

GW-32

2002 Annual Report

Date:
1/31/2003

Appendix B – Road Maintenance Plan

GIANT

INDUSTRIES, INC.
SAN JUAN REGIONAL OFFICE

January 31, 2003

Mr. William Olson
Hydrogeologist
New Mexico Oil Conservation Division
Environmental Bureau
1220 S. St. Francis Drive
Santa Fe, NM 87504

District Copy
For Scanning Only
Has NOT been processed.

Dear Mr. Olson:

Enclosed you will find the annual report for Giant Refining Company's Bloomfield Refinery for 2002.

Please contact me if you have any questions.

Sincerely,



Tim Kinney
Remediation Project Manager

/dm

Enclosure

cc w/enc.: Carl Shook-Giant
David Kirby-Giant
Jacque Cumbie-Giant
Stephanie Odell-BLM
Maura Hanning-EID
Chris Shuey-SWRIC
Jim Durrett-SJC
Herbert Gorrod-EPA
Denny Foust-OCD



ANNUAL DATA REPORT
GIANT BLOOMFIELD REFINERY

2002

GW-32

Prepared By:

GIANT REFINING COMPANY
111 County Road 4990
Bloomfield, NM 87413
(505) 632-8006
FAX (505) 632-4021

TABLE OF CONTENTS

Introduction and Summary	Section 1
Annual Analytical Results	Section 2
Potentiometric Surface Maps.....	Section 3
Total Volume History	Section 4

INTRODUCTION AND SUMMARY ANNUAL REPORT 2002

INTRODUCTION

Tank 22 is being used for intermediate water storage. All water is treated by the carbon filter unit exclusively.

SUMMARY

Section 2

Section 2 contains a summary of the annual analytical results. Raw data, as received from the laboratory, is available on request as a supplement to the annual report.

Section 3

Potentiometric surface maps, as well as the adjusted water surface elevation and product thickness for each well, are included in Section 3.

Section 4

Section 4 illustrates the volume history for the year. Total volume pumped from each well, as well as current tank volumes and the reinjection volume, is reported. Additional detail, on a weekly basis, is also available if desired.

SECTION 2

The following pages show the annual analytical data for the Giant Refining Remediation Project. The data is broken down into units as described below.

	<u>Unit of Measure</u>
Total dissolved solids (180)	mg/l
Total dissolved solids (calc)	mg/l
Total alkalinity as CaCO ₃	mg/l
Total hardness as CaCO ₃	mg/l
Bicarbonate as HCO ₃	mg/l
Carbonate as CO ₃	mg/l
Chloride	mg/l
Sulfate	mg/l
Calcium	mg/l
Magnesium	mg/l
Potassium	mg/l
Sodium	mg/l

The remainder of the data is measured in ug/l.

GIANT INDUSTRIES, INC.
ONSITE REMEDIATION PROJECT
ANNUAL ANALYTICAL DATA SUMMARY
2002

	JAN	APR	JUL	AUG	OCT	NOV	DEC
SYSTEM EFFLUENT							
Lab pH	7.2	7.0	7		7		
Lab Conductivity @25 C	3340	2840	2780		2850		
Total Dissolved Solids (Calc)	2300	2250	2230		2230		
Total Alkalinity as CaCO3	490	401	460		450		
Total Hardness as CaCO3	815	818	816		834		
Bicarbonate as HCO3	598	489	561		549		
Carbonate as CO3	ND	ND	ND		ND		
Hydroxide	ND	ND	ND		ND		
Chloride	91	91	85		85		
Sulfate	1110	1280	1190		1190		
Calcium	281	282	281		287		
Magnesium	27.5	27.8	28.1		28.7		
Potassium	2.5	2.5	2.4		2.5		
Sodium	412	398	387		409		
HALOCARBONS							
Bromodichloromethane	ND	ND	ND			ND	
Bromoform	ND	ND	ND			ND	
Bromomethane	ND	ND	ND			ND	
Carbon Tetrachloride	ND	ND	ND			ND	
Chloroethane	ND	ND	ND			ND	
Chloroform	ND	ND	ND			ND	
Chloromethane	ND	ND	ND			ND	
Dibromochloromethane	ND	ND	ND			ND	
1,2-Dibromoethane (EDB)	ND	ND	ND			ND	
1,2-Dichlorobenzene	ND	ND	ND			ND	
1,3-Dichlorobenzene	ND	ND	ND			ND	
1,4-Dichlorobenzene	ND	ND	ND			ND	
1,1-Dichloroethane	ND	ND	ND			ND	
1,2-Dichloroethane (EDC)	ND	ND	ND			ND	
1,1-Dichloroethene	ND	ND	ND			ND	
cis-1,2-Dichloroethene	ND	ND	ND			ND	
trans-1,2-Dichloroethene	ND	ND	ND			ND	
1,2-Dichloropropane	ND	ND	ND			ND	
cis-1,3-Dichloropropene	ND	ND	ND			ND	
trans-1,3-Dichloropropene	ND	ND	ND			ND	
Methylene Chloride	ND	ND	ND			ND	
1,1,2,2-Tetrachloroethane	ND	ND	ND			ND	
Tetrachlorethene	ND	ND	ND			ND	
1,1,1-Trichloroethane	ND	ND	ND			ND	
1,1,2-Trichloroethane	ND	ND	ND			ND	
Trichloroethene	ND	ND	ND			ND	
Trichlorofluoromethane	ND	ND	ND			ND	
Vinyl Chloride	ND	ND	ND			ND	
AROMATICS							
Benzene	ND	ND	ND			ND	
Chlorobenzene	ND	ND	ND			ND	
1,2-Dichlorobenzene	ND	ND	ND			ND	
1,3-Dichlorobenzene	ND	ND	ND			ND	
1,4-Dichlorobenzene	ND	ND	ND			ND	
Ethylbenzene	ND	ND	ND			ND	

	JAN	APR	JUL	AUG	OCT	NOV	DEC
Methyl-t-Butyl Ether	ND	ND	ND			ND	
Toluene	ND	ND	ND			ND	
Total Xylenes	ND	ND	ND			ND	
PAH							
1-Methylnaphthalene	ND						
2-Methylnaphthalene	ND						
Benzo(a)pyrene	ND						
Naphthalene	ND						
SYSTEM INFLUENT							
Lab pH	7.1	7.0	7.0		7.1		
Lab Conductivity @25 C	3280	2850	2820		2870		
Total Dissolved Solids (Calc)	2280	2250	2230		2230		
Total Alkalinity as CaCO3	440	396	450		440		
Total Hardness as CaCO3	746	779	788		756		
Bicarbonate as HCO3	537	483	549		537		
Carbonate as CO3	ND	ND	ND		ND		
Hydroxide	ND	ND	ND		ND		
Chloride	91	93	85		85		
Sulfate	1080	1230	1190		1190		
Calcium	254	268	270		257		
Magnesium	27.5	26.7	27.9		27.8		
Potassium	2.6	2.4	2.4		2.4		
Sodium	414	382	397		387		
HALOCARBONS							
Bromodichloromethane	ND	ND	ND			ND	
Bromoform	ND	ND	ND			ND	
Bromomethane	ND	ND	ND			ND	
Carbon Tetrachloride	ND	ND	ND			ND	
Chloroethane	ND	ND	ND			ND	
Chloroform	ND	ND	ND			ND	
Chloromethane	ND	ND	ND			ND	
Dibromochloromethane	ND	ND	ND			ND	
1,2-Dibromoethane (EDB)	ND	ND	ND			ND	
1,2-Dichlorobenzene	ND	ND	ND			ND	
1,3-Dichlorobenzene	ND	ND	ND			ND	
1,4-Dichlorobenzene	ND	ND	ND			ND	
1,1-Dichloroethane	ND	ND	ND			ND	
1,2-Dichloroethane (EDC)	ND	ND	ND			ND	
1,1-Dichloroethene	ND	ND	ND			ND	
cis-1,2-Dichloroethene	ND	ND	ND			ND	
trans-1,2-Dichloroethene	ND	ND	ND			ND	
1,2-Dichloropropane	ND	ND	ND			ND	
cis-1,3-Dichloropropene	ND	ND	ND			ND	
trans-1,3-Dichloropropene	ND	ND	ND			ND	
Methylene Chloride	ND	ND	ND			ND	
1,1,2,2-Tetrachloroethane	ND	ND	ND			ND	
Tetrachlorethene	ND	ND	ND			ND	
1,1,1-Trichloroethane	ND	ND	ND			ND	
1,1,2-Trichloroethane	ND	ND	ND			ND	
Trichloroethene	ND	ND	ND			ND	
Trichlorofluoromethane	ND	ND	ND			ND	
Vinyl Chloride	ND	ND	ND			ND	
AROMATICS							
Benzene	ND	ND	ND			ND	
Chlorobenzene	ND	ND	ND			ND	

	JAN	APR	JUL	AUG	OCT	NOV	DEC
1,2-Dichlorobenzene	ND	ND	ND			ND	
1,3-Dichlorobenzene	ND	ND	ND			ND	
1,4-Dichlorobenzene	ND	ND	ND			ND	
Ethylbenzene	ND	ND	ND			ND	
Methyl-t-Butyl Ether	ND	ND	ND			ND	
Toluene	ND	ND	ND			ND	
Total Xylenes	ND	ND	ND			ND	
GRW-3							
Lab pH	7.0						
Lab Conductivity @25 C	4140						
Total Dissolved Solids @ 180 C	2960						
Total Alkalinity as CaCO3	440						
Total Hardness as CaCO3	850						
Bicarbonate as HCO3	537						
Carbonate as CO3	ND						
Hydroxide	ND						
Chloride	60						
Sulfate	1670						
Calcium	308						
Magnesium	19.9						
Potassium	4.0						
Sodium	581						
HALOCARBONS							
Bromodichloromethane	ND						
Bromoform	ND						
Bromomethane	ND						
Carbon Tetrachloride	ND						
Chloroethane	ND						
Chloroform	ND						
Chloromethane	ND						
Dibromochloromethane	ND						
1,2-Dibromoethane (EDB)	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
1,1-Dichloroethane	ND						
1,2-Dichloroethane (EDC)	ND						
1,1-Dichloroethene	ND						
cis-1,2-Dichloroethene	ND						
trans-1,2-Dichloroethene	ND						
1,2-Dichloropropane	ND						
cis-1,3-Dichloropropene	ND						
trans-1,3-Dichloropropene	ND						
Methylene Chloride	ND						
1,1,2,2-Tetrachloroethane	ND						
Tetrachlorethene	ND						
1,1,1-Trichloroethane	ND						
1,1,2-Trichloroethane	ND						
Trichloroethene	ND						
Trichlorofluoromethane	ND						
Vinyl Chloride	ND						
AROMATICS							
Benzene	ND						
Chlorobenzene	ND						
1,2-Dichlorobenzene	ND						

	JAN	APR	JUL	AUG	OCT	NOV	DEC
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
Ethylbenzene	0.9						
Methyl-t-Butyl Ether	ND						
Toluene	ND						
Total Xylenes	0.5						
PAH							
1-Methylnaphthalene	ND						
2-Methylnaphthalene	ND						
Benzo(a)pyrene	ND						
Naphthalene	ND						
GRW-6							
Lab pH	7.3						
Lab Conductivity @25 C	2520						
Total Dissolved Solids @ 180 C	1450						
Total Alkalinity as CaCO3	890						
Total Hardness as CaCO3	312						
Bicarbonate as HCO3	1090						
Carbonate as CO3	ND						
Hydroxide	ND						
Chloride	106						
Sulfate	172						
Calcium	91.1						
Magnesium	20.6						
Potassium	1.5						
Sodium	406						
HALOCARBONS							
Bromodichloromethane	ND						
Bromoform	ND						
Bromomethane	ND						
Carbon Tetrachloride	ND						
Chloroethane	ND						
Chloroform	ND						
Chloromethane	ND						
Dibromochloromethane	ND						
1,2-Dibromoethane (EDB)	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
1,1-Dichloroethane	ND						
1,2-Dichloroethane (EDC)	ND						
1,1-Dichloroethene	ND						
cis-1,2-Dichloroethene	ND						
trans-1,2-Dichloroethene	ND						
1,2-Dichloropropane	ND						
cis-1,3-Dichloropropene	ND						
trans-1,3-Dichloropropene	ND						
Methylene Chloride	ND						
1,1,2,2-Tetrachloroethane	ND						
Tetrachlorethene	ND						
1,1,1-Trichloroethane	ND						
1,1,2-Trichloroethane	ND						
Trichloroethene	ND						
Trichlorofluoromethane	ND						
Vinyl Chloride	ND						

	JAN	APR	JUL	AUG	OCT	NOV	DEC
AROMATICS							
Benzene	ND						
Chlorobenzene	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
Ethylbenzene	1.1						
Methyl-t-Butyl Ether	ND						
Toluene	ND						
Total Xylenes	0.5						
PAH							
1-Methylnaphthalene	ND						
2-Methylnaphthalene	ND						
Benzo(a)pyrene	ND						
Naphthalene	ND						
GBR-17							
Lab pH							7.0
Lab Conductivity @25 C							2500
Total Dissolved Solids (Calc)							2020
Total Alkalinity as CaCO3							216
Total Hardness as CaCO3							896
Bicarbonate as HCO3							264
Carbonate as CO3							ND
Hydroxide							ND
Chloride							58
Sulfate							1150
Calcium							317
Magnesium							25.4
Potassium							2.4
Sodium							287
HALOCARBONS							
Bromodichloromethane							ND
Bromoform							ND
Bromomethane							ND
Carbon Tetrachloride							ND
Chloroethane							ND
Chloroform							ND
Chloromethane							ND
Dibromochloromethane							ND
1,2-Dibromoethane (EDB)							ND
1,2-Dichlorobenzene							ND
1,3-Dichlorobenzene							ND
1,4-Dichlorobenzene							ND
1,1-Dichloroethane							ND
1,2-Dichloroethane (EDC)							ND
1,1-Dichloroethene							ND
cis-1,2-Dichloroethene							ND
trans-1,2-Dichloroethene							ND
1,2-Dichloropropane							ND
cis-1,3-Dichloropropene							ND
trans-1,3-Dichloropropene							ND
Methylene Chloride							ND
1,1,2,2-Tetrachloroethane							ND
Tetrachlorethene							ND
1,1,1-Trichloroethane							ND

	JAN	APR	JUL	AUG	OCT	NOV	DEC
1,1,2-Trichloroethane							ND
Trichloroethene							ND
Trichlorofluoromethane							ND
Vinyl Chloride							ND
AROMATICS							
Benzene							ND
Chlorobenzene							ND
1,2-Dichlorobenzene							ND
1,3-Dichlorobenzene							ND
1,4-Dichlorobenzene							ND
Ethylbenzene							ND
Methyl-t-Butyl Ether							ND
Toluene							ND
Total Xylenes							ND
GBR-24D							
Lab pH	7.7						
Lab Conductivity @25 C	4670						
Total Dissolved Solids @ 180 C	3540						
Total Alkalinity as CaCO3	230						
Total Hardness as CaCO3	1380						
Bicarbonate as HCO3	281						
Carbonate as CO3	ND						
Hydroxide	ND						
Chloride	379						
Sulfate	1810						
Calcium	467						
Magnesium	53.5						
Potassium	6.0						
Sodium	552						
HALOCARBONS							
Bromodichloromethane	ND						
Bromoform	ND						
Bromomethane	ND						
Carbon Tetrachloride	ND						
Chloroethane	ND						
Chloroform	ND						
Chloromethane	ND						
Dibromochloromethane	ND						
1,2-Dibromoethane (EDB)	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
1,1-Dichloroethane	ND						
1,2-Dichloroethane (EDC)	21						
1,1-Dichloroethene	ND						
cis-1,2-Dichloroethene	ND						
trans-1,2-Dichloroethene	ND						
1,2-Dichloropropane	ND						
cis-1,3-Dichloropropene	ND						
trans-1,3-Dichloropropene	ND						
Methylene Chloride	ND						
1,1,2,2-Tetrachloroethane	ND						
Tetrachlorethene	ND						
1,1,1-Trichloroethane	ND						
1,1,2-Trichloroethane	ND						

	JAN	APR	JUL	AUG	OCT	NOV	DEC
Trichloroethene	ND						
Trichlorofluoromethane	ND						
Vinyl Chloride	ND						
AROMATICS							
Benzene	ND						
Chlorobenzene	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
Ethylbenzene	ND						
Methyl-t-Butyl Ether	ND						
Toluene	ND						
Total Xylenes	0.5						
PAH							
1-Methylnaphthalene	ND						
2-Methylnaphthalene	ND						
Benzo(a)pyrene	ND						
Naphthalene	ND						
GBR-30							
Lab pH	6.6						
Lab Conductivity @25 C	4860						
Total Dissolved Solids @ 180 C	3680						
Total Alkalinity as CaCO3	240						
Total Hardness as CaCO3	1370						
Bicarbonate as HCO3	293						
Carbonate as CO3	ND						
Hydroxide	ND						
Chloride	421						
Sulfate	1830						
Calcium	474						
Magnesium	45.1						
Potassium	4.1						
Sodium	562						
HALOCARBONS							
Bromodichloromethane	ND						
Bromoform	ND						
Bromomethane	ND						
Carbon Tetrachloride	ND						
Chloroethane	ND						
Chloroform	ND						
Chloromethane	ND						
Dibromochloromethane	ND						
1,2-Dibromoethane (EDB)	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
1,1-Dichloroethane	ND						
1,2-Dichloroethane (EDC)	ND						
1,1-Dichloroethene	ND						
cis-1,2-Dichloroethene	0.6						
trans-1,2-Dichloroethene	ND						
1,2-Dichloropropane	ND						
cis-1,3-Dichloropropene	ND						
trans-1,3-Dichloropropene	ND						

	JAN	APR	JUL	AUG	OCT	NOV	DEC
Methylene Chloride	ND						
1,1,2,2-Tetrachloroethane	ND						
Tetrachlorethene	ND						
1,1,1-Trichloroethane	ND						
1,1,2-Trichloroethane	ND						
Trichloroethene	ND						
Trichlorofluoromethane	ND						
Vinyl Chloride	ND						
AROMATICS							
Benzene	ND						
Chlorobenzene	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
Ethylbenzene	ND						
Methyl-t-Butyl Ether	ND						
Toluene	ND						
Total Xylenes	ND						
PAH							
1-Methylnaphthalene	ND						
2-Methylnaphthalene	ND						
Benzo(a)pyrene	ND						
Naphthalene	ND						
GBR-31							
Lab pH	7.1						
Lab Conductivity @25 C	3710						
Total Dissolved Solids @ 180 C	2810						
Total Alkalinity as CaCO3	210						
Total Hardness as CaCO3	1010						
Bicarbonate as HCO3	256						
Carbonate as CO3	ND						
Hydroxide	ND						
Chloride	90						
Sulfate	1700						
Calcium	354						
Magnesium	31.1						
Potassium	2.3						
Sodium	425						
HALOCARBONS							
Bromodichloromethane	ND						
Bromoform	ND						
Bromomethane	ND						
Carbon Tetrachloride	ND						
Chloroethane	ND						
Chloroform	ND						
Chloromethane	ND						
Dibromochloromethane	ND						
1,2-Dibromoethane (EDB)	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
1,1-Dichloroethane	ND						
1,2-Dichloroethane (EDC)	ND						
1,1-Dichloroethene	1.3						
cis-1,2-Dichloroethene	ND						
trans-1,2-Dichloroethene	ND						

	JAN	APR	JUL	AUG	OCT	NOV	DEC
1,2-Dichloropropane	ND						
cis-1,3-Dichloropropene	ND						
trans-1,3-Dichloropropene	ND						
Methylene Chloride	ND						
1,1,2,2-Tetrachloroethane	ND						
Tetrachlorethene	1.0						
1,1,1-Trichloroethane	ND						
1,1,2-Trichloroethane	ND						
Trichloroethene	ND						
Trichlorofluoromethane	ND						
Vinyl Chloride	ND						
AROMATICS							
Benzene	ND						
Chlorobenzene	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
Ethylbenzene	ND						
Methyl-t-Butyl Ether	ND						
Toluene	ND						
Total Xylenes	ND						
PAH							
1-Methylnaphthalene	ND						
2-Methylnaphthalene	ND						
Benzo(a)pyrene	ND						
Naphthalene	ND						
GBR-32							
Lab pH							6.9
Lab Conductivity @25 C							5190
Total Dissolved Solids @ 180 C							4230
Total Alkalinity as CaCO3							250
Total Hardness as CaCO3							1500
Bicarbonate as HCO3							305
Carbonate as CO3							ND
Hydroxide							ND
Chloride							420
Sulfate							2370
Calcium							520
Magnesium							49.3
Potassium							6.8
Sodium							752
HALOCARBONS							
Bromodichloromethane							ND
Bromoform							ND
Bromomethane							ND
Carbon Tetrachloride							ND
Chloroethane							ND
Chloroform							ND
Chloromethane							ND
Dibromochloromethane							ND
1,2-Dibromoethane (EDB)							ND
1,2-Dichlorobenzene							ND
1,3-Dichlorobenzene							ND
1,4-Dichlorobenzene							ND
1,1-Dichloroethane							ND

	JAN	APR	JUL	AUG	OCT	NOV	DEC
1,2-Dichloroethane (EDC)							ND
1,1-Dichloroethene							ND
cis-1,2-Dichloroethene							3.9
trans-1,2-Dichloroethene							ND
1,2-Dichloropropane							ND
cis-1,3-Dichloropropene							ND
trans-1,3-Dichloropropene							ND
Methylene Chloride							ND
1,1,2,2-Tetrachloroethane							ND
Tetrachlorethene							3.0
1,1,1-Trichloroethane							ND
1,1,2-Trichloroethane							ND
Trichloroethene							1.4
Trichlorofluoromethane							ND
Vinyl Chloride							ND
AROMATICS							
Benzene							ND
Chlorobenzene							ND
1,2-Dichlorobenzene							ND
1,3-Dichlorobenzene							ND
1,4-Dichlorobenzene							ND
Ethylbenzene							ND
Methyl-t-Butyl Ether							ND
Toluene							ND
Total Xylenes							ND
GBR-48							
Lab pH							6.9
Lab Conductivity @25 C							6510
Total Dissolved Solids @ 180 C							5150
Total Alkalinity as CaCO3							210
Total Hardness as CaCO3							1900
Bicarbonate as HCO3							256
Carbonate as CO3							ND
Hydroxide							ND
Chloride							925
Sulfate							2480
Calcium							649
Magnesium							67.4
Potassium							7.1
Sodium							898
HALOCARBONS							
Bromodichloromethane							ND
Bromoform							ND
Bromomethane							ND
Carbon Tetrachloride							ND
Chloroethane							ND
Chloroform							1.1
Chloromethane							ND
Dibromochloromethane							ND
1,2-Dibromoethane (EDB)							ND
1,2-Dichlorobenzene							ND
1,3-Dichlorobenzene							ND
1,4-Dichlorobenzene							ND
1,1-Dichloroethane							ND
1,2-Dichloroethane (EDC)							ND
1,1-Dichloroethene							ND

	JAN	APR	JUL	AUG	OCT	NOV	DEC
cis-1,2-Dichloroethene							5.5
trans-1,2-Dichloroethene							ND
1,2-Dichloropropane							ND
cis-1,3-Dichloropropene							ND
trans-1,3-Dichloropropene							ND
Methylene Chloride							ND
1,1,2,2-Tetrachloroethane							ND
Tetrachlorethene							3.1
1,1,1-Trichloroethane							ND
1,1,2-Trichloroethane							ND
Trichloroethene							1.6
Trichlorofluoromethane							ND
Vinyl Chloride							ND
AROMATICS							
Benzene							ND
Chlorobenzene							ND
1,2-Dichlorobenzene							ND
1,3-Dichlorobenzene							ND
1,4-Dichlorobenzene							ND
Ethylbenzene							ND
Methyl-t-Butyl Ether							ND
Toluene							ND
Total Xylenes							ND
GBR-49							
Lab pH							7
Lab Conductivity @25 C							4160
Total Dissolved Solids @ 180 C							3360
Total Alkalinity as CaCO3							260
Total Hardness as CaCO3							1290
Bicarbonate as HCO3							317
Carbonate as CO3							ND
Hydroxide							ND
Chloride							271
Sulfate							1850
Calcium							449
Magnesium							40.1
Potassium							5.6
Sodium							564
HALOCARBONS							
Bromodichloromethane							ND
Bromoform							ND
Bromomethane							ND
Carbon Tetrachloride							ND
Chloroethane							ND
Chloroform							ND
Chloromethane							ND
Dibromochloromethane							ND
1,2-Dibromoethane (EDB)							ND
1,2-Dichlorobenzene							ND
1,3-Dichlorobenzene							ND
1,4-Dichlorobenzene							ND
1,1-Dichloroethane							ND
1,2-Dichloroethane (EDC)							ND
1,1-Dichloroethene							ND
cis-1,2-Dichloroethene							6.0
trans-1,2-Dichloroethene							ND

	JAN	APR	JUL	AUG	OCT	NOV	DEC
1,2-Dichloropropane							ND
cis-1,3-Dichloropropene							ND
trans-1,3-Dichloropropene							ND
Methylene Chloride							ND
1,1,2,2-Tetrachloroethane							ND
Tetrachlorethene							4.1
1,1,1-Trichloroethane							ND
1,1,2-Trichloroethane							ND
Trichloroethene							1.5
Trichlorofluoromethane							ND
Vinyl Chloride							ND
AROMATICS							
Benzene							ND
Chlorobenzene							ND
1,2-Dichlorobenzene							ND
1,3-Dichlorobenzene							ND
1,4-Dichlorobenzene							ND
Ethylbenzene							ND
Methyl-t-Butyl Ether							ND
Toluene							ND
Total Xylenes							ND
GBR-50							
Lab pH							7.1
Lab Conductivity @25 C							3210
Total Dissolved Solids @ 180 C							2740
Total Alkalinity as CaCO3							190
Total Hardness as CaCO3							1130
Bicarbonate as HCO3							232
Carbonate as CO3							ND
Hydroxide							ND
Chloride							57
Sulfate							1720
Calcium							403
Magnesium							30.1
Potassium							4.5
Sodium							405
HALOCARBONS							
Bromodichloromethane							ND
Bromoform							ND
Bromomethane							ND
Carbon Tetrachloride							ND
Chloroethane							ND
Chloroform							ND
Chloromethane							ND
Dibromochloromethane							ND
1,2-Dibromoethane (EDB)							ND
1,2-Dichlorobenzene							ND
1,3-Dichlorobenzene							ND
1,4-Dichlorobenzene							ND
1,1-Dichloroethane							ND
1,2-Dichloroethane (EDC)							ND
1,1-Dichloroethene							ND
cis-1,2-Dichloroethene							ND
trans-1,2-Dichloroethene							ND
1,2-Dichloropropane							ND
cis-1,3-Dichloropropene							ND
trans-1,3-Dichloropropene							ND

	JAN	APR	JUL	AUG	OCT	NOV	DEC
Methylene Chloride							ND
1,1,2,2-Tetrachloroethane							ND
Tetrachlorethene							0.5
1,1,1-Trichloroethane							ND
1,1,2-Trichloroethane							ND
Trichloroethene							ND
Trichlorofluoromethane							ND
Vinyl Chloride							ND
AROMATICS							
Benzene							ND
Chlorobenzene							ND
1,2-Dichlorobenzene							ND
1,3-Dichlorobenzene							ND
1,4-Dichlorobenzene							ND
Ethylbenzene							ND
Methyl-t-Butyl Ether							ND
Toluene							ND
Total Xylenes							ND
GBR-51							
Lab pH	7.1						
Lab Conductivity @25 C	3160						
Total Dissolved Solids @ 180 C	2220						
Total Alkalinity as CaCO3	230						
Total Hardness as CaCO3	910						
Bicarbonate as HCO3	281						
Carbonate as CO3	ND						
Hydroxide	ND						
Chloride	54						
Sulfate	1280						
Calcium	321						
Magnesium	26.6						
Potassium	0.8						
Sodium	292						
HALOCARBONS							
Bromodichloromethane	ND						
Bromoform	ND						
Bromomethane	ND						
Carbon Tetrachloride	ND						
Chloroethane	ND						
Chloroform	ND						
Chloromethane	ND						
Dibromochloromethane	ND						
1,2-Dibromoethane (EDB)	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
1,1-Dichloroethane	ND						
1,2-Dichloroethane (EDC)	ND						
1,1-Dichloroethene	ND						
cis-1,2-Dichloroethene	ND						
trans-1,2-Dichloroethene	ND						
1,2-Dichloropropane	ND						
cis-1,3-Dichloropropene	ND						
trans-1,3-Dichloropropene	ND						
Methylene Chloride	ND						

	JAN	APR	JUL	AUG	OCT	NOV	DEC
1,1,2,2-Tetrachloroethane	ND						
Tetrachlorethene	ND						
1,1,1-Trichloroethane	ND						
1,1,2-Trichloroethane	ND						
Trichloroethene	ND						
Trichlorofluoromethane	ND						
Vinyl Chloride	ND						
AROMATICS							
Benzene	ND						
Chlorobenzene	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
Ethylbenzene	ND						
Methyl-t-Butyl Ether	ND						
Toluene	ND						
Total Xylenes	ND						
GBR-52							
Lab pH	7.2						
Lab Conductivity @25 C	3380						
Total Dissolved Solids @ 180 C	2620						
Total Alkalinity as CaCO3	190						
Total Hardness as CaCO3	1130						
Bicarbonate as HCO3	232						
Carbonate as CO3	ND						
Hydroxide	ND						
Chloride	56						
Sulfate	1560						
Calcium	399						
Magnesium	32.3						
Potassium	1.3						
Sodium	310						
HALOCARBONS							
Bromodichloromethane	ND						
Bromoform	ND						
Bromomethane	ND						
Carbon Tetrachloride	ND						
Chloroethane	ND						
Chloroform	ND						
Chloromethane	ND						
Dibromochloromethane	ND						
1,2-Dibromoethane (EDB)	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
1,1-Dichloroethane	ND						
1,2-Dichloroethane (EDC)	ND						
1,1-Dichloroethene	ND						
cis-1,2-Dichloroethene	ND						
trans-1,2-Dichloroethene	ND						
1,2-Dichloropropane	ND						
cis-1,3-Dichloropropene	ND						
trans-1,3-Dichloropropene	ND						
Methylene Chloride	ND						
1,1,2,2-Tetrachloroethane	ND						

	JAN	APR	JUL	AUG	OCT	NOV	DEC
Tetrachlorethene	ND						
1,1,1-Trichloroethane	ND						
1,1,2-Trichloroethane	ND						
Trichloroethene	ND						
Trichlorofluoromethane	ND						
Vinyl Chloride	ND						
AROMATICS							
Benzene	ND						
Chlorobenzene	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
Ethylbenzene	ND						
Methyl-t-Butyl Ether	ND						
Toluene	ND						
Total Xylenes	ND						
SHS-3							
Lab pH	6.5						
Lab Conductivity @25 C	4570						
Total Dissolved Solids @ 180 C	3940						
Total Alkalinity as CaCO3	202						
Total Hardness as CaCO3	1710						
Bicarbonate as HCO3	246						
Carbonate as CO3	ND						
Hydroxide	ND						
Chloride	271						
Sulfate	1790						
Calcium	545						
Magnesium	83.9						
Potassium	7.5						
Sodium	423						
HALOCARBONS							
Bromodichloromethane	ND						
Bromoform	ND						
Bromomethane	ND						
Carbon Tetrachloride	ND						
Chloroethane	ND						
Chloroform	ND						
Chloromethane	ND						
Dibromochloromethane	ND						
1,2-Dibromoethane (EDB)	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
1,1-Dichloroethane	ND						
1,2-Dichloroethane (EDC)	ND						
1,1-Dichloroethene	ND						
cis-1,2-Dichloroethene	ND						
trans-1,2-Dichloroethene	ND						
1,2-Dichloropropane	ND						
cis-1,3-Dichloropropene	ND						
trans-1,3-Dichloropropene	ND						
Methylene Chloride	ND						
1,1,2,2-Tetrachloroethane	ND						
Tetrachlorethene	ND						

	JAN	APR	JUL	AUG	OCT	NOV	DEC
1,1,1-Trichloroethane	ND						
1,1,2-Trichloroethane	ND						
Trichloroethene	ND						
Trichlorofluoromethane	ND						
Vinyl Chloride	ND						
AROMATICS							
Benzene	ND						
Chlorobenzene	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
Ethylbenzene	ND						
Methyl-t-Butyl Ether	ND						
Toluene	ND						
Total Xylenes	ND						
SHS-4							
Lab pH	7.0						
Lab Conductivity @25 C	3060						
Total Dissolved Solids (Calc)	2730						
Total Alkalinity as CaCO3	192						
Total Hardness as CaCO3	1250						
Bicarbonate as HCO3	234						
Carbonate as CO3	ND						
Hydroxide	ND						
Chloride	56						
Sulfate	1670						
Calcium	441						
Magnesium	36						
Potassium	1.7						
Sodium	313						
HALOCARBONS							
Bromodichloromethane	ND						
Bromoform	ND						
Bromomethane	ND						
Carbon Tetrachloride	ND						
Chloroethane	ND						
Chloroform	ND						
Chloromethane	ND						
Dibromochloromethane	ND						
1,2-Dibromoethane (EDB)	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
1,1-Dichloroethane	ND						
1,2-Dichloroethane (EDC)	ND						
1,1-Dichloroethene	ND						
cis-1,2-Dichloroethene	ND						
trans-1,2-Dichloroethene	ND						
1,2-Dichloropropane	ND						
cis-1,3-Dichloropropene	ND						
trans-1,3-Dichloropropene	ND						
Methylene Chloride	ND						
1,1,2,2-Tetrachloroethane	ND						
Tetrachlorethene	ND						
1,1,1-Trichloroethane	ND						

	JAN	APR	JUL	AUG	OCT	NOV	DEC
1,1,2-Trichloroethane	ND						
Trichloroethene	ND						
Trichlorofluoromethane	ND						
Vinyl Chloride	ND						
AROMATICS							
Benzene	ND						
Chlorobenzene	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
Ethylbenzene	ND						
Methyl-t-Butyl Ether	ND						
Toluene	ND						
Total Xylenes	ND						
SHS-6							
Lab pH	7.1						
Lab Conductivity @25 C	2730						
Total Dissolved Solids @ 180 C	2160						
Total Alkalinity as CaCO3	230						
Total Hardness as CaCO3	841						
Bicarbonate as HCO3	281						
Carbonate as CO3	ND						
Hydroxide	ND						
Chloride	55						
Sulfate	1240						
Calcium	297						
Magnesium	24.5						
Potassium	1.2						
Sodium	286						
HALOCARBONS							
Bromodichloromethane	ND						
Bromoform	ND						
Bromomethane	ND						
Carbon Tetrachloride	ND						
Chloroethane	ND						
Chloroform	ND						
Chloromethane	ND						
Dibromochloromethane	ND						
1,2-Dibromoethane (EDB)	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
1,1-Dichloroethane	ND						
1,2-Dichloroethane (EDC)	ND						
1,1-Dichloroethene	ND						
cis-1,2-Dichloroethene	ND						
trans-1,2-Dichloroethene	ND						
1,2-Dichloropropane	ND						
cis-1,3-Dichloropropene	ND						
trans-1,3-Dichloropropene	ND						
Methylene Chloride	ND						
1,1,2,2-Tetrachloroethane	ND						
Tetrachlorethene	ND						
1,1,1-Trichloroethane	ND						
1,1,2-Trichloroethane	ND						

	JAN	APR	JUL	AUG	OCT	NOV	DEC
Trichloroethene	ND						
Trichlorofluoromethane	ND						
Vinyl Chloride	ND						
AROMATICS							
Benzene	ND						
Chlorobenzene	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
Ethylbenzene	ND						
Methyl-t-Butyl Ether	ND						
Toluene	ND						
Total Xylenes	ND						
SHS-10							
Lab pH	7.1						
Lab Conductivity @25 C	2830						
Total Dissolved Solids (Calc)	2120						
Total Alkalinity as CaCO3	470						
Total Hardness as CaCO3	724						
Bicarbonate as HCO3	573						
Carbonate as CO3	ND						
Hydroxide	ND						
Chloride	97						
Sulfate	963						
Calcium	220						
Magnesium	42.7						
Potassium	7.6						
Sodium	372						
HALOCARBONS							
Bromodichloromethane	ND						
Bromoform	ND						
Bromomethane	ND						
Carbon Tetrachloride	ND						
Chloroethane	ND						
Chloroform	ND						
Chloromethane	ND						
Dibromochloromethane	ND						
1,2-Dibromoethane (EDB)	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
1,1-Dichloroethane	ND						
1,2-Dichloroethane (EDC)	ND						
1,1-Dichloroethene	ND						
cis-1,2-Dichloroethene	ND						
trans-1,2-Dichloroethene	ND						
1,2-Dichloropropane	ND						
cis-1,3-Dichloropropene	ND						
trans-1,3-Dichloropropene	ND						
Methylene Chloride	ND						
1,1,2,2-Tetrachloroethane	ND						
Tetrachlorethene	ND						
1,1,1-Trichloroethane	ND						
1,1,2-Trichloroethane	ND						
Trichloroethene	ND						

	JAN	APR	JUL	AUG	OCT	NOV	DEC
Trichlorofluoromethane	ND						
Vinyl Chloride	ND						
AROMATICS							
Benzene	ND						
Chlorobenzene	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
Ethylbenzene	ND						
Methyl-t-Butyl Ether	ND						
Toluene	ND						
Total Xylenes	1.6						
SHS-12							
Lab pH	7.0						
Lab Conductivity @25 C	2770						
Total Dissolved Solids @ 180 C	1960						
Total Alkalinity as CaCO3	640						
Total Hardness as CaCO3	555						
Bicarbonate as HCO3	781						
Carbonate as CO3	ND						
Hydroxide	ND						
Chloride	126						
Sulfate	665						
Calcium	195						
Magnesium	16.8						
Potassium	1.3						
Sodium	412						
HALOCARBONS							
Bromodichloromethane	ND						
Bromoform	ND						
Bromomethane	ND						
Carbon Tetrachloride	ND						
Chloroethane	ND						
Chloroform	ND						
Chloromethane	ND						
Dibromochloromethane	ND						
1,2-Dibromoethane (EDB)	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
1,1-Dichloroethane	ND						
1,2-Dichloroethane (EDC)	ND						
1,1-Dichloroethene	ND						
cis-1,2-Dichloroethene	ND						
trans-1,2-Dichloroethene	ND						
1,2-Dichloropropane	ND						
cis-1,3-Dichloropropene	ND						
trans-1,3-Dichloropropene	ND						
Methylene Chloride	ND						
1,1,2,2-Tetrachloroethane	ND						
Tetrachlorethene	ND						
1,1,1-Trichloroethane	ND						
1,1,2-Trichloroethane	ND						
Trichloroethene	ND						

	JAN	APR	JUL	AUG	OCT	NOV	DEC
Trichlorofluoromethane	ND						
Vinyl Chloride	ND						
AROMATICS							
Benzene	ND						
Chlorobenzene	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
Ethylbenzene	ND						
Methyl-t-Butyl Ether	ND						
Toluene	ND						
Total Xylenes	ND						
SHS-13							
Lab pH	6.8						
Lab Conductivity @25 C	3540						
Total Dissolved Solids @ 180 C	2870						
Total Alkalinity as CaCO3	613						
Total Hardness as CaCO3	1380						
Bicarbonate as HCO3	748						
Carbonate as CO3	ND						
Hydroxide	ND						
Chloride	218						
Sulfate	1230						
Calcium	478						
Magnesium	45.6						
Potassium	2.0						
Sodium	382						
HALOCARBONS							
Bromodichloromethane	ND						
Bromoform	ND						
Bromomethane	ND						
Carbon Tetrachloride	ND						
Chloroethane	ND						
Chloroform	ND						
Chloromethane	ND						
Dibromochloromethane	ND						
1,2-Dibromoethane (EDB)	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
1,1-Dichloroethane	ND						
1,2-Dichloroethane (EDC)	1.8						
1,1-Dichloroethene	ND						
cis-1,2-Dichloroethene	ND						
trans-1,2-Dichloroethene	ND						
1,2-Dichloropropane	ND						
cis-1,3-Dichloropropene	ND						
trans-1,3-Dichloropropene	ND						
Methylene Chloride	ND						
1,1,2,2-Tetrachloroethane	ND						
Tetrachlorethene	ND						
1,1,1-Trichloroethane	ND						
1,1,2-Trichloroethane	ND						
Trichloroethene	ND						
Trichlorofluoromethane	ND						

	JAN	APR	JUL	AUG	OCT	NOV	DEC
Vinyl Chloride	ND						
AROMATICS							
Benzene	ND						
Chlorobenzene	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
Ethylbenzene	ND						
Methyl-t-Butyl Ether	ND						
Toluene	ND						
Total Xylenes	ND						
SHS-14 *Not sampled; product detected							
SHS-15							
Lab pH	7.1						
Lab Conductivity @25 C	2550						
Total Dissolved Solids (Calc)	2180						
Total Alkalinity as CaCO3	266						
Total Hardness as CaCO3	1170						
Bicarbonate as HCO3	324						
Carbonate as CO3	ND						
Hydroxide	ND						
Chloride	52						
Sulfate	1230						
Calcium	404						
Magnesium	39.2						
Potassium	2.5						
Sodium	226						
HALOCARBONS							
Bromodichloromethane	ND						
Bromoform	ND						
Bromomethane	ND						
Carbon Tetrachloride	ND						
Chloroethane	ND						
Chloroform	ND						
Chloromethane	ND						
Dibromochloromethane	ND						
1,2-Dibromoethane (EDB)	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
1,1-Dichloroethane	ND						
1,2-Dichloroethane (EDC)	ND						
1,1-Dichloroethene	ND						
cis-1,2-Dichloroethene	ND						
trans-1,2-Dichloroethene	ND						
1,2-Dichloropropane	ND						
cis-1,3-Dichloropropene	ND						
trans-1,3-Dichloropropene	ND						
Methylene Chloride	ND						
1,1,2,2-Tetrachloroethane	ND						
Tetrachloroethene	ND						
1,1,1-Trichloroethane	ND						
1,1,2-Trichloroethane	ND						

	JAN	APR	JUL	AUG	OCT	NOV	DEC
Trichloroethene	ND						
Trichlorofluoromethane	ND						
Vinyl Chloride	ND						
AROMATICS							
Benzene	ND						
Chlorobenzene	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
Ethylbenzene	ND						
Methyl-t-Butyl Ether	ND						
Toluene	ND						
Total Xylenes	ND						
SHS-16							
Lab pH	7.2						
Lab Conductivity @25 C	2790						
Total Dissolved Solids (Calc)	2470						
Total Alkalinity as CaCO3	275						
Total Hardness as CaCO3	1260						
Bicarbonate as HCO3	335						
Carbonate as CO3	ND						
Hydroxide	ND						
Chloride	47						
Sulfate	1410						
Calcium	433						
Magnesium	44.5						
Potassium	2.8						
Sodium	239						
HALOCARBONS							
Bromodichloromethane	ND						
Bromoform	ND						
Bromomethane	ND						
Carbon Tetrachloride	ND						
Chloroethane	ND						
Chloroform	ND						
Chloromethane	ND						
Dibromochloromethane	ND						
1,2-Dibromoethane (EDB)	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
1,1-Dichloroethane	ND						
1,2-Dichloroethane (EDC)	ND						
1,1-Dichloroethene	ND						
cis-1,2-Dichloroethene	ND						
trans-1,2-Dichloroethene	ND						
1,2-Dichloropropane	ND						
cis-1,3-Dichloropropene	ND						
trans-1,3-Dichloropropene	ND						
Methylene Chloride	ND						
1,1,2,2-Tetrachloroethane	ND						
Tetrachlorethene	ND						
1,1,1-Trichloroethane	ND						
1,1,2-Trichloroethane	ND						
Trichloroethene	ND						

	JAN	APR	JUL	AUG	OCT	NOV	DEC
Trichlorofluoromethane	ND						
Vinyl Chloride	ND						
AROMATICS							
Benzene	ND						
Chlorobenzene	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
Ethylbenzene	ND						
Methyl-t-Butyl Ether	ND						
Toluene	ND						
Total Xylenes	ND						
SHS-17							
Lab pH	7.2						
Lab Conductivity @25 C	3270						
Total Dissolved Solids (Calc)	2550						
Total Alkalinity as CaCO3	275						
Total Hardness as CaCO3	832						
Bicarbonate as HCO3	335						
Carbonate as CO3	ND						
Hydroxide	ND						
Chloride	190						
Sulfate	1050						
Calcium	272						
Magnesium	37.3						
Potassium	2.7						
Sodium	386						
HALOCARBONS							
Bromodichloromethane	ND						
Bromoform	ND						
Bromomethane	ND						
Carbon Tetrachloride	ND						
Chloroethane	ND						
Chloroform	ND						
Chloromethane	ND						
Dibromochloromethane	ND						
1,2-Dibromoethane (EDB)	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
1,1-Dichloroethane	ND						
1,2-Dichloroethane (EDC)	ND						
1,1-Dichloroethene	ND						
cis-1,2-Dichloroethene	ND						
trans-1,2-Dichloroethene	ND						
1,2-Dichloropropane	ND						
cis-1,3-Dichloropropene	ND						
trans-1,3-Dichloropropene	ND						
Methylene Chloride	ND						
1,1,2,2-Tetrachloroethane	ND						
Tetrachlorethene	ND						
1,1,1-Trichloroethane	ND						
1,1,2-Trichloroethane	ND						
Trichloroethene	ND						
Trichlorofluoromethane	ND						
Vinyl Chloride	ND						

	JAN	APR	JUL	AUG	OCT	NOV	DEC
AROMATICS							
Benzene	ND						
Chlorobenzene	ND						
1,2-Dichlorobenzene	ND						
1,3-Dichlorobenzene	ND						
1,4-Dichlorobenzene	ND						
Ethylbenzene	ND						
Methyl-t-Butyl Ether	ND						
Toluene	ND						
Total Xylenes	ND						

SHS-18 Not sampled; product detected

**GIANT REFINING BLOOMFIELD REFINERY
QUARTERLY POTENTIOMETRIC SURFACE**

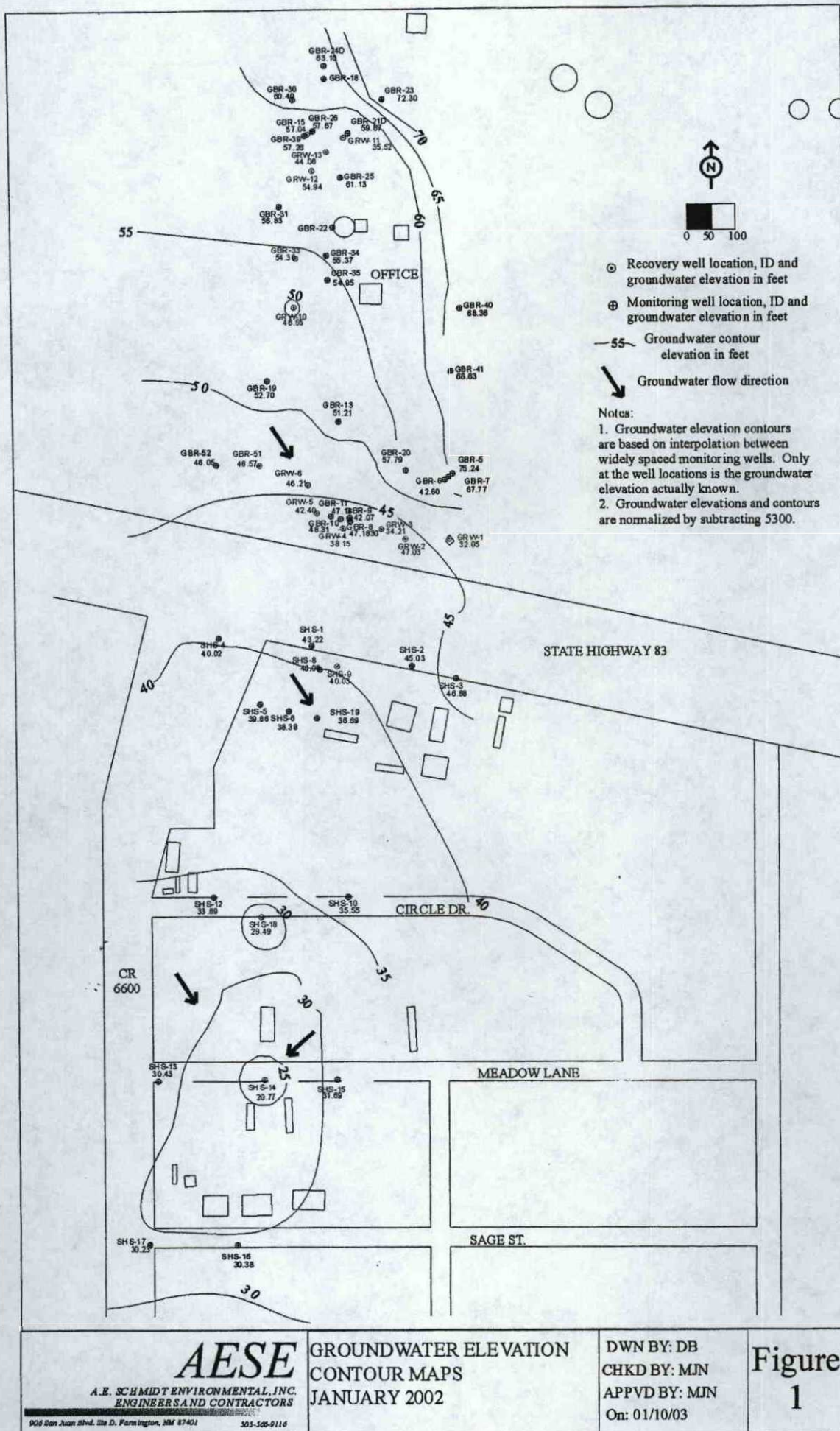
JANUARY, 2002

WELL #	WELLHEAD ELEVATION IN FEET	DEPTH TO WATER IN FEET	DEPTH TO PRODUCT IN FEET	PRODUCT THICKNESS IN FEET	ADJUSTED WSEL* IN FEET
GRW-1	5394.30	62.25	62.25	0.00	5332.05
GRW-2	5391.28	44.25	44.25	0.00	5347.03
GRW-3	5388.77	54.56	54.56	0.00	5334.21
GRW-4	5390.02	51.87	51.87	0.00	5338.15
GRW-5	5390.56	48.16	48.16	0.00	5342.40
GRW-6	5390.81	44.60	44.60	0.00	5346.21
GRW-10	5395.02	49.10	48.31	0.79	5346.55
GRW-11	5397.85	62.33	62.33	0.00	5335.52
GRW-12	5397.24	42.30	42.30	0.00	5354.94
GRW-13	5396.90	52.84	52.84	0.00	5344.06
GBR-5	5395.07	19.83	19.83	0.00	5375.24
GBR-6	5395.70	52.90	52.90	0.00	5342.80
GBR-7	5395.85	28.18	28.05	0.13	5367.77
GBR-8	5390.50	42.20	42.20	0.00	5348.30
GBR-9	5389.92	47.85	47.85	0.00	5342.07
GBR-10	5390.57	42.26	42.26	0.00	5348.31
GBR-11	5389.43	42.32	42.23	0.09	5347.18
GBR-13	5393.04	41.83	41.83	0.00	5351.21
GBR-15	5397.99	40.95	40.95	0.00	5357.04
GBR-18	5421.68	34.65	34.65	0.00	5387.03
GBR-19	5393.83	41.32	41.08	0.24	5352.70
GBR-20	5393.47	35.70	35.68	0.02	5357.79
GBR-21S	5400.65	27.00	26.86	0.14	5373.76
GBR-21D	5400.19	40.52	40.52	0.00	5359.67
GBR-22	5395.91	Dry	Dry	0.00	5395.91
GBR-23	5403.72	28.72	28.70	0.02	5372.30
GBR-24S	5396.08	31.46	31.44	0.02	5362.43
GBR-24D	5396.77	33.67	33.67	0.00	5363.10
GBR-25	5396.72	37.30	36.35	0.95	5361.13
GBR-26	5395.59	37.92	37.92	0.00	5357.67
GBR-30	5396.58	36.18	36.18	0.00	5360.40
GBR-31	5394.86	38.03	38.03	0.00	5356.83
GBR-33	5396.28	41.98	41.98	0.00	5354.30
GBR-34	5394.00	39.61	38.38	1.23	5355.37
GBR-35	5393.66	40.21	38.33	1.88	5354.95
GBR-39	5397.55	40.29	40.29	0.00	5357.26
GBR-40	5400.76	32.40	32.40	0.00	5368.36
GBR-41	5396.35	27.52	27.52	0.00	5368.83
GBR-51	5389.68	43.11	43.11	0.00	5346.57
GBR-52	5387.74	41.69	41.69	0.00	5346.05

GIANT REFINING BLOOMFIELD REFINERY
 QUARTERLY POTENTIOMETRIC SURFACE
 JANUARY, 2002
 Page 2

WELL #	WELLHEAD ELEVATION IN FEET	DEPTH TO WATER IN FEET	DEPTH TO PRODUCT IN FEET	PRODUCT THICKNESS IN FEET	ADJUSTED WSEL* IN FEET
SHS-1	5383.54	40.38	40.30	0.08	5343.22
SHS-2	5381.66	36.63	36.63	0.00	5345.03
SHS-3	5383.33	36.45	36.45	0.00	5346.88
SHS-4	5383.62	43.60	43.60	0.00	5340.02
SHS-5	5378.36	38.50	38.50	0.00	5339.86
SHS-6	5378.17	39.79	39.79	0.00	5338.38
SHS-8	5380.25	40.97	40.00	0.97	5340.06
SHS-9	5380.79	40.76	40.76	0.00	5340.03
SHS-10	5373.80	38.25	38.25	0.00	5335.55
SHS-12	5373.94	40.25	40.25	0.00	5333.69
SHS-13	5367.81	37.38	37.38	0.00	5330.43
SHS-14	5367.07	46.30	46.30	0.00	5320.77
SHS-15	5366.21	34.52	34.52	0.00	5331.69
SHS-16	5362.58	32.20	32.20	0.00	5330.38
SHS-17	5364.35	34.12	34.12	0.00	5330.23
SHS-18	5373.64	44.15	44.15	0.00	5329.49
SHS-19	5378.89	42.20	42.20	0.00	5336.69

* WSEL - WATER SURFACE ELEVATION ADJUSTED FOR PRODUCT DEPTH



AESE

A.E. SCHMIDT ENVIRONMENTAL, INC.
ENGINEERS AND CONTRACTORS

906 San Juan Blvd. Ste D, Farmington, NM 87401 505-596-9114

GROUNDWATER ELEVATION
CONTOUR MAPS
JANUARY 2002

DWN BY: DB
CHKD BY: MJN
APPVD BY: MJN
On: 01/10/03

Figure
1

**GIANT REFINING BLOOMFIELD REFINERY
QUARTERLY POTENTIOMETRIC SURFACE**

APRIL, 2002

WELL #	WELLHEAD ELEVATION IN FEET	DEPTH TO WATER IN FEET	DEPTH TO PRODUCT IN FEET	PRODUCT THICKNESS IN FEET	ADJUSTED WSEL* IN FEET
GRW-1	5394.30	62.60	62.60	0.00	5331.70
GRW-2	5391.28	45.40	45.40	0.00	5345.88
GRW-3	5388.77	54.24	54.24	0.00	5334.53
GRW-4	5390.02	51.48	51.48	0.00	5338.54
GRW-5	5390.56	47.92	47.92	0.00	5342.64
GRW-6	5390.81	45.24	45.24	0.00	5345.57
GRW-10	5395.02	48.75	48.00	0.75	5346.87
GRW-11	5397.85	63.20	63.20	0.00	5334.65
GRW-12	5397.24	45.88	45.88	0.00	5351.36
GRW-13	5396.90	55.06	55.06	0.00	5341.84
GBR-5	5395.07	27.40	27.40	0.00	5367.67
GBR-6	5395.70	53.30	53.30	0.00	5342.40
GBR-7	5395.85	29.44	29.38	0.06	5366.46
GBR-8	5390.50	42.33	42.33	0.00	5348.17
GBR-9	5389.92	47.28	47.28	0.00	5342.64
GBR-10	5390.57	42.27	42.27	0.00	5348.30
GBR-11	5389.43	42.43	42.35	0.08	5347.06
GBR-13	5393.04	42.17	42.17	0.00	5350.87
GBR-15	5397.99	41.09	41.09	0.00	5356.90
GBR-18	5421.68	34.18	34.18	0.00	5387.50
GBR-19	5393.83	43.19	42.10	1.09	5351.51
GBR-20	5393.47	37.62	37.60	0.02	5355.87
GBR-21S	5400.65	27.89	27.85	0.04	5372.79
GBR-21D	5400.19	40.50	40.50	0.00	5359.69
GBR-22	5395.91	0.00	0.00	0.00	5395.91
GBR-23	5403.72	29.04	29.02	0.02	5372.23
GBR-24S	5396.08	31.54	31.51	0.03	5362.23
GBR-24D	5396.77	33.87	33.87	0.00	5362.90
GBR-25	5396.72	37.75	36.43	1.32	5361.35
GBR-26	5395.59	37.95	37.95	0.00	5357.64
GBR-30	5396.58	36.20	36.20	0.00	5360.38
GBR-31	5394.86	38.09	38.09	0.00	5356.77
GBR-33	5396.28	41.03	41.03	0.00	5355.25
GBR-34	5394.00	38.26	38.23	0.03	5355.76
GBR-35	5393.66	38.44	38.40	0.04	5355.25
GBR-39	5397.55	40.28	40.28	0.00	5357.27
GBR-40	5400.76	32.41	32.41	0.00	5368.35
GBR-41	5396.35	27.55	27.55	0.00	5368.80
GBR-51	5389.68	43.18	43.18	0.00	5346.50
GBR-52	5387.74	41.73	41.73	0.00	5346.01

GIANT REFINING BLOOMFIELD REFINERY
 QUARTERLY POTENTIOMETRIC SURFACE
 APRIL, 2002
 Page 2

WELL #	WELLHEAD ELEVATION IN FEET	DEPTH TO WATER IN FEET	DEPTH TO PRODUCT IN FEET	PRODUCT THICKNESS IN FEET	ADJUSTED WSEL* IN FEET
SHS-1	5383.54	40.28	40.28	0.00	5343.26
SHS-2	5381.66	36.79	36.79	0.00	5344.87
SHS-3	5383.33	36.59	36.59	0.00	5346.74
SHS-4	5383.62	42.63	42.63	0.00	5340.99
SHS-5	5378.36	39.57	39.57	0.00	5338.79
SHS-6	5378.17	39.80	39.80	0.00	5338.37
SHS-8	5380.25	40.03	40.03	0.00	5340.22
SHS-9	5380.79	42.96	42.96	0.00	5337.83
SHS-10	5373.80	37.60	37.60	0.00	5336.20
SHS-12	5373.94	40.71	40.71	0.00	5333.23
SHS-13	5367.81	37.25	37.25	0.00	5330.56
SHS-14	5367.07	44.33	44.33	0.00	5322.74
SHS-15	5366.21	34.40	34.40	0.00	5331.81
SHS-16	5362.58	32.08	32.08	0.00	5330.50
SHS-17	5364.35	34.98	34.98	0.00	5329.37
SHS-18	5373.64	44.12	44.12	0.00	5329.52
SHS-19	5378.89	41.60	41.60	0.00	5337.29

* WSEL - WATER SURFACE ELEVATION ADJUSTED FOR PRODUCT DEPTH

**GIANT REFINING BLOOMFIELD REFINERY
QUARTERLY POTENTIOMETRIC SURFACE**

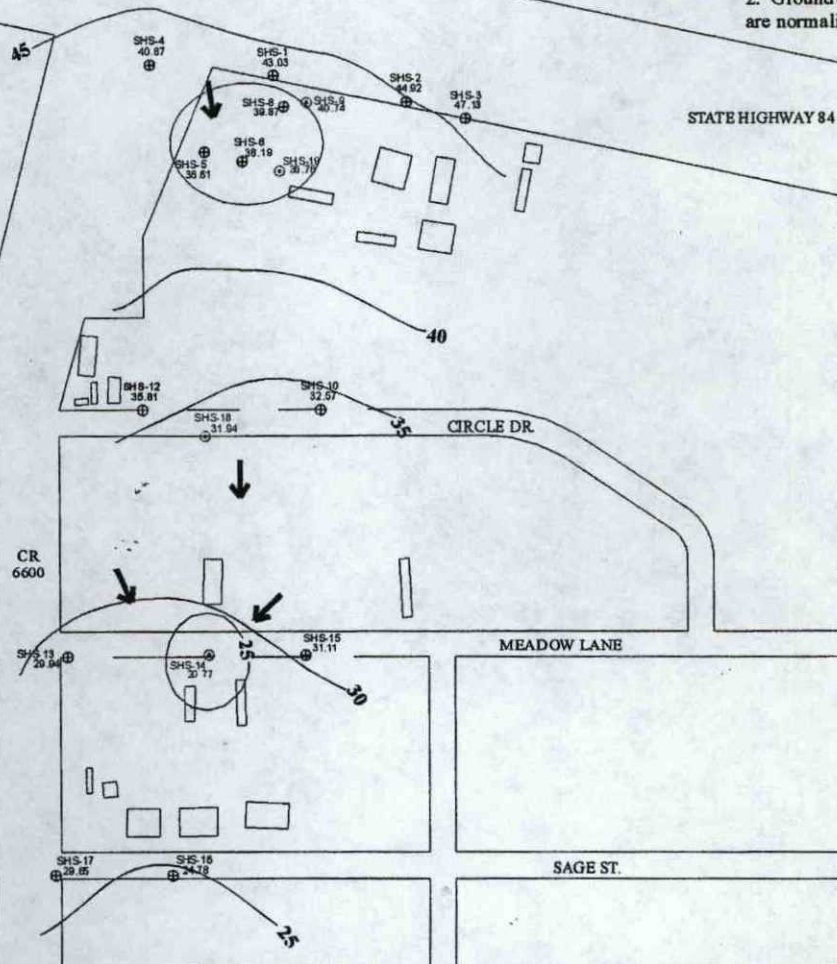
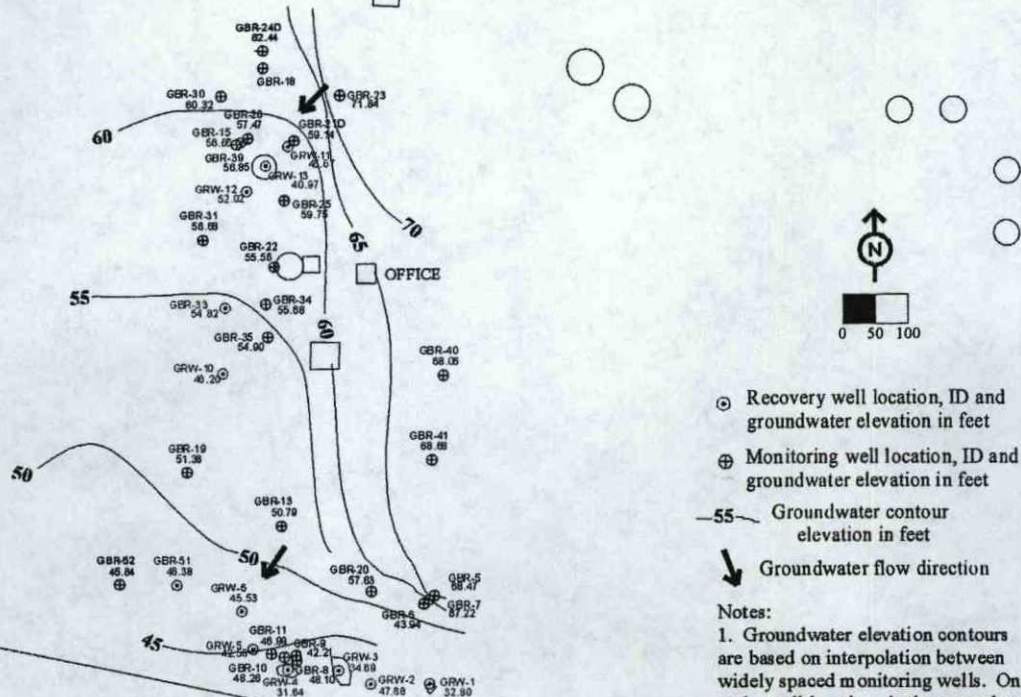
JULY, 2002

WELL #	WELLHEAD ELEVATION IN FEET	DEPTH TO WATER IN FEET	DEPTH TO PRODUCT IN FEET	PRODUCT THICKNESS IN FEET	ADJUSTED WSEL* IN FEET
GRW-1	5394.30	61.50	61.50	0.00	5332.80
GRW-2	5391.28	43.40	43.40	0.00	5347.88
GRW-3	5388.77	54.08	54.08	0.00	5334.69
GRW-4	5390.02	58.38	58.38	0.00	5331.64
GRW-5	5390.56	47.98	47.98	0.00	5342.58
GRW-6	5390.81	45.28	45.28	0.00	5345.53
GRW-10	5395.02	48.82	48.82	0.00	5346.20
GRW-11	5397.85	52.18	52.18	0.00	5345.67
GRW-12	5397.24	45.22	45.22	0.00	5352.02
GRW-13	5396.90	55.93	55.93	0.00	5340.97
GBR-5	5395.07	26.60	26.60	0.00	5368.47
GBR-6	5395.70	51.76	51.76	0.00	5343.94
GBR-7	5395.85	28.68	28.62	0.06	5367.22
GBR-8	5390.50	42.40	42.40	0.00	5348.10
GBR-9	5389.92	47.71	47.71	0.00	5342.21
GBR-10	5390.57	42.31	42.31	0.00	5348.26
GBR-11	5389.43	42.54	42.42	0.12	5346.99
GBR-13	5393.04	42.25	42.25	0.00	5350.79
GBR-15	5397.99	41.33	41.33	0.00	5356.66
GBR-18	5421.68	34.78	34.78	0.00	5386.90
GBR-19	5393.83	43.30	42.24	1.06	5351.38
GBR-20	5393.47	35.84	35.84	0.00	5357.63
GBR-21S	5400.65	28.92	28.92	0.00	5371.73
GBR-21D	5400.19	41.05	41.05	0.00	5359.14
GBR-22	5395.91	40.35	40.35	0.00	5355.56
GBR-23	5403.72	29.11	29.08	0.03	5371.84
GBR-24S	5396.08	31.90	31.90	0.00	5361.75
GBR-24D	5396.77	34.33	34.33	0.00	5362.44
GBR-25	5396.72	36.97	36.97	0.00	5359.75
GBR-26	5395.59	38.12	38.12	0.00	5357.47
GBR-30	5396.58	36.26	36.26	0.00	5360.32
GBR-31	5394.86	38.18	38.18	0.00	5356.68
GBR-33	5396.28	41.46	41.46	0.00	5354.82
GBR-34	5394.00	38.65	38.24	0.41	5355.68
GBR-35	5393.66	39.80	38.50	1.30	5354.90
GBR-39	5397.55	40.70	40.70	0.00	5356.85
GBR-40	5400.76	32.70	32.70	0.00	5368.06
GBR-41	5396.35	27.67	27.67	0.00	5368.68
GBR-51	5389.68	43.30	43.30	0.00	5346.38
GBR-52	5387.74	41.90	41.90	0.00	5345.84

GIANT REFINING BLOOMFIELD REFINERY
 QUARTERLY POTENTIOMETRIC SURFACE
 JULY, 2002
 Page 2

WELL #	WELLHEAD ELEVATION IN FEET	DEPTH TO WATER IN FEET	DEPTH TO PRODUCT IN FEET	PRODUCT THICKNESS IN FEET	ADJUSTED WSEL* IN FEET
SHS-1	5383.54	40.55	40.50	0.05	5343.03
SHS-2	5381.66	36.74	36.74	0.00	5344.92
SHS-3	5383.33	36.20	36.20	0.00	5347.13
SHS-4	5383.62	42.75	42.75	0.00	5340.87
SHS-5	5378.36	41.75	41.75	0.00	5336.61
SHS-6	5378.17	39.98	39.98	0.00	5338.19
SHS-8	5380.25	41.20	40.18	1.02	5339.87
SHS-9	5380.79	40.05	40.05	0.00	5340.74
SHS-10	5373.80	41.23	41.23	0.00	5332.57
SHS-12	5373.94	38.13	38.13	0.00	5335.81
SHS-13	5367.81	37.87	37.87	0.00	5329.94
SHS-14	5367.07	46.30	46.30	0.00	5320.77
SHS-15	5366.21	35.10	35.10	0.00	5331.11
SHS-16	5362.58	37.80	37.80	0.00	5324.78
SHS-17	5364.35	34.70	34.70	0.00	5329.65
SHS-18	5373.64	41.70	41.70	0.00	5331.94
SHS-19	5378.89	42.13	42.13	0.00	5336.76

* WSEL - WATER SURFACE ELEVATION ADJUSTED FOR PRODUCT DEPTH



AESE

A. E. SCHMIDT ENVIRONMENTAL, INC.
ENGINEERS AND CONTRACTORS

906 San Juan Blvd Ste D Farmington, NM 87431

505-566-9116

GROUNDWATER ELEVATION
CONTOUR MAPS
JULY 2002

DWN BY: DB:
CHKD BY: MJN
APPVD BY: MJN
DATE: 01/14/04

Figure
3

**GIANT REFINING BLOOMFIELD REFINERY
QUARTERLY POTENTIOMETRIC SURFACE**

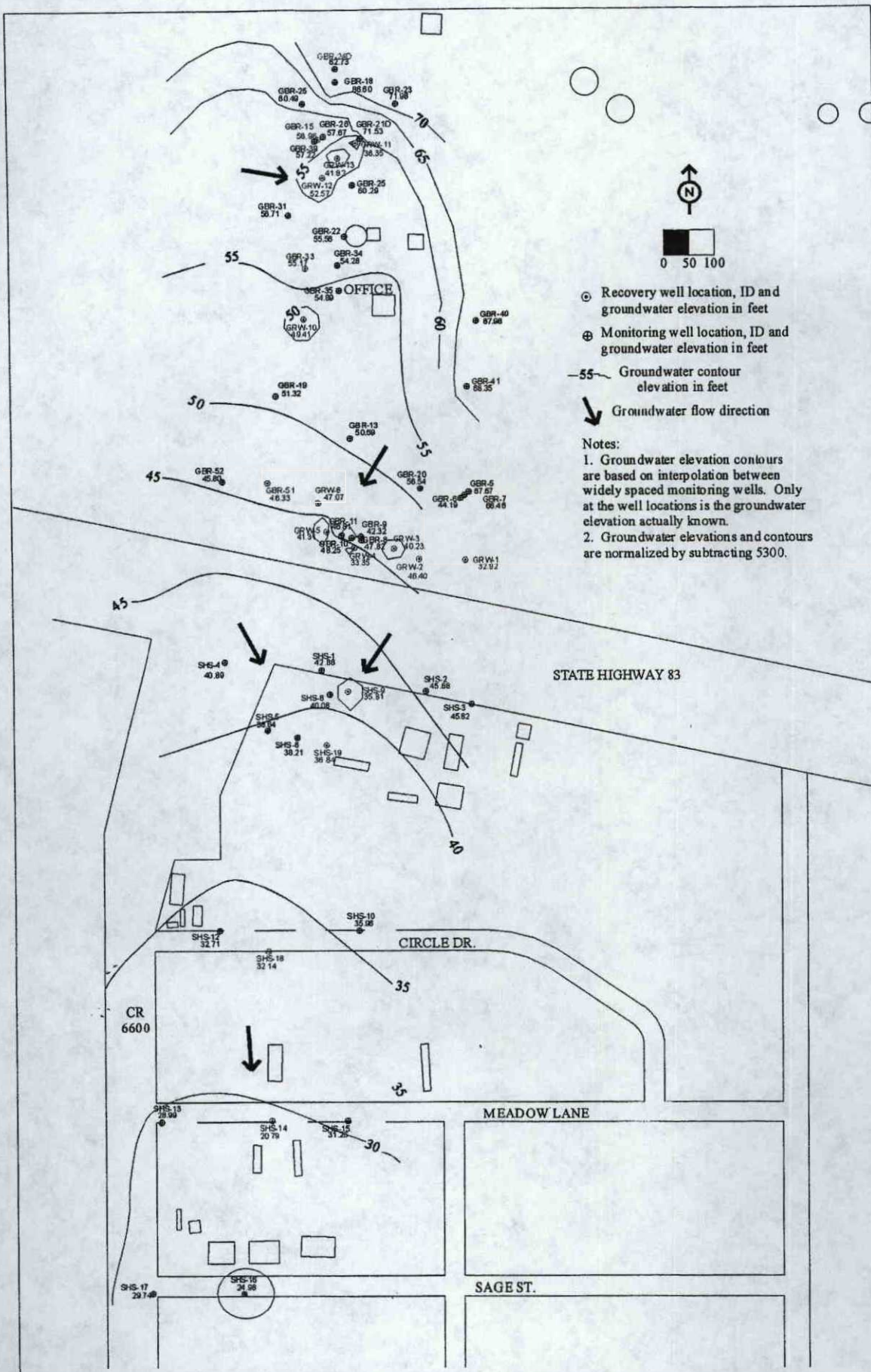
OCTOBER, 2002

WELL #	WELLHEAD ELEVATION IN FEET	DEPTH TO WATER IN FEET	DEPTH TO PRODUCT IN FEET	PRODUCT THICKNESS IN FEET	ADJUSTED WSEL* IN FEET
GRW-1	5394.30	61.38	61.38	0.00	5332.92
GRW-2	5391.28	44.88	44.88	0.00	5346.40
GRW-3	5388.77	48.54	48.54	0.00	5340.23
GRW-4	5390.02	56.67	56.67	0.00	5333.35
GRW-5	5390.56	49.25	49.25	0.00	5341.31
GRW-6	5390.81	43.74	43.74	0.00	5347.07
GRW-10	5395.02	46.45	45.40	1.05	5349.41
GRW-11	5397.85	61.50	61.50	0.00	5336.35
GRW-12	5397.24	44.67	44.67	0.00	5352.57
GRW-13	5396.90	55.08	55.08	0.00	5341.82
GBR-5	5395.07	27.40	27.40	0.00	5367.67
GBR-6	5395.70	51.51	51.51	0.00	5344.19
GBR-7	5395.85	29.49	29.36	0.13	5366.46
GBR-8	5390.50	42.68	42.68	0.00	5347.82
GBR-9	5389.92	47.60	47.60	0.00	5342.32
GBR-10	5390.57	42.32	42.32	0.00	5348.25
GBR-11	5389.43	42.72	42.60	0.12	5346.81
GBR-13	5393.04	42.47	42.45	0.02	5350.59
GBR-15	5397.99	41.03	41.03	0.00	5356.96
GBR-18	5421.68	35.08	35.08	0.00	5386.60
GBR-19	5393.83	43.34	42.30	1.04	5351.32
GBR-20	5393.47	36.98	36.92	0.06	5356.54
GBR-21S	5400.65	41.10	41.10	0.00	5359.55
GBR-21D	5400.19	28.66	28.66	0.00	5371.53
GBR-22	5395.91	40.35	40.35	0.00	5355.56
GBR-23	5403.72	28.90	28.88	0.02	5371.98
GBR-24S	5396.08	31.78	31.76	0.02	5362.06
GBR-24D	5396.77	34.04	34.04	0.00	5362.73
GBR-25	5396.72	38.50	37.35	1.15	5360.29
GBR-26	5395.59	37.92	37.92	0.00	5357.67
GBR-30	5396.58	36.09	36.09	0.00	5360.49
GBR-31	5394.86	38.15	38.15	0.00	5356.71
GBR-33	5396.28	41.11	41.11	0.00	5355.17
GBR-34	5394.00	39.83	39.69	0.14	5354.28
GBR-35	5393.66	39.75	38.52	1.23	5354.89
GBR-39	5397.55	40.33	40.33	0.00	5357.22
GBR-40	5400.76	32.78	32.78	0.00	5367.98
GBR-41	5396.35	28.00	28.00	0.00	5368.35
GBR-51	5389.68	43.35	43.35	0.00	5346.33
GBR-52	5387.74	41.94	41.94	0.00	5345.80

GIANT REFINING BLOOMFIELD REFINERY
 QUARTERLY POTENTIOMETRIC SURFACE
 OCTOBER, 2002
 Page 2

WELL #	WELLHEAD ELEVATION IN FEET	DEPTH TO WATER IN FEET	DEPTH TO PRODUCT IN FEET	PRODUCT THICKNESS IN FEET	ADJUSTED WSEL* IN FEET
SHS-1	5383.54	40.66	40.66	0.00	5342.88
SHS-2	5381.66	35.98	35.98	0.00	5345.68
SHS-3	5383.33	37.51	37.51	0.00	5345.82
SHS-4	5383.62	42.73	42.73	0.00	5340.89
SHS-5	5378.36	39.72	39.72	0.00	5338.64
SHS-6	5378.17	39.96	39.96	0.00	5338.21
SHS-8	5380.25	40.17	40.17	0.00	5340.08
SHS-9	5380.79	44.98	44.98	0.00	5335.81
SHS-10	5373.80	37.84	37.84	0.00	5335.96
SHS-12	5373.94	41.23	41.23	0.00	5332.71
SHS-13	5367.81	38.82	38.82	0.00	5328.99
SHS-14	5367.07	46.28	46.28	0.00	5320.79
SHS-15	5366.21	34.95	34.95	0.00	5331.26
SHS-16	5362.58	37.60	37.60	0.00	5324.98
SHS-17	5364.35	34.61	34.61	0.00	5329.74
SHS-18	5373.64	41.50	41.50	0.00	5332.14
SHS-19	5378.89	42.05	42.05	0.00	5336.84

* WSEL - WATER SURFACE ELEVATION ADJUSTED FOR PRODUCT DEPTH



AESE A.E. SCHMIDT ENVIRONMENTAL, INC. ENGINEERS AND CONTRACTORS 505 San Juan Blvd Ste D Farmington, MD 21741 303-566-9116	GROUNDWATER ELEVATION CONTOUR MAPS OCTOBER 2002	DRWN BY: DB CHKD BY: MJN APPVD BY: MJN DATE: 01/13/03	Figure 4
---	--	--	---------------------

**GIANT REFINING COMPANY
BLOOMFIELD REFINERY
VOLUME CHANGE**

2002

Tank Number	Beginning Volume	Ending Volume	Net Change
102	15,025	13,792	(1,233)
106	8,010	8,010	0
21	230,133	230,133	0
22	249,979	217,773	(32,206)
Total Net Volume Change			(33,439)

**GIANT REFINING COMPANY
BLOOMFIELD REFINERY
RECOVERY WELL
VOLUME TABULATION**

2002

Well	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Total
GRW-1	33,480	29,350	29,870	28,520	121,220
GRW-2	23,180	21,080	16,800	14,970	76,030
GRW-3	52,990	41,430	34,470	25,690	154,580
GRW-4	37,320	24,190	30,500	26,820	118,830
GRW-5	68,740	52,960	57,750	45,740	225,190
GRW-6	49,910	67,890	29,530	8,130	155,460
GRW-9	57,760	42,080	32,080	27,490	159,410
GRW-10	561,370	464,220	469,630	377,240	1,872,460
GRW-11	34,090	19,870	47,940	89,710	191,610
GRW-12	8,960	4,860	8,730	8,840	31,390
GRW-13	10,870	6,990	11,110	7,560	36,530
SHS-9	7,487	5,399	6,205	6,815	25,906
SHS-14	257,953	230,673	278,964	259,469	1,027,059
SHS-18	62,152	83,630	31,857	59,148	236,787
SHS-19	98,652	82,452	93,699	73,158	347,961
TOTAL VOLUME PUMPED IN GALLONS					4,780,423

**GIANT REFINING COMPANY
BLOOMFIELD REFINERY
TOTAL VOLUME SUMMARY**

2002

Total Volume Of Water Recovered	4,780,423
Net Change In Storage Volume	<u>(33,439)</u>
Total Water Treated And Pumped To The Infiltration Gallery	<u><u>4,813,862</u></u>