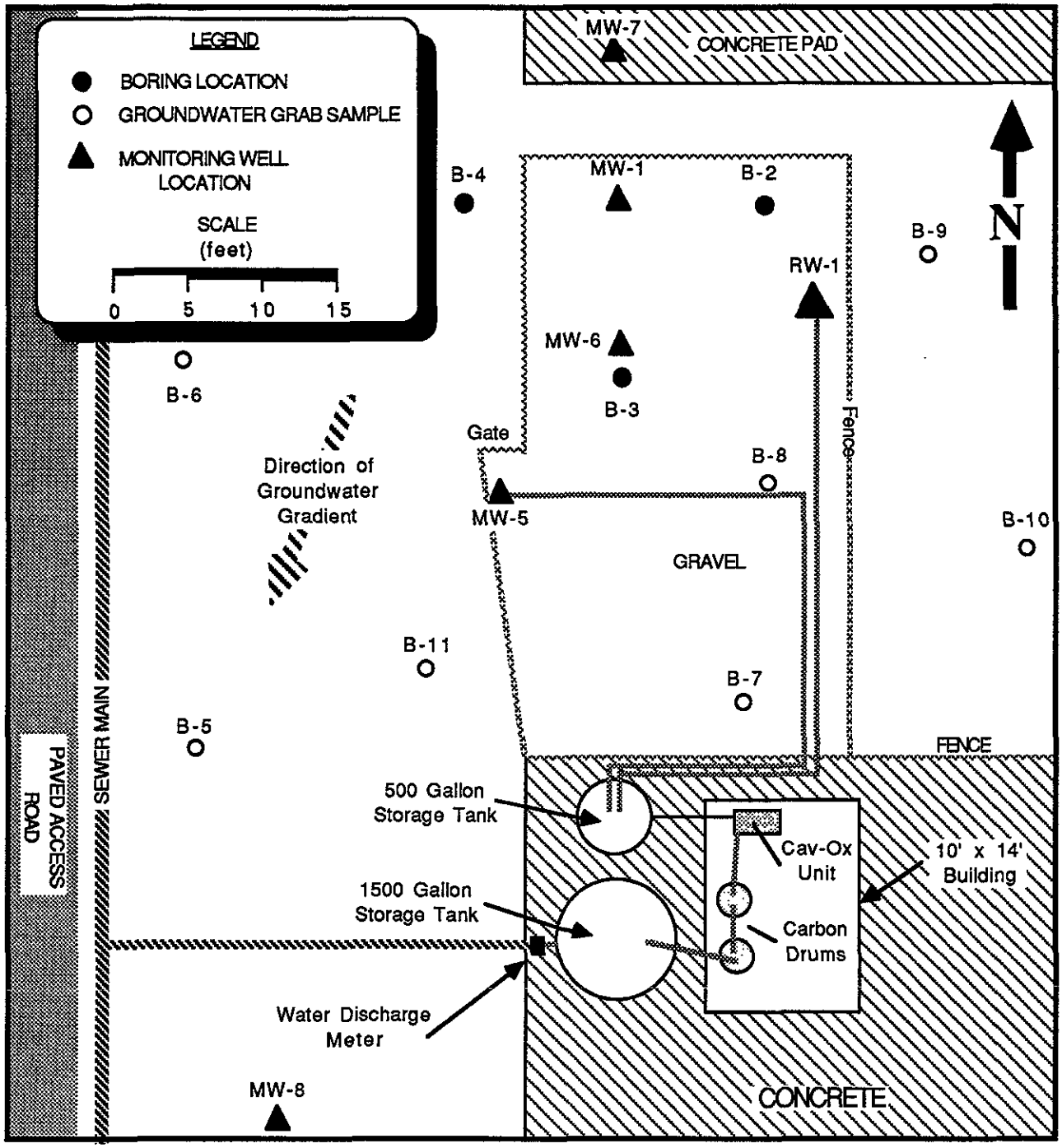
If you have further questions please give me a call at (805) 835-7700.

Sincerely,

Timothy C. Reed
Project Geologist

Encl.

cc: Ms. Amanda Howard, First Interstate Bank



groundwater resources, inc.

environmental/geotechnical services

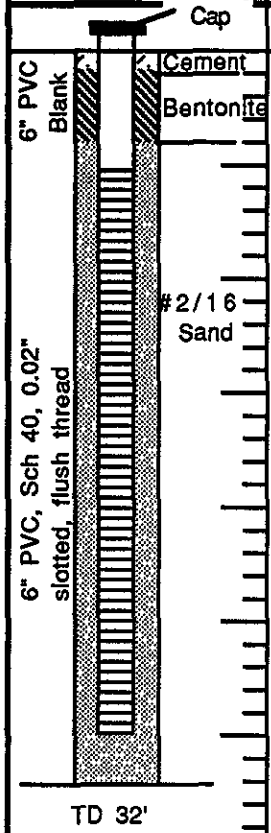
Project Number: 55018

4-17-90

SCOTSMAN CORP. DUBLIN, CA.

DETAIL OF WELLS AND REMEDIATION EQUIPMENT LOCATIONS

PLATE 1



WELL COMPLETION	ANALYSES Lab Benzene TPH ppm	ANALYSES Field Hnu P.I.D. ppm	BLOWCOUNT	DEPTH (feet)	SAMPLE INTERVAL	SAMPLE NUMBER	lithology symbol	u.s.c.s.-desig.	SOIL DESCRIPTION
				0					
				5				CL	CLAY- grysh blk, tr silt, high plast, moist, no odor, no stn
				10				CL	CLAY- grysh grn, tr silt, high plast, wet, fnt odor, no stn
				15				CL	CLAY- brnsh gry, high plast, saturated, fr odor, no stn
				20				CL	CLAY- lt brnsh gry, high plast, saturated, fr odor, no stn
				25				CL	CLAY- lt brnsh gry, high plast, saturated, fr odor, no stn
				30				CL	CLAY- lt brnsh gry, high plast, saturated, fr odor, no stn
				35					
				40					
				45					
				50					

SURFACE ELEVATION: 328.2 ft
TOTAL DEPTH: 32 ft
DATE DRILLED: 2-27-90

LOGGED BY: TCR
SUPERVISED BY: RJY
DIAMETER of BORING: 13 inch
WATER ENCOUNTERED AT: 6 ft

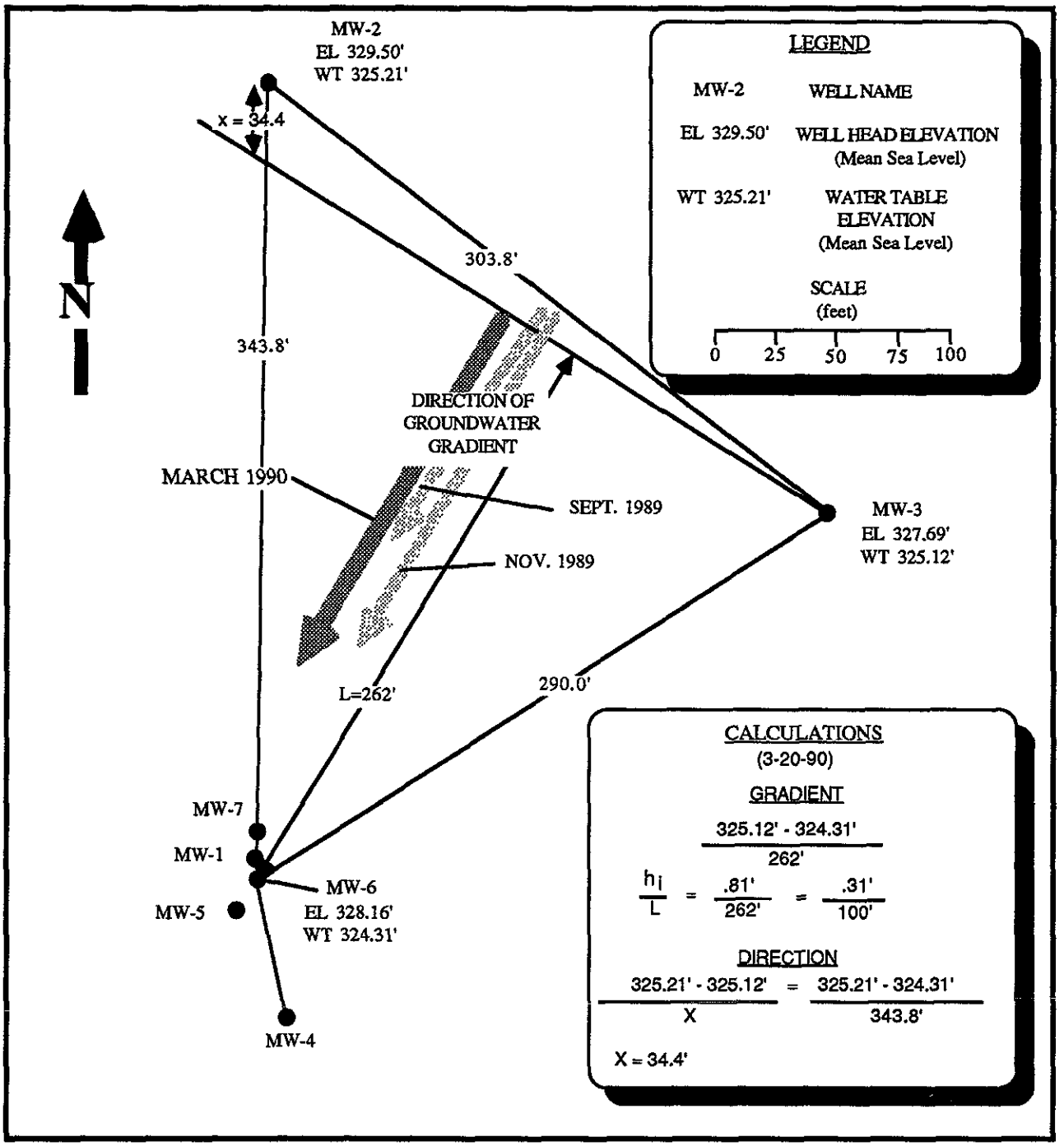
GROUNDWATER RESOURCES, INC.
(805)835-7700
environmental/geotechnical services

PROJECT NUMBER: 55029

LOCATION:
SCOTSMAN CORPORATION

LOG OF BORING RW-1

PLATE
2
page 1 of 1



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SCOTSMAN CORPORATION

DUBLIN, CALIFORNIA

SHALLOW GROUNDWATER GRADIENT MAP MARCH 20, 1990

PLATE 3

SMC Laboratory

Analytical Chemistry

Client Name: Groundwater Resources
Address : 5400 Aldrin Court
Bakersfield, CA 93313

Date samples received : 03/23/90
Date analysis completed: 03/28/90
Date of report : 03/28/90

Project #: 55018
P.O.#: 3935-G

Laboratory No. 874 through 883

RESULTS OF ANALYSIS

# 874 ID: WS-1	ugm/L	MDL,ugm/L
Benzene	49	0.5
Toluene	6.8	0.5
Ethylbenzene	ND	0.5
p-Xylene	ND	0.5
m-Xylene	ND	0.5
o-Xylene	2.9	0.5
Isopropylbenzene	ND	0.5
TPH (Gasoline)	460	50

# 875 ID: WS-2	ugm/L	MDL,ugm/L
Benzene	83	0.5
Toluene	12	0.5
Ethylbenzene	4.9	0.5
p-Xylene	8.2	0.5
m-Xylene	2.1	0.5
o-Xylene	3.5	0.5
Isopropylbenzene	1.5	0.5
TPH (Gasoline)	740	50

Method of Analysis for BTX/TPH (Gasoline): 5030/8020
MDL = Minimum Detection Level
TPH = Total Petroleum Hydrocarbons
ugm/L = micrograms per liter
ND = Not detected

Stan Comer

Stan Comer

3155 Pegasus Drive • Bakersfield, CA 93308 • (805) 393-3597
P.O. Box 80835 • Bakersfield, CA 93380 • FAX (805) 393-3623

Laboratory No. 874 through 883

RESULTS OF ANALYSIS

# 876 ID: WS-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

# 877 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

Method of Analysis for BTX/TPH (Gasoline): 5030/8020
MDL = Minimum Detection Level
TPH = Total Petroleum Hydrocarbons
ugm/L = micrograms per liter
ND = Not detected

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Laboratory No. 874 through 883

RESULTS OF ANALYSIS

# 878 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

# 879 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

Method of Analysis for BTX/TPH (Gasoline): 5030/8020
MDL = Minimum Detection Level
TPH = Total Petroleum Hydrocarbons
ugm/L = micrograms per liter
ND = Not detected

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Laboratory No. 874 through 883

RESULTS OF ANALYSIS

# 880 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)	270	50

# 881 ID: MW-6	ugm/L	MDL,ugm/L
Benzene	96	0.5
Toluene	8.5	0.5
Ethylbenzene	ND	0.5
p-Xylene	1.8	0.5
m-Xylene	ND	0.5
o-Xylene	.65	0.5
Isopropylbenzene	ND	0.5
TPH (Gasoline)	1600	50

Method of Analysis for BTX/TPH (Gasoline): 5030/8020
MDL = Minimum Detection Level
TPH = Total Petroleum Hydrocarbons
ugm/L = micrograms per liter
ND = Not detected

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Laboratory No. 874 through 883

RESULTS OF ANALYSIS

# 882 ID: MW-5	ugm/L	MDL,ugm/L
Benzene	880	0.5
Toluene	46	0.5
Ethylbenzene	120	0.5
p-Xylene	23	0.5
m-Xylene	5.7	0.5
o-Xylene	9.0	0.5
Isopropylbenzene	12	0.5
TPH (Gasoline)	5100	50

# 883 ID: RW-1	ugm/L	MDL,ugm/L
Benzene	42	0.5
Toluene	4.8	0.5
Ethylbenzene	1.7	0.5
p-Xylene	2.0	0.5
m-Xylene	ND	0.5
o-Xylene	2.6	0.5
Isopropylbenzene	ND	0.5
TPH (Gasoline)	590	50

Method of Analysis for BTX/TPH (Gasoline): 5030/8020
MDL = Minimum Detection Level
TPH = Total Petroleum Hydrocarbons
ugm/L = micrograms per liter
ND = Not detected

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5400 Aldrin Court
Bakersfield, California 93313
Telephone: (805) 835-7700
Tele-Fax: (805) 835-7717

CHAIN OF CUSTODY RECORD

LAB DESTINATION: SMC

PROJECT NUMBER: 55018

P.O. NUMBER: _____

PROJECT CONTACT: TIM REED

COUNTY: ALAMEDA

SAMPLER(S): (Signature) T. Reed

LAB NUMBER	SAMPLE NUMBER	DATE	TIME	SAMPLE LOCATION	CONDITION ON RECEIPT	ANALYSIS REQUESTED	SAMPLE TYPE	CONTAINER TYPE
874	WS-1	3-21-90	16:40	INTO CAV-OX		BTX&E TPH(GASOLINE) 8015 MOD	WATER	VOA
875	WS-2	"	16:45	OUT OF CAV-OX				
876	WS-3	"	16:50	INTO TANK				
877	TRAVEL BLANK							
878	MW-4	3-23-90	11:40					
879	MW-8	"	11:50					
880	MW-7	"	12:00					
881	MW-6	"	12:05					
882	MW-5	3-22-90	11:25					
883	RW-1	"	11:20					

SPECIAL INSTRUCTIONS: _____

POSSIBLE SAMPLE HAZARDS: _____

1. Relinquished by: T. Reed Date/Time: 4:25 3-23-90 Received by: Courier Date/Time: 3/23 4:30
1. Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____
1. Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____
1. Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____

CCR (Rev. 10/89) WHITE: LABORATORY PINK: JOB FILE YELLOW: SAMPLE LOG