

ENTERED



*sta*

50 Road 4990  
P.O. Box 159  
Bloomfield, New Mexico 87413  
505  
632-8013

March 18, 1998

Benito Garcia  
HRMB Program Manager  
New Mexico Environment Department  
P. O. Box 26110  
Santa Fe, New Mexico 87502

Re: Groundwater Report  
Giant Refining Company - Bloomfield

Dear Mr. Garcia:

Giant Refining Company - Bloomfield submits a copy of the analytical results from the last sampling of the RCRA wells associated with the Oily Water Ponds at this facility. Please remember that these wells are impacted by a hydrocarbon plume from other sources and, as such, the results of this sampling event should be evaluated accordingly.

Monitor wells RW-15 and RW-18 are part of the facilities hydrocarbon recovery system.

If you require additional information, please contact me at (505) 632 8013.

Sincerely:

A handwritten signature in cursive script that reads "Lynn Shelton".

Lynn Shelton  
Environmental Manager  
Giant Refining Company - Bloomfield

TLS/tls

Enclosure

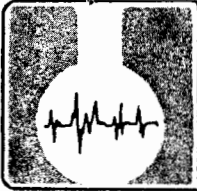
GIANT REFINING COMPANY - BLOOMFIELD						
GROUNDWATER MONITORING - RCRA PART B PERMIT						
PARAMETER	UNIT	UP GRADIENT		DOWN GRADIENT		
		MW-21	RW-15	MW-20	MW-9	RW-18
Date of Sample		11/17/97	11/17/97	11/18/97	11/18/97	11/18/97
HYDROCARBON INDICATORS						
Benzene	mg/l	0.7	17	0.16	17	4.7
Ethylbenzene	mg/l	0.17	3.4	0.051	0.83	1.2
Toluene	mg/l	ND	20	0.31	0.76	0.14
Xylenes (total)	mg/l	0.47	14	0.2	6.07	380
pH	s.u.	6.99	7.13	6.81	7.04	6.88
pH	s.u.	6.99	7.13	6.82	7.03	6.89
pH	s.u.	6.99	7.13	6.81	7.02	6.89
pH	s.u.	6.99	7.13	6.84	7.01	6.88
Specific Conductance	us/cm	765	555	322	216	280
Specific Conductance	us/cm	747	556	320	218	260
Specific Conductance	us/cm	744	545	318	257	257
Specific Conductance	us/cm	749	554	324	269	269
Total Organic Carbon	mg/l	26.0	49.0	36.0	71.0	50
Total Organic Halogen	mg/l	0.24	0.078	<0.005	<0.005	0.18
GROUNDWATER LEVELS						
Elevation - TOP	feet	5518.62	5533.44	5516.46	5519.77	5526.08
Depth to Water	feet	20.0	33.6	18.3	21.8	27
Elevation - GW	feet	5498.62	5499.84	5498.16	5497.97	5499.08
HC Thickness	feet	0	0	0	0	0
Elevation - Liquid	feet	5498.62	5499.84	5498.16	5497.97	5499.08
Total Depth from TOP	feet	30.44	43.6	27.12	34.94	39.7

WELL PUMPING & SAMPLING LOG

WELL #	MW-1	MW-5	MW-21	RW-15	MW-20	MW-9	RW-18
PURGE DATE	11-17-97	11-17-97	11-17-97	11-17-97	11-18-97	11-18-97	11-18-97
PURGE TIME	11:55	* 09:15	13:05	14:10	08:55	10:15	* 11:40
TOP OF LIQUID	17' 6"	44' 2"	20' 0"	33' 6"	18' 3"	21' 8"	27' 0"
TOP OF WATER	17' 6"	44' 2"	20' 0"	33' 6"	18' 3"	21' 8"	27' 0"
PUMP DEPTH	21' 6"	46' 4"	30' 4"	43' 6"	27' 1"	34' 0"	39' 7"
IMMISC. LAYER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLOW RATE	0.55 GPM	N/A	0.62 GPM	0.5 GPM	0.66 GPM	0.92 GPM	N/A
PUMP TIME	10 min	N/A	25 min	30 min	20 min	20 min	N/A
PUMP METHOD	Purge P.	Bailer	Purge P.	Purge P.	Purge P.	Purge P.	Bailer
SAMPLE TIME	12:15	11:10	13:40	14:40	09:20	10:45	12:45
LIQUID DEPTH	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1) pH	7.39	6.63	6.99	7.13	6.81	7.04	6.88
SP. COND.	287	1425	765	555	322	216	280
2) pH	7.40	6.64	6.99	7.13	6.82	7.03	6.89
SP. COND.	289	1423	747	556	320	218	260
3) pH	7.40	6.64	6.99	7.13	6.81	7.02	6.89
SP. COND.	284	1420	744	545	318	219	257
4) pH	7.40	6.65	6.99	7.13	6.84	7.01	6.88
SP. COND.	284	1417	749	554	324	216	269

SAMPLER'S SIGNATURE \_\_\_\_\_

COMMENTS \* Hand Bailed  
 \_\_\_\_\_  
 \_\_\_\_\_



**ASSAIGAI  
ANALYTICAL  
LABORATORIES, INC.**

7300 Jefferson, N.E. • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259

3332 Wedgewood, E-5 • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820

**GIANT REFINING-BLOOMFIELD**  
attn: LYNN SHELTON  
PO BOX 159  
BLOOMFIELD NM 87413

**\* explanation of codes**

B	Analyte detected in Method Blank
E	Result is estimated
M	See explanatory memo

Assaigai Analytical Laboratories, Inc.

**Certificate of Analysis**

Client: **GIANT REFINING-BLOOMFIELD**  
Project: **9711127 MONITOR WELLS**

*William P. Biava*  
William P. Biava: President of Assaigai Analytical Laboratories, Inc.

Client Sample ID	MONITOR WELL FB-05		Sample Matrix	WATER					
Collect	Fraction	QC Group	Analyte	Result	Units	Limit	*	Run Group - #	Run Date
8010-20									
11/17/97	9711127-01A	X97400	Benzene	< 1.0	ug / L	1		XG.1997.315 - 4	11/21/97
		X97400	Ethylbenzene	< 1.0	ug / L	1		XG.1997.315 - 4	
		X97400	O-Xylene	< 1.0	ug / L	1		XG.1997.315 - 4	
		X97400	P/M-Xylenes	< 2.0	ug / L	2		XG.1997.315 - 4	
		X97400	Toluene	< 1.0	ug / L	1		XG.1997.315 - 4	

Client Sample ID	MONITOR WELL-05		Sample Matrix	WATER					
Collect	Fraction	QC Group	Analyte	Result	Units	Limit	*	Run Group - #	Run Date
8010-20									
11/17/97	9711127-02A	X97400	Benzene	< 1.0	ug / L	1		XG.1997.315 - 5	11/21/97
		X97400	Ethylbenzene	< 1.0	ug / L	1		XG.1997.315 - 5	
		X97400	O-Xylene	< 1.0	ug / L	1		XG.1997.315 - 5	
		X97400	P/M-Xylenes	< 2.0	ug / L	2		XG.1997.315 - 5	
		X97400	Toluene	< 1.0	ug / L	1		XG.1997.315 - 5	
EPA-200 series AA-GF									
11/17/97	9711127-02B	M97858	Cadmium	< 0.0010	mg / L	0.001		MW.1997.962 - 25	12/05/97
		M97858	Lead	< 0.002	mg / L	0.002		MW.1997.946 - 14	12/01/97
EPA-200.7 ICP									
11/17/97	9711127-02B	M97853	Barium	0.02	mg / L	0.01		MW.1997.963 - 19	12/04/97
		M97853	Boron	0.5	mg / L	0.1		MW.1997.963 - 19	
		M97853	Chromium	< 0.04	mg / L	0.04		MW.1997.963 - 19	
		M97853	Iron	< 0.2	mg / L	0.2		MW.1997.963 - 19	
		M97853	Manganese	0.302	mg / L	0.01		MW.1997.963 - 19	
SW846-7000 series AA-GF									
11/17/97	9711127-02B	M97857	Arsenic	< 0.005	mg / L	0.005		MW.1997.947 - 17	12/02/97



Assagai Analytical Laboratories, Inc.  
**Certificate of Analysis**

Client: **GIANT REFINING-BLOOMFIELD**  
Project: **9711127 MONITOR WELLS**

		EPA-160 series					
11/17/97	9711127-02C	WTDS-430	Total Dissolved Solids	6240	mg / L	10	MT.1997.328 - 5 11/21/97
		EPA-300 series					
11/17/97	9711127-02C	W97531	Chloride	2530	mg / L	0.5	MW.1997.1068 - 7 12/03/97
		W97530	Sulfate	902	mg / L	0.5	MW.1997.939 - 10 11/26/97
		EPA-300 series					
11/17/97	9711127-02D	W97520	Nitrate, Nitrogen	12.2	mg N / L	0.2	MW.1997.909 - 26 11/19/97
		SM-4500					
11/17/97	9711127-02D	W97521	Ammonia	0.3	mg / L	0.2	MW.1997.908 - 11 11/20/97
		W97522	Kjeldahl Nitrogen, Total	2.2	mg / L	0.2	MW.1997.910 - 14
		EPA-335 / SM-4500					
11/17/97	9711127-02E	W97523	Cyanide	< 0.02	mg / L	0.02	MW.1997.916 - 10 11/20/97
		SM-9065 / EPA-420.1					
11/17/97	9711127-02F	W97533	Phenol	< 0.05	mg / L	0.05	E MW.1997.952 - 8 12/03/97

Client **MONITOR WELL-01** Sample Matrix **WATER**

Collect	Fraction	QC Group	Analyte	Result	Units	Limit *	Run Group - #	Run Date
		SW846-8020 Volatiles						
11/17/97	9711127-03A	X97417	Benzene	< 1.0	ug / L	1	XG.1997.324 - 6	11/26/97
		X97417	Ethylbenzene	< 1.0	ug / L	1	XG.1997.324 - 6	
		X97417	o-Xylene	< 1.0	ug / L	1	XG.1997.324 - 6	
		X97417	p/m Xylenes	< 2.0	ug / L	2	XG.1997.324 - 6	
		X97417	Toluene	< 1.0	ug / L	1	XG.1997.324 - 6	
		EPA-200 series AA-GF						
11/17/97	9711127-03B	M97858	Cadmium	< 0.0010	mg / L	0.001	MW.1997.962 - 26	12/05/97
		M97858	Lead	< 0.002	mg / L	0.002	MW.1997.946 - 15	12/01/97
		EPA-200.7 ICP						
11/17/97	9711127-03B	M97853	Barium	0.01	mg / L	0.01	MW.1997.963 - 20	12/04/97
		M97853	Boron	0.2	mg / L	0.1	MW.1997.963 - 20	
		M97853	Chromium	< 0.04	mg / L	0.04	MW.1997.963 - 20	
		M97853	Iron	< 0.2	mg / L	0.2	MW.1997.963 - 20	
		M97853	Manganese	0.781	mg / L	0.01	MW.1997.963 - 20	
		SW846-7000 series AA-GF						
11/17/97	9711127-03B	M97857	Arsenic	< 0.005	mg / L	0.005	MW.1997.947 - 18	12/02/97
		EPA-160 series						
11/17/97	9711127-03C	WTDS-430	Total Dissolved Solids	1230	mg / L	10	MT.1997.328 - 6	11/21/97
		EPA-300 series						
11/17/97	9711127-03C	W97530	Chloride	110	mg / L	0.5	MW.1997.939 - 11	11/26/97
		W97530	Sulfate	502	mg / L	0.5	MW.1997.939 - 11	
		EPA-300 series						
11/17/97	9711127-03D	W97520	Nitrate, Nitrogen	8.7	mg N / L	0.2	MW.1997.909 - 24	11/19/97
		SM-4500						
11/17/97	9711127-03D	W97521	Ammonia	1.1	mg / L	0.2	MW.1997.908 - 13	11/20/97
		W97522	Kjeldahl Nitrogen, Total	1.6	mg / L	0.2	MW.1997.910 - 15	
		EPA-335 / SM-4500						
11/17/97	9711127-03E	W97523	Cyanide	< 0.02	mg / L	0.02	MW.1997.916 - 7	11/20/97
		SM-9065 / EPA-420.1						
11/17/97	9711127-03F	W97533	Phenol	< 0.05	mg / L	0.05	E MW.1997.952 - 9	12/03/97

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**Certificate of Analysis**

Client: **GIANT REFINING-BLOOMFIELD**  
 Project: **9711127 MONITOR WELLS**

Client Sample ID		<b>MONITOR WELL-21</b>			Sample Matrix	<b>WATER</b>			
Collect	Fraction	QC Group	Analyte	Result	Units	Limit *	Run Group - #	Run Date	
<b>8010-20</b>									
11/17/97	9711127-04A	X97407	Benzene	700	ug / L	1	XG.1997.316 - 4	11/25/97	
		X97407	Ethylbenzene	170	ug / L	1	XG.1997.316 - 4		
		X97407	O-Xylene	< 10	ug / L	1	XG.1997.316 - 4		
		X97407	P/M-Xylenes	470	ug / L	2	XG.1997.316 - 4		
		X97407	Toluene	< 10	ug / L	1	XG.1997.316 - 4		
<b>SUBCONTRACT</b>									
11/17/97	9711127-04B	ATEL-11127	Total Organic Carbon	26	mg/l		MT.1997.447 - 1	12/07/97	
<b>SUBCONTRACT</b>									
11/17/97	9711127-04C	ATEL-11127	Total Organic Halides	240	ug/l		MT.1997.447 - 2	11/26/97	

Client Sample ID		<b>RW-15</b>			Sample Matrix	<b>WATER</b>			
Collect	Fraction	QC Group	Analyte	Result	Units	Limit *	Run Group - #	Run Date	
<b>8010-20</b>									
11/17/97	9711127-05A	X97407	Benzene	17000	ug / L	1	XG.1997.316 - 7	11/25/97	
		X97407	Ethylbenzene	3400	ug / L	1	XG.1997.316 - 7		
		X97407	O-Xylene	4700	ug / L	1	XG.1997.316 - 7		
		X97407	P/M-Xylenes	14000	ug / L	2	XG.1997.316 - 7		
		X97407	Toluene	20000	ug / L	1	XG.1997.316 - 7		
<b>SUBCONTRACT</b>									
11/17/97	9711127-05B	ATEL-11127	Total Organic Carbon	49	mg/l		MT.1997.447 - 9	12/07/97	
<b>SUBCONTRACT</b>									
11/17/97	9711127-05C	ATEL-11127	Total Organic Halides	78	ug/l		MT.1997.447 - 10	11/26/97	

Client Sample ID		<b>MONITOR WELL FB-20</b>			Sample Matrix	<b>WATER</b>			
Collect	Fraction	QC Group	Analyte	Result	Units	Limit *	Run Group - #	Run Date	
<b>8010-20</b>									
11/18/97	9711127-06A	X97407	Benzene	< 1.0	ug / L	1	XG.1997.316 - 6	11/25/97	
		X97407	Ethylbenzene	< 1.0	ug / L	1	XG.1997.316 - 6		
		X97407	O-Xylene	< 1.0	ug / L	1	XG.1997.316 - 6		
		X97407	P/M-Xylenes	< 2.0	ug / L	2	XG.1997.316 - 6		
		X97407	Toluene	< 1.0	ug / L	1	XG.1997.316 - 6		

Client Sample ID		<b>MONITOR WELL-20</b>			Sample Matrix	<b>WATER</b>			
Collect	Fraction	QC Group	Analyte	Result	Units	Limit *	Run Group - #	Run Date	
<b>SW846-8020 Volatiles</b>									
11/18/97	9711127-07A	X97417	Benzene	160	ug / L	1	XG.1997.324 - 7	11/26/97	
		X97417	Ethylbenzene	51	ug / L	1	XG.1997.324 - 7		
		X97417	o-Xylene	69	ug / L	1	XG.1997.324 - 7		
		X97417	p/m Xylenes	200	ug / L	2	XG.1997.324 - 7		
		X97417	Toluene	310	ug / L	1	XG.1997.324 - 7		
<b>SUBCONTRACT</b>									
11/18/97	9711127-07B	ATEL-11127	Total Organic Carbon	36	mg/l		MT.1997.447 - 4	12/07/97	

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**Certificate of Analysis**

Client: **GIANT REFINING-BLOOMFIELD**  
Project: **9711127 MONITOR WELLS**

Client Sample ID		SUBCONTRACT		Sample Matrix		Run Group - #		Run Date
11/18/97	9711127-07C	ATEL-11127	Total Organic Halides	< 5.0	ug/l	MT.1997.447 - 3		12/02/97

Client Sample ID		MONITOR WELL-FB-09		Sample Matrix		WATER		Run Group - #		Run Date
Collect	Fraction	QC Group	Analyte	Result	Units	Limit *	Run Group - #	Run Date		
SW846-8020 Volatiles										
11/18/97	9711127-08A	X97423	Benzene	< 1.0	ug / L	1	XG.1997.325 - 6	12/01/97		
		X97423	Ethylbenzene	< 1.0	ug / L	1	XG.1997.325 - 6			
		X97423	o-Xylene	< 1.0	ug / L	1	XG.1997.325 - 6			
		X97423	p/m Xylenes	< 2.0	ug / L	2	XG.1997.325 - 6			
		X97423	Toluene	< 1.0	ug / L	1	XG.1997.325 - 6			

Client Sample ID		MONITOR WELL-09		Sample Matrix		WATER		Run Group - #		Run Date
Collect	Fraction	QC Group	Analyte	Result	Units	Limit *	Run Group - #	Run Date		
SW846-8020 Volatiles										
11/18/97	9711127-09A	X97417	Benzene	17000	ug / L	1	XG.1997.324 - 8	11/26/97		
		X97417	Ethylbenzene	830	ug / L	1	XG.1997.324 - 8			
		X97417	o-Xylene	370	ug / L	1	XG.1997.324 - 8			
		X97417	p/m Xylenes	5700	ug / L	2	XG.1997.324 - 8			
		X97417	Toluene	760	ug / L	1	XG.1997.324 - 8			
SUBCONTRACT										
11/18/97	9711127-09B	ATEL-11127	Total Organic Carbon	71	mg/l		MT.1997.447 - 5	12/07/97		
SUBCONTRACT										
11/18/97	9711127-09C	ATEL-11127	Total Organic Halides	< 5.0	ug/l		MT.1997.447 - 6	12/02/97		
EPA-300 series										
11/18/97	9711127-09E	W97520	Nitrate, Nitrogen	< 0.2	mg N/ L	0.2	MW.1997.909 - 29	11/19/97		
SM-4500										
11/18/97	9711127-09E	W97521	Ammonia	< 1.0	mg / L	0.2	MW.1997.908 - 14	11/20/97		
		W97522	Kjeldahl Nitrogen, Total	4.8	mg / L	0.2	MW.1997.910 - 16			

Client Sample ID		RW-18		Sample Matrix		WATER		Run Group - #		Run Date
Collect	Fraction	QC Group	Analyte	Result	Units	Limit *	Run Group - #	Run Date		
8010-20										
11/18/97	9711127-10A	X97407	Benzene	4700	ug / L	1	XG.1997.316 - 5	11/25/97		
		X97407	Ethylbenzene	1200	ug / L	1	XG.1997.316 - 5			
		X97407	O-Xylene	< 100	ug / L	1	XG.1997.316 - 5			
		X97407	P/M-Xylenes	380	ug / L	2	XG.1997.316 - 5			
		X97407	Toluene	140	ug / L	1	XG.1997.316 - 5			
SUBCONTRACT										
11/18/97	9711127-10B	ATEL-11127	Total Organic Carbon	50	mg/l		MT.1997.447 - 8	12/07/97		
SUBCONTRACT										
11/18/97	9711127-10C	ATEL-11127	Total Organic Halides	180	ug/l		MT.1997.447 - 7	12/02/97		

Client Sample ID		TRIP BLANK		Sample Matrix		WATER		Run Group - #		Run Date
Collect	Fraction	QC Group	Analyte	Result	Units	Limit *	Run Group - #	Run Date		
8010-20										
11/18/97	9711127-11A	X97407	Benzene	< 1.0	ug / L	1	XG.1997.316 - 9	11/26/97		

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Client: **GIANT REFINING-BLOOMFIELD**

Project: **9711127 MONITOR WELLS**

11/18/97	9711127-11A	X97407	Ethylbenzene	< 1.0	ug / L	1	XG.1997.316 - 9	11/26/97
		X97407	O-Xylene	< 1.0	ug / L	1	XG.1997.316 - 9	
		X97407	P/M-Xylenes	< 2.0	ug / L	2	XG.1997.316 - 9	
		X97407	Toluene	< 1.0	ug / L	1	XG.1997.316 - 9	