

UIC-1 - 9

**MONITORING
INJECTION
REPORTS**

DATE:

2002 →



May 9, 2002

Mr. Roger Anderson
Environmental Bureau Chief
New Mexico Oil Conservation Division
1220 S. St. Francis Dr.
Santa Fe, New Mexico 87504

Mr. Denny Foust
Deputy Oil & Gas Inspector
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

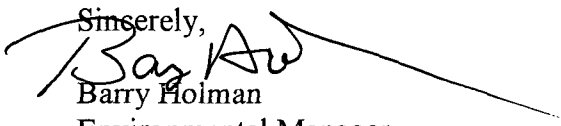
Dear Sirs,

Attached is the wastewater effluent (GW-001) and injection well (GW-130) report for San Juan Refining Company – Bloomfield for the month of April 2002.

The injection well was down for a total of 48 hours for April. Mechanical problems with the injection well dictated the need to shut down the well during April of 2002.

If you require additional information, please do not hesitate to contact me at (505) 632 - 4168.

Sincerely,



Barry Holman
Environmental Manager
San Juan Refining Company – Bloomfield

Enclosure

cc: Ron Weaver
Chad King
Craig Meldrum

GIANT REFINING COMPANY - BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE1/4 SE1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 2002	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
					MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	9,598,000	671,700	3,095,000	248	1086	820	966	127	99	114	110	45	119
FEB	8,261,000	174,200	2,734,000	72	1069	975	1046	116	110	115	108	90	91
MAR	9,021,000	3,479,000	3,479,000	19.5	1070	935.0	1014	119	35.4	108.0	108.0	69	97
APR	11,061,000	3,060,000	3,060,000	48	1081	867	974	153	102	13	116	59	95
MAY													
JUN													
JUL													
AUG													
SEP													
OCT													
NOV													
DEC													

*Totalizer down for gear replacement

CERTIFICATION:

[Signature]

DATE:

5/9/02



OIL CONSERVATION DIV
02 APR 29 PM 1:50

April 25, 2002

Mr. Roger Anderson
Environmental Bureau Chief
New Mexico Oil Conservation Division
1220 S. St. Francis Dr.
Santa Fe, New Mexico 87504

Mr. Denny Foust
Deputy Oil & Gas Inspector
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

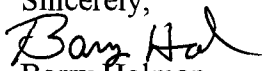
Dear Sirs,

Attached is the wastewater effluent (GW-001) and injection well (GW-130) report for San Juan Refining Company – Bloomfield for the month of March 2002.

The injection well was down for a total of 19.5 hours for March. Mechanical problems with the injection well dictated the need to shut down the well during March of 2002.

If you require additional information, please do not hesitate to contact me at (505) 632 - 4168.

Sincerely,


Barry Holman

Environmental Manager
San Juan Refining Company – Bloomfield

Enclosure

cc: Ron Weaver
Chad King
Craig Meldrum

GIANT REFINING COMPANY - BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE1/4 SE1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 2002	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES			
					MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)	
JAN	9,598,000	671,700	3,095,000	248	1086	820	956	127	99	114	110	45	119	
FEB	8,261,000	174,200	2,734,000	72	1069	975	1046	116	110	115	108	90	91	
MAR	9,021,000	3,479,000	3,479,000	19.5	1070	935.0	1014	119	35.4	108.0	108.0	69	97	
APR														
MAY														
JUN														
JUL														
AUG														
SEP														
OCT														
NOV														
DEC														

*Totalizer down for gear replacement

CERTIFICATION: Bay Area DATE: 4/25/02



March 11, 2002

Mr. Roger Anderson
Environmental Bureau Chief
New Mexico Oil Conservation Division
1220 S. St. Francis Dr.
Santa Fe, New Mexico 87504

Mr. Denny Foust
Deputy Oil & Gas Inspector
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

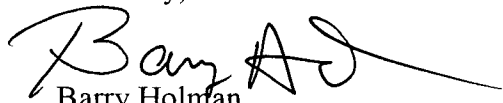
Dear Sirs,

Attached is the Completed 2001 wastewater effluent (GW-001) and injection well (GW-130) report for San Juan Refining Company – Bloomfield.

The injection well was down for a total of 3,334 hours for 2001. A decrease in water usage and mechanical problems with the injection well dictated the need to shut down the well during the year.

If you require additional information, please do not hesitate to contact me at (505) 632 - 4168.

Sincerely,


Barry Holman
Environmental Manager
San Juan Refining Company – Bloomfield

Enclosure

cc: John Stokes
Ron Weaver
Chad King
Craig Meldrum

PHONE
505-632-8013
FAX
505-632-3911

50 ROAD 4990
P.O. BOX 159
BLOOMFIELD
NEW MEXICO
87413

GIANT REFINING COMPANY - BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE1/4 SE1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 2001	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
					MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	8,648,200	2,840,000	2,840,000	130	1053	802	935	214	133	149	103	23	95
FEB	7,939,300	2,758,000	2,758,000	144	1034	832	797	174	117	106	111	15	61
MAR	8,360,800	2,947,000	2,947,000	24	1075	933.0	972	203	116	127.0	113.0	84	93
APR	8,289,900	2,800,000	3,456,000	48	1040	833	914	220	125	149	103	43	80
MAY	4,586,300	2,451,000	2,451,000	36	961	844	940	200	114	154	86.00	51	70
JUN	7,564,780	2,759,200	2,759,200	720	0	0	0	200	125	161	0	0	0
JUL	7,864,880	2,858,000	2,858,000	744	0	0	0	200	125	161	0	0	0
AUG	7,816,400	2,347,000	2,347,000	312	1064	798	951	220	111	137	123.8	62.5	91.5
SEP	4,248,100	2,745,000	2,745,000	0	927.8	833.6	884.6	170.8	110.8	148	79.8	49.9	77
OCT	6,245,000	1,357,900	2,285,000	720	906	905	905	127	127	127	70	70	70
NOV	8,815,000	8,648,200	2,840,000	192	994	807	882	120	114.5	117	101	55	73
DEC	8,572,000	1,847,500	3,235,000	264	1007	742	929	142	89	113	107	54	67

*Totalizer down for gear replacement

CERTIFICATION:  DATE: 1/28/02



March 11, 2002

Mr. Roger Anderson
Environmental Bureau Chief
New Mexico Oil Conservation Division
1220 S. St. Francis Dr.
Santa Fe, New Mexico 87504

Mr. Denny Foust
Deputy Oil & Gas Inspector
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: Monthly Water Effluent Report

Dear Sirs,

Attached is the wastewater effluent (GW-001) and injection well (GW-130) report for San Juan Refining Company – Bloomfield for the months of January and February 2002.

The injection well was down for a total of 820 hours for January and February. Mechanical problems with the injection well dictated the need to shut down the well during January and February of 2002.

If you require additional information, please do not hesitate to contact me at (505) 632 - 4168.

Sincerely,

A handwritten signature in dark ink, appearing to read "Barry Holman".

Barry Holman
Environmental Manager
San Juan Refining Company – Bloomfield

Enclosure

cc: John Stokes
Ron Weaver
Chad King
Craig Meldrum

GIANT REFINING COMPANY - BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE1/4 SE1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 2002	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES			
					MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)	
JAN	9,598,000	671,700	3,095,000	248	1086	820	956	127	99	114	110	45		119
FEB	8,261,000	174,200	2,734,000	72	1069	975	1046	116	110	115	108	90		91
MAR														
APR														
MAY														
JUN														
JUL														
AUG														
SEP														
OCT														
NOV														
DEC														

*Totalizer down for gear replacement

CERTIFICATION: *P. Say* DATE: 3/11/02



October 9, 2001

Mr. Roger Anderson
Environmental Bureau Chief
New Mexico Oil Conservation Division
1220 S. St. Francis Dr.
Santa Fe, New Mexico 87504

Mr. Denny Foust
Deputy Oil & Gas Inspector
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs,

Attached is the August and September 2001 wastewater effluent (GW-001) and injection well (GW-130) report for San Juan Refining Company – Bloomfield.

If you require additional information, please do not hesitate to contact me at (505) 632 - 4168.

Sincerely,

A handwritten signature in cursive script, appearing to read "Barry Holman".

Barry Holman
Environmental Manager
San Juan Refining Company – Bloomfield

Enclosure

cc: John Stokes
Ron Weaver
Chad King
Craig Meldrum

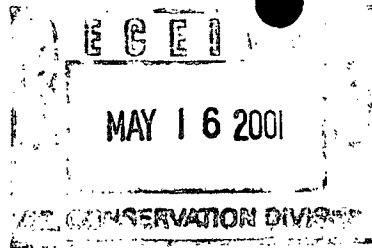
GIANT REFINING COMPANY - BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE1/4 SE1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 2001	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
					MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	8,648,200	2,840,000	2,840,000	130	1053	802	935	214	133	149	103	23	95
FEB	7,939,300	2,758,000	2,758,000	144	1034	832	797	174	117	106	111	15	61
MAR	8,360,800	2,947,000	2,947,000	24	1075	933.0	972	203	116	127.0	113.0	84	93
APR	8,289,900	2,800,000	3,456,000	48	1040	833	914	220	125	149	103	43	80
MAY	4,586,300	2,451,000	2,451,000	36	961	844	940	200	114	154	86.00	51	70
JUN	7,564,780	2,759,200	2,759,200	720	0	0	0	200	125	161	0	0	0
JUL	7,864,880	2,858,000	2,858,000	744	0	0	0	200	125	161	0	0	0
AUG	7,816,400	2,347,000	2,347,000	312	1064	798	951	220	111	137	123.8	62.5	91.5
SEP	4,248,100	2,745,000	2,745,000	0	927.8	833.6	884.6	170.8	110.8	148	79.8	49.9	77
OCT													
NOV													
DEC													

*Totalizer down for gear replacement

CERTIFICATION: *[Signature]* DATE: 10/9/01



May 14, 2001

Mr. Roger Anderson
Environmental Bureau Chief
New Mexico Oil Conservation Division
1220 S. St. Francis Dr.
Santa Fe, New Mexico 87504

Mr. Denny Foust
Deputy Oil & Gas Inspector
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico 87410

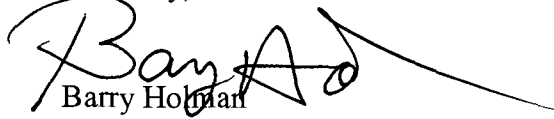
Re: **Monthly Water Effluent Report**

Dear Sirs,

Attached is the April 2001 wastewater effluent (GW-001) and injection well (GW-130) report for San Juan Refining Company – Bloomfield.

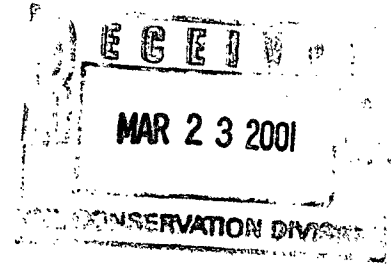
If you require additional information, please do not hesitate to contact me at (505) 632 - 4168.

Sincerely,


Barry Holman
Environmental Manager
San Juan Refining Company – Bloomfield

Enclosure

cc: John Stokes
Ron Weaver
Chad King
Craig Meldrum



March 20, 2001

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
1220 S. St. Francis Dr.
Santa Fe, New Mexico 87504

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs,

Attached is the February 2001 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery.

If you require additional information, please do not hesitate to contact me at (505) 632-4168.

Sincerely,

A handwritten signature in cursive script, appearing to read "Barry Holman".

Barry Holman
Environmental Manager
Giant Refining Company - Bloomfield

Enclosure

cc: John Stokes
Ron Weaver
Chad King
Craig Meldrum

GIANT REFINING COMPANY - BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE1/4 SE1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

RECEIVED

MAR 23 2001

INVESTIGATION DIVISION

PERIOD 2001	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES			
					MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)	(GPM)
JAN	8,648,200	2,840,000	2,840,000	130	1053	802	935	214	133	149	103	23		95
FEB	7,939,300	2,758,000	2,758,000	144	1034	832	797	174	117	106	111	15		61
MAR														
APR														
MAY														
JUN														
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OCT														
NOV														
DEC														

*Totalizer down for gear replacement

CERTIFICATION: X Ray DATE: 3/20/01



OIL CONSERVATION DIV.

01 APR 16 PM 2:56

April 12, 2001

Mr. Roger Anderson
Environmental Bureau Chief
New Mexico Oil Conservation Division
1220 S. St. Francis Dr.
Santa Fe, New Mexico 87504

Mr. Denny Foust
Deputy Oil & Gas Inspector
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs,

Attached is the March 2001 wastewater effluent (GW-001) and injection well (GW-130) report for San Juan Refining Company – Bloomfield.

If you require additional information, please do not hesitate to contact me at (505) 632-4168.

Sincerely,

A handwritten signature in cursive script that reads "Barry Holman".

Barry Holman
Environmental Manager
San Juan Refining Company – Bloomfield

Enclosure

cc: John Stokes
Ron Weaver
Chad King
Craig Meldrum

PHONE
505-632-8013
FAX
505-632-3911

50 ROAD 4990
P.O. BOX 159
BLOOMFIELD
NEW MEXICO
87413

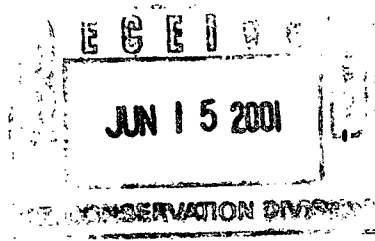
GIANT REFINING COMPANY - BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE1/4 SE1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 2001	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES			
					MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)	
JAN	8,648,200	2,840,000	2,840,000	130	1053	802	935	214	133	149	103	23		95
FEB	7,939,300	2,758,000	2,758,000	144	1034	832	797	174	117	106	111	15		61
MAR	8,360,800	2,947,000	2,947,000	24	1075	933.0	972	203	116	127.0	113.0	84		93
APR														
MAY														
JUN														
JUL														
AUG														
SEP														
OCT														
NOV														
DEC														

*Totalizer down for gear replacement

CERTIFICATION: Raytah DATE: 4/12/01



June 12, 2001

Mr. Roger Anderson
Environmental Bureau Chief
New Mexico Oil Conservation Division
1220 S. St. Francis Dr.
Santa Fe, New Mexico 87504

Mr. Denny Foust
Deputy Oil & Gas Inspector
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs,

Attached is the May 2001 wastewater effluent (GW-001) and injection well (GW-130) report for San Juan Refining Company – Bloomfield.

If you require additional information, please do not hesitate to contact me at (505) 632 - 4168.

Sincerely,

Barry Holman
Environmental Manager
San Juan Refining Company – Bloomfield

Enclosure

cc: John Stokes
Ron Weaver
Chad King
Craig Meldrum

GIANT REFINING COMPANY - BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE1/4 SE1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 2001	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES			
					MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)	
JAN	8,648,200	2,840,000	2,840,000	130	1053	802	935	214	133	149	103	23		95
FEB	7,939,300	2,758,000	2,758,000	144	1034	832	797	174	117	106	111	15		61
MAR	8,360,800	2,947,000	2,947,000	24	1075	933.0	972	203	116	127.0	113.0	84		93
APR	8,289,900	2,800,000	3,456,000	48	1040	833	914	220	125	149	103	43		80
MAY	4,586,300	2,451,000	2,451,000	36	961	844	940	200	114	154	86.00	51		70
JUN														
JUL														
AUG														
SEP														
OCT														
NOV														
DEC														

*Totalizer down for gear replacement

CERTIFICATION: Ray Ad DATE: 6/12/01



OIL CONSERVATION DIV.
01 AUG 17 PM 4:07

August 14, 2001

Mr. Roger Anderson
Environmental Bureau Chief
New Mexico Oil Conservation Division
1220 S. St. Francis Dr.
Santa Fe, New Mexico 87504

Mr. Denny Foust
Deputy Oil & Gas Inspector
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs,

Attached is the June and July 2001 wastewater effluent (GW-001) and injection well (GW-130) report for San Juan Refining Company – Bloomfield.

The injection well was down for both June and July of 2001. A decrease in water usage and the hot temperatures dictated the need to shut down the well during the two months.

If you require additional information, please do not hesitate to contact me at (505) 632 - 4168.

Sincerely,

A handwritten signature in black ink, appearing to read "Barry Holman".

Barry Holman
Environmental Manager
San Juan Refining Company – Bloomfield

Enclosure

cc: John Stokes
Ron Weaver
Chad King
Craig Meldrum

PHONE
505-632-8013
FAX
505-632-3911

50 ROAD 4990
P.O. BOX 159
BLOOMFIELD
NEW MEXICO
87413

GIANT REFINING COMPANY - BLOOMFIELD

P.O. BOX 159

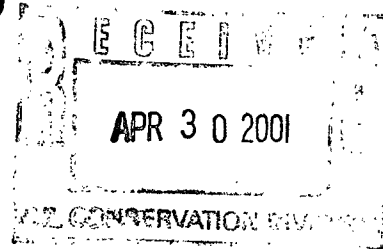
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE1/4 SE1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 2001	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES			
					MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)	(GPM)
JAN	8,648,200	2,840,000	2,840,000	130	1053	802	935	214	133	149	103	23		95
FEB	7,939,300	2,758,000	2,758,000	144	1034	832	797	174	117	106	111	15		61
MAR	8,360,800	2,947,000	2,947,000	24	1075	933.0	972	203	116	127.0	113.0	84		93
APR	8,289,900	2,800,000	3,456,000	48	1040	833	914	220	125	149	103	43		80
MAY	4,586,300	2,451,000	2,451,000	36	961	844	940	200	114	154	86.00	51		70
JUN	7,564,780	2,759,200	2,759,200	720	0	0	0	200	125	161	0	0		0
JUL	7,864,880	2,858,000	2,858,000	744	0	0	0	200	125	161	0	0		0
AUG														
SEP														
OCT														
NOV														
DEC														

*Totalizer down for gear replacement

CERTIFICATION: Ray Hoh DATE: 8/14/01



April 26, 2001

Mr. Wayne Price
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505

Re: Mechanical Integrity Test Report

Dear Mr. Price,

Attached please find the Mechanical Integrity Test Report along with the chart that recorded the tested pressure dated 6/22/00.

If you require more information, or if you have additional questions please call me anytime at (505) 632-4168.

Sincerely:

A handwritten signature in cursive script that reads "Barry Holman".

Barry Holman
Environmental Manager
San Juan Refining Company – Bloomfield

4/30/01
BERAY WILL SEND
MIT RESULTS!

Price, Wayne

From: Price, Wayne
Sent: Wednesday, March 07, 2001 11:35 AM
To: 'Talton.Adolphus@epamail.epa.gov'
Subject: RE: Request for Information- Giant Bloomfield Refinery

I am sending you the last three quarters of analyticals for the Giant Class I disposal well today via US mail. Let me know if you need any additional info!

From: Talton.Adolphus@epamail.epa.gov[SMTP:Talton.Adolphus@epamail.epa.gov]
Sent: Monday, March 05, 2001 3:26 PM
To: Price, Wayne
Subject: Re: Request for Information- Giant Bloomfield Refinery

<<File: Gw130app.wpd>>

Here is my mailing address. See below.

Thanks for the information!

Adolphus Talton (6EN-HS)

US EPA

1445 Ross Ave

Dallas, TX 75202

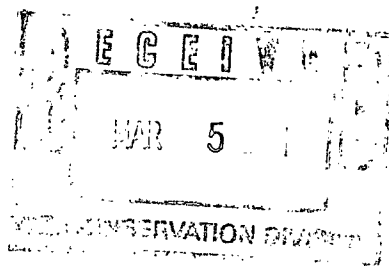
Wk: (214) 665-6651

Fax: (214) 665-7264

1-888-884-2478 ext 6651

e-mail: talton.adolphus@epa.gov

6/30/99 → 7/1/2000



March 2, 2001

Mr. Wayne Price
Environmental Bureau
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

RE: Mechanical Integrity Test, Quarterly Injection well Analytical 2000

Dear Mr. Price:

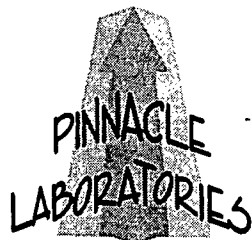
Enclosed, please find the Mechanical Integrity Test for the disposal dated June 22, 2000 as required. Also attached are the quarterly analytical results for the injection well, the 2nd quarter was not performed.

After researching the permit for the injection well I did find the requirement that I send to the OCD the analytical and the mechanical integrity test when completed. In the future I will forward this information to you and apologize if this has caused you any inconvenience.

Sincerely:

A handwritten signature in cursive script, appearing to read "Barry Holman".

Barry Holman
Environmental Manager
San Juan Refining Company - Bloomfield



151 qtrly
2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

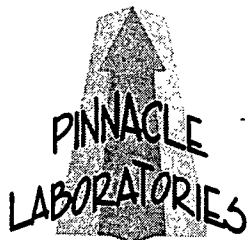
GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260
CLIENT : GIANT REFINING CO.-BLOOMFIELD
PROJECT # : (none)
PROJECT NAME : QTRLY INJ. WELL

PINNACLE I.D. : 002048
DATE RECEIVED : 02/11/00

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
002048-01	Qtrly Inj Well 2/2000	AQUEOUS	02/09/00	N/A	02/14/00	1
PARAMETER (CAS#)	DET. LIMIT	UNITS				

Dichlorodifluoromethane (75-71-8)	1.0	< 1.0	ug/L	(D100)
Chloromethane (74-87-9)	1.0	3.6	ug/L	
Vinyl Chloride (75-01-4)	1.0	< 1.0	ug/L	
Bromomethane (74-83-9)	1.0	< 1.0	ug/L	
Chloroethane (75-00-3)	1.0	< 1.0	ug/L	
Trichlorofluoromethane (75-69-4)	1.0	< 1.0	ug/L	
Acetone (67-64-1)	10	93	ug/L	
Acrolein (107-02-8)	5.0	< 5.0	ug/L	
1,1-Dichloroethene (75-35-4)	1.0	< 1.0	ug/L	
Iodomethane (74-88-4)	1.0	< 1.0	ug/L	
Methylene Chloride (75-09-2)	1.0	< 1.0	ug/L	(D100)
Acrylonitrile (107-13-1)	5.0	< 5.0	ug/L	
cis-1,2-Dichloroethene (107-06-2)	1.0	< 1.0	ug/L	
Methyl-t-butyl Ether (628-28-4)	1.0	5000	ug/L	
1,1,2-Trichlorotrifluoroethane (76-13-1)	1.0	< 1.0	ug/L	
1,1-Dichloroethane (75-34-3)	1.0	< 1.0	ug/L	
trans-1,2-Dichloroethene (156-60-5)	1.0	< 1.0	ug/L	
2-Butanone (78-93-3)	10	< 10	ug/L	
Carbon Disulfide (75-15-0)	1.0	24	ug/L	
Bromochloromethane (74-97-5)	1.0	< 1.0	ug/L	(D100)
Chloroform (67-66-3)	1.0	56	ug/L	
2,2-Dichloropropane (594-20-7)	1.0	< 1.0	ug/L	
1,2-Dichloroethane (107-06-2)	1.0	< 1.0	ug/L	
1,1,1-Trichloroethane (71-55-6)	1.0	< 1.0	ug/L	
1,1-Dichloropropene (563-58-6)	1.0	< 1.0	ug/L	
Carbon Tetrachloride (56-23-5)	1.0	< 1.0	ug/L	
Benzene (71-43-2)	1.0	2.6	ug/L	
1,2-Dichloropropane (78-87-5)	1.0	< 1.0	ug/L	
Trichloroethene (79-01-6)	1.0	< 1.0	ug/L	
Bromodichloromethane (75-27-4)	1.0	< 1.0	ug/L	(D100)
2-Chloroethyl Vinyl Ether (110-75-8)	10	< 10	ug/L	
cis-1,3-Dichloropropene (10061-01-5)	1.0	< 1.0	ug/L	
trans-1,3-Dichloropropene (10061-02-6)	1.0	< 1.0	ug/L	
1,1,2-Trichloroethane (79-00-5)	1.0	< 1.0	ug/L	
1,3-Dichloropropane (142-28-9)	1.0	< 1.0	ug/L	
Dibromomethane (74-95-3)	1.0	< 1.0	ug/L	
Toluene (108-88-3)	1.0	2.5	ug/L	
1,2-Dibromoethane (106-93-4)	1.0	< 1.0	ug/L	
4-Methyl-2-Pentanone (108-10-1)	10	< 10	ug/L	
2-Hexanone (591-78-6)	10	< 10	ug/L	(D100)
Dibromochloromethane (124-48-1)	1.0	< 1.0	ug/L	
Tetrachloroethene (127-18-4)	1.0	< 1.0	ug/L	
Chlorobenzene (108-90-7)	1.0	< 1.0	ug/L	
Ethylbenzene (100-41-4)	1.0	< 1.0	ug/L	
1,1,1,2-Tetrachloroethane (630-20-6)	1.0	< 1.0	ug/L	
m&p Xylenes (108-38-3, 106-42-3)	1.0	12	ug/L	
o-Xylene (95-47-6)	1.0	30	ug/L	
Styrene (100-42-5)	1.0	< 1.0	ug/L	



2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260
CLIENT : GIANT REFINING CO.-BLOOMFIELD
PROJECT # : (none)
PROJECT NAME : QTRLY INJ. WELL

PINNACLE I.D. : 002048
DATE RECEIVED : 02/11/00

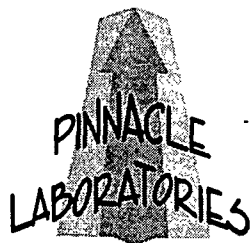
SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
002048-01	Qtrly Inj Well 2/2000	AQUEOUS	02/09/00	N/A	02/14/00	1

PARAMETER (CAS#)	DET. LIMIT	UNITS
Bromoform (75-25-2)	1.0	< 1.0 ug/L
1,1,2,2-Tetrachloroethane (79-34-5)	1.0	< 1.0 ug/L
1,2,3-Trichloropropane (96-18-4)	1.0	< 1.0 ug/L
Isopropyl Benzene (98-82-8)	1.0	< 1.0 ug/L
Bromobenzene (108-86-1)	1.0	< 1.0 ug/L
trans-1,4-Dichloro-2-Butene (110-57-6)	1.0	< 1.0 ug/L
n-Propylbenzene (103-65-1)	1.0	< 1.0 ug/L
2-Chlorotoluene (95-49-8)	1.0	< 1.0 ug/L
4-Chlorotoluene (106-43-4)	1.0	< 1.0 ug/L
1,3,5-Trimethylbenzene (108-67-8)	1.0	19 ug/L
tert-Butylbenzene (98-06-6)	1.0	< 1.0 ug/L
1,2,4-Trimethylbenzene (95-63-6)	1.0	3.2 ug/L
sec-Butylbenzene (135-98-9)	1.0	< 1.0 ug/L
1,3-Dichlorobenzene (541-73-1)	1.0	< 1.0 ug/L
1,4-Dichlorobenzene (106-46-7)	1.0	< 1.0 ug/L
p-Isopropyltoluene (99-87-6)	1.0	< 1.0 ug/L
1,2-Dichlorobenzene (95-50-1)	1.0	< 1.0 ug/L
n-Butylbenzene (104-51-8)	1.0	< 1.0 ug/L
1,2-Dibromomono-3-chloropropane (96-12-8)	1.0	< 1.0 ug/L
1,2,4-Trichlorobenzene (120-82-1)	1.0	< 1.0 ug/L
Naphthalene (91-20-3)	1.0	3.1 ug/L
Hexachlorobutadiene (87-68-3)	1.0	< 1.0 ug/L
1,2,3-Trichlorobenzene (87-61-6)	1.0	< 1.0 ug/L

SURROGATE % RECOVERY

1,2-Dichloroethane-d4	106 (80 - 120)
Toluene-d8	102 (88 - 110)
Bromofluorobenzene	104 (86 - 115)

D100 = Diluted 100X, Analyzed 2/15/00



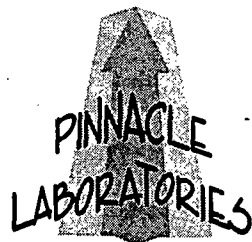
2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260
CLIENT : GIANT REFINING CO.-BLOOMFIELD
PROJECT # : (none)
PROJECT NAME : QTRLY INJ. WELL
PINNACLE I.D. : 002048

SAMPLE	DATE	DATE	DIL.
ID #	EXTRACTED	ANALYZED	FACTOR
REAGENT BLANK	021400	AQUEOUS	N/A
		02/14/00	1

PARAMETER (CAS#)	DET. LIMIT	UNITS
Dichlorodifluoromethane (75-71-8)	1.0	< 1.0 ug/L
Chloromethane (74-87-9)	1.0	< 1.0 ug/L
Vinyl Chloride (75-01-4)	1.0	< 1.0 ug/L
Bromomethane (74-83-9)	1.0	< 1.0 ug/L
Chloroethane (75-00-3)	1.0	< 1.0 ug/L
Trichlorofluoromethane (75-69-4)	1.0	< 1.0 ug/L
Acetone (67-64-1)	10	< 10 ug/L
Acrolein (107-02-8)	5.0	< 5.0 ug/L
1,1-Dichloroethene (75-35-4)	1.0	< 1.0 ug/L
Iodomethane (74-88-4)	1.0	< 1.0 ug/L
Methylene Chloride (75-09-2)	1.0	< 1.0 ug/L
Acrylonitrile (107-13-1)	5.0	< 5.0 ug/L
cis-1,2-Dichloroethene (107-06-2)	1.0	< 1.0 ug/L
Methyl-t-butyl Ether (628-28-4)	1.0	< 1.0 ug/L
1,1,2-Trichlorotrifluoroethane (76-13-1)	1.0	< 1.0 ug/L
1,1-Dichloroethane (75-34-3)	1.0	< 1.0 ug/L
trans-1,2-Dichloroethene (156-60-5)	1.0	< 1.0 ug/L
2-Butanone (78-93-3)	10	< 10 ug/L
Carbon Disulfide (75-15-0)	1.0	< 1.0 ug/L
Bromochloromethane (74-97-5)	1.0	< 1.0 ug/L
Chloroform (67-66-3)	1.0	< 1.0 ug/L
2,2-Dichloropropane (594-20-7)	1.0	< 1.0 ug/L
1,2-Dichloroethane (107-06-2)	1.0	< 1.0 ug/L
1,1,1-Trichloroethane (71-55-6)	1.0	< 1.0 ug/L
1,1-Dichloropropene (563-58-6)	1.0	< 1.0 ug/L
Carbon Tetrachloride (56-23-5)	1.0	< 1.0 ug/L
Benzene (71-43-2)	1.0	< 1.0 ug/L
1,2-Dichloropropane (78-87-5)	1.0	< 1.0 ug/L
Trichloroethene (79-01-6)	1.0	< 1.0 ug/L
Bromodichloromethane (75-27-4)	1.0	< 1.0 ug/L
2-Chloroethyl Vinyl Ether (110-75-8)	10	< 10 ug/L
cis-1,3-Dichloropropene (10061-01-5)	1.0	< 1.0 ug/L
trans-1,3-Dichloropropene (10061-02-6)	1.0	< 1.0 ug/L
1,1,2-Trichloroethane (79-00-5)	1.0	< 1.0 ug/L
1,3-Dichloropropane (142-28-9)	1.0	< 1.0 ug/L
Dibromomethane (74-95-3)	1.0	< 1.0 ug/L
Toluene (108-88-3)	1.0	< 1.0 ug/L
1,2-Dibromoethane (106-93-4)	1.0	< 1.0 ug/L
4-Methyl-2-Pentanone (108-10-1)	10	< 10 ug/L
2-Hexanone (591-78-6)	10	< 10 ug/L
Dibromochloromethane (124-48-1)	1.0	< 1.0 ug/L
Tetrachloroethene (127-18-4)	1.0	< 1.0 ug/L
Chlorobenzene (108-90-7)	1.0	< 1.0 ug/L
Ethylbenzene (100-41-4)	1.0	< 1.0 ug/L
1,1,1,2-Tetrachloroethane (630-20-6)	1.0	< 1.0 ug/L



2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260
CLIENT : GIANT REFINING CO.-BLOOMFIELD
PROJECT # : (none)
PROJECT NAME : QTRLY INJ. WELL

PINNACLE I.D. : 002048

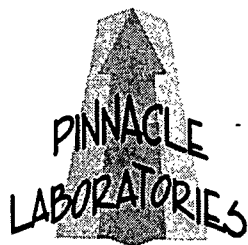
SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
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REAGENT BLANK	021400	AQUEOUS	N/A	02/14/00	1
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PARAMETER (CAS#)	DET. LIMIT	UNITS
m&p Xylenes (108-38-3, 106-42-3)	1.0 < 1.0	ug/L
o-Xylene (95-47-6)	1.0 < 1.0	ug/L
Styrene (100-42-5)	1.0 < 1.0	ug/L
Bromoform (75-25-2)	1.0 < 1.0	ug/L
1,1,2,2-Tetrachloroethane (79-34-5)	1.0 < 1.0	ug/L
1,2,3-Trichloropropane (96-18-4)	1.0 < 1.0	ug/L
Isopropyl Benzene (98-82-8)	1.0 < 1.0	ug/L
Bromobenzene (108-86-1)	1.0 < 1.0	ug/L
trans-1,4-Dichloro-2-Butene (110-57-6)	1.0 < 1.0	ug/L
n-Propylbenzene (103-65-1)	1.0 < 1.0	ug/L
2-Chlorotoluene (95-49-8)	1.0 < 1.0	ug/L
4-Chlorotoluene (106-43-4)	1.0 < 1.0	ug/L
1,3,5-Trimethylbenzene (108-67-8)	1.0 < 1.0	ug/L
tert-Butylbenzene (98-06-6)	1.0 < 1.0	ug/L
1,2,4-Trimethylbenzene (95-63-6)	1.0 < 1.0	ug/L
sec-Butylbenzene (135-98-9)	1.0 < 1.0	ug/L
1,3-Dichlorobenzene (541-73-1)	1.0 < 1.0	ug/L
1,4-Dichlorobenzene (106-46-7)	1.0 < 1.0	ug/L
p-Isopropyltoluene (99-87-6)	1.0 < 1.0	ug/L
1,2-Dichlorobenzene (95-50-1)	1.0 < 1.0	ug/L
n-Butylbenzene (104-51-8)	1.0 < 1.0	ug/L
1,2-Dibromomono-3-chloropropane (96-12-8)	1.0 < 1.0	ug/L
1,2,4-Trichlorobenzene (120-82-1)	1.0 < 1.0	ug/L
Naphthalene (91-20-3)	1.0 < 1.0	ug/L
Hexachlorobutadiene (87-68-3)	1.0 < 1.0	ug/L
1,2,3-Trichlorobenzene (87-61-6)	1.0 < 1.0	ug/L

SURROGATE % RECOVERY

1,2-Dichloroethane-d4	104 (80 - 120)
Toluene-d8	100 (88 - 110)
Bromofluorobenzene	103 (86 - 115)



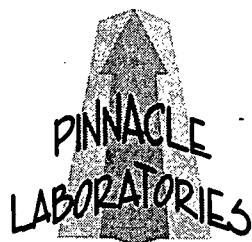
2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260
CLIENT : GIANT REFINING CO.-BLOOMFIELD
PROJECT # : (none)
PROJECT NAME : QTRLY INJ. WELL
PINNACLE I.D. : 002048

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	021500	AQUEOUS	N/A	02/15/00	1

PARAMETER (CAS#)	DET. LIMIT	UNITS
Dichlorodifluoromethane (75-71-8)	1.0	< 1.0 ug/L
Chloromethane (74-87-9)	1.0	< 1.0 ug/L
Vinyl Chloride (75-01-4)	1.0	< 1.0 ug/L
Bromomethane (74-83-9)	1.0	< 1.0 ug/L
Chloroethane (75-00-3)	1.0	< 1.0 ug/L
Trichlorofluoromethane (75-69-4)	1.0	< 1.0 ug/L
Acetone (67-64-1)	10	< 10 ug/L
Acrolein (107-02-8)	5.0	< 5.0 ug/L
1,1-Dichloroethene (75-35-4)	1.0	< 1.0 ug/L
Iodomethane (74-88-4)	1.0	< 1.0 ug/L
Methylene Chloride (75-09-2)	1.0	< 1.0 ug/L
Acrylonitrile (107-13-1)	5.0	< 5.0 ug/L
cis-1,2-Dichloroethene (107-06-2)	1.0	< 1.0 ug/L
Methyl-t-butyl Ether (628-28-4)	1.0	< 1.0 ug/L
1,1,2-Trichlorotrifluoroethane (76-13-1)	1.0	< 1.0 ug/L
1,1-Dichloroethane (75-34-3)	1.0	< 1.0 ug/L
trans-1,2-Dichloroethene (156-60-5)	1.0	< 1.0 ug/L
2-Butanone (78-93-3)	10	< 10 ug/L
Carbon Disulfide (75-15-0)	1.0	< 1.0 ug/L
Bromochloromethane (74-97-5)	1.0	< 1.0 ug/L
Chloroform (67-66-3)	1.0	< 1.0 ug/L
2,2-Dichloropropane (594-20-7)	1.0	< 1.0 ug/L
1,2-Dichloroethane (107-06-2)	1.0	< 1.0 ug/L
1,1,1-Trichloroethane (71-55-6)	1.0	< 1.0 ug/L
1,1-Dichloropropene (563-58-6)	1.0	< 1.0 ug/L
Carbon Tetrachloride (56-23-5)	1.0	< 1.0 ug/L
Benzene (71-43-2)	1.0	< 1.0 ug/L
1,2-Dichloropropane (78-87-5)	1.0	< 1.0 ug/L
Trichloroethene (79-01-6)	1.0	< 1.0 ug/L
Bromodichloromethane (75-27-4)	1.0	< 1.0 ug/L
2-Chloroethyl Vinyl Ether (110-75-8)	10	< 10 ug/L
cis-1,3-Dichloropropene (10061-01-5)	1.0	< 1.0 ug/L
trans-1,3-Dichloropropene (10061-02-6)	1.0	< 1.0 ug/L
1,1,2-Trichloroethane (79-00-5)	1.0	< 1.0 ug/L
1,3-Dichloropropane (142-28-9)	1.0	< 1.0 ug/L
Dibromomethane (74-95-3)	1.0	< 1.0 ug/L
Toluene (108-88-3)	1.0	< 1.0 ug/L
1,2-Dibromoethane (106-93-4)	1.0	< 1.0 ug/L
4-Methyl-2-Pentanone (108-10-1)	10	< 10 ug/L
2-Hexanone (591-78-6)	10	< 10 ug/L
Dibromochloromethane (124-48-1)	1.0	< 1.0 ug/L
Tetrachloroethene (127-18-4)	1.0	< 1.0 ug/L
Chlorobenzene (108-90-7)	1.0	< 1.0 ug/L
Ethylbenzene (100-41-4)	1.0	< 1.0 ug/L
1,1,1,2-Tetrachloroethane (630-20-6)	1.0	< 1.0 ug/L



2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GC/MS RESULTS

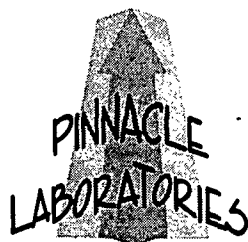
TEST : VOLATILE ORGANICS EPA METHOD 8260
CLIENT : GIANT REFINING CO.-BLOOMFIELD
PROJECT # : (none)
PROJECT NAME : QTRLY INJ. WELL

PINNACLE I.D. : 002048

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	021500	AQUEOUS	N/A	02/15/00	1
PARAMETER (CAS#)	DET. LIMIT	UNITS			
m&p Xylenes (108-38-3, 106-42-3)	1.0	< 1.0	ug/L		
o-Xylene (95-47-6)	1.0	< 1.0	ug/L		
Styrene (100-42-5)	1.0	< 1.0	ug/L		
Bromoform (75-25-2)	1.0	< 1.0	ug/L		
1,1,2,2-Tetrachloroethane (79-34-5)	1.0	< 1.0	ug/L		
1,2,3-Trichloropropane (96-18-4)	1.0	< 1.0	ug/L		
Isopropyl Benzene (98-82-8)	1.0	< 1.0	ug/L		
Bromobenzene (108-86-1)	1.0	< 1.0	ug/L		
trans-1,4-Dichloro-2-Butene (110-57-6)	1.0	< 1.0	ug/L		
n-Propylbenzene (103-65-1)	1.0	< 1.0	ug/L		
2-Chlorotoluene (95-49-8)	1.0	< 1.0	ug/L		
4-Chlorotoluene (106-43-4)	1.0	< 1.0	ug/L		
1,3,5-Trimethylbenzene (108-67-8)	1.0	< 1.0	ug/L		
tert-Butylbenzene (98-06-6)	1.0	< 1.0	ug/L		
1,2,4-Trimethylbenzene (95-63-6)	1.0	< 1.0	ug/L		
sec-Butylbenzene (135-98-9)	1.0	< 1.0	ug/L		
1,3-Dichlorobenzene (541-73-1)	1.0	< 1.0	ug/L		
1,4-Dichlorobenzene (106-46-7)	1.0	< 1.0	ug/L		
p-Isopropyltoluene (99-87-6)	1.0	< 1.0	ug/L		
1,2-Dichlorobenzene (95-50-1)	1.0	< 1.0	ug/L		
n-Butylbenzene (104-51-8)	1.0	< 1.0	ug/L		
1,2-Dibromomo-3-chloropropane (96-12-8)	1.0	< 1.0	ug/L		
1,2,4-Trichlorobenzene (120-82-1)	1.0	< 1.0	ug/L		
Naphthalene (91-20-3)	1.0	< 1.0	ug/L		
Hexachlorobutadiene (87-68-3)	1.0	< 1.0	ug/L		
1,2,3-Trichlorobenzene (87-61-6)	1.0	< 1.0	ug/L		

SURROGATE % RECOVERY

1,2-Dichloroethane-d4	102 (80 - 120)
Toluene-d8	99 (88 - 110)
Bromofluorobenzene	96 (86 - 115)



2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
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GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260
CLIENT : GIANT REFINING CO.-BLOOMFIELD
PROJECT # : (none)
PROJECT NAME : QTRLY INJ. WELL

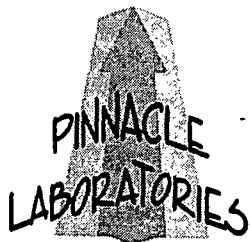
PINNACLE I.D. : 002048

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
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REAGENT BLANK	021700	AQUEOUS	N/A	02/17/00	1
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PARAMETER (CAS#)	DET. LIMIT	UNITS
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Dichlorodifluoromethane (75-71-8)	1.0	< 1.0 ug/L
Chloromethane (74-87-9)	1.0	< 1.0 ug/L
Vinyl Chloride (75-01-4)	1.0	< 1.0 ug/L
Bromomethane (74-83-9)	1.0	< 1.0 ug/L
Chloroethane (75-00-3)	1.0	< 1.0 ug/L
Trichlorofluoromethane (75-69-4)	1.0	< 1.0 ug/L
Acetone (67-64-1)	10	< 10 ug/L
Acrolein (107-02-8)	5.0	< 5.0 ug/L
1,1-Dichloroethene (75-35-4)	1.0	< 1.0 ug/L
Iodomethane (74-88-4)	1.0	< 1.0 ug/L
Methylene Chloride (75-09-2)	1.0	< 1.0 ug/L
Acrylonitrile (107-13-1)	5.0	< 5.0 ug/L
cis-1,2-Dichloroethene (107-06-2)	1.0	< 1.0 ug/L
Methyl-t-butyl Ether (628-28-4)	1.0	< 1.0 ug/L
1,1,2-Trichlorotrifluoroethane (76-13-1)	1.0	< 1.0 ug/L
1,1-Dichloroethane (75-34-3)	1.0	< 1.0 ug/L
trans-1,2-Dichloroethene (156-60-5)	1.0	< 1.0 ug/L
2-Butanone (78-93-3)	10	< 10 ug/L
Carbon Disulfide (75-15-0)	1.0	< 1.0 ug/L
Bromochloromethane (74-97-5)	1.0	< 1.0 ug/L
Chloroform (67-66-3)	1.0	< 1.0 ug/L
2,2-Dichloropropane (594-20-7)	1.0	< 1.0 ug/L
1,2-Dichloroethane (107-06-2)	1.0	< 1.0 ug/L
1,1,1-Trichloroethane (71-55-6)	1.0	< 1.0 ug/L
1,1-Dichloropropene (563-58-6)	1.0	< 1.0 ug/L
Carbon Tetrachloride (56-23-5)	1.0	< 1.0 ug/L
Benzene (71-43-2)	1.0	< 1.0 ug/L
1,2-Dichloropropane (78-87-5)	1.0	< 1.0 ug/L
Trichloroethene (79-01-6)	1.0	< 1.0 ug/L
Bromodichloromethane (75-27-4)	1.0	< 1.0 ug/L
2-Chloroethyl Vinyl Ether (110-75-8)	10	< 10 ug/L
cis-1,3-Dichloropropene (10061-01-5)	1.0	< 1.0 ug/L
trans-1,3-Dichloropropene (10061-02-6)	1.0	< 1.0 ug/L
1,1,2-Trichloroethane (79-00-5)	1.0	< 1.0 ug/L
1,3-Dichloropropane (142-28-9)	1.0	< 1.0 ug/L
Dibromomethane (74-95-3)	1.0	< 1.0 ug/L
Toluene (108-88-3)	1.0	< 1.0 ug/L
1,2-Dibromoethane (106-93-4)	1.0	< 1.0 ug/L
4-Methyl-2-Pentanone (108-10-1)	10	< 10 ug/L
2-Hexanone (591-78-6)	10	< 10 ug/L
Dibromochloromethane (124-48-1)	1.0	< 1.0 ug/L
Tetrachloroethene (127-18-4)	1.0	< 1.0 ug/L
Chlorobenzene (108-90-7)	1.0	< 1.0 ug/L
Ethylbenzene (100-41-4)	1.0	< 1.0 ug/L
1,1,1,2-Tetrachloroethane (630-20-6)	1.0	< 1.0 ug/L



2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
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GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260
CLIENT : GIANT REFINING CO.-BLOOMFIELD
PROJECT # : (none)
PROJECT NAME : QTRLY INJ. WELL

PINNACLE I.D. : 002048

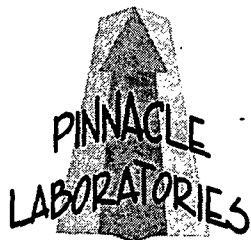
SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
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REAGENT BLANK	021700	AQUEOUS	N/A	02/17/00	1
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PARAMETER (CAS#)	DET. LIMIT	UNITS
m&p Xylenes (108-38-3, 106-42-3)	1.0	< 1.0 ug/L
o-Xylene (95-47-6)	1.0	< 1.0 ug/L
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Bromoform (75-25-2)	1.0	< 1.0 ug/L
1,1,2,2-Tetrachloroethane (79-34-5)	1.0	< 1.0 ug/L
1,2,3-Trichloropropane (96-18-4)	1.0	< 1.0 ug/L
Isopropyl Benzene (98-82-8)	1.0	< 1.0 ug/L
Bromobenzene (108-86-1)	1.0	< 1.0 ug/L
trans-1,4-Dichloro-2-Butene (110-57-6)	1.0	< 1.0 ug/L
n-Propylbenzene (103-65-1)	1.0	< 1.0 ug/L
2-Chlorotoluene (95-49-8)	1.0	< 1.0 ug/L
4-Chlorotoluene (106-43-4)	1.0	< 1.0 ug/L
1,3,5-Trimethylbenzene (108-67-8)	1.0	< 1.0 ug/L
tert-Butylbenzene (98-06-6)	1.0	< 1.0 ug/L
1,2,4-Trimethylbenzene (95-63-6)	1.0	< 1.0 ug/L
sec-Butylbenzene (135-98-9)	1.0	< 1.0 ug/L
1,3-Dichlorobenzene (541-73-1)	1.0	< 1.0 ug/L
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p-Isopropyltoluene (99-87-6)	1.0	< 1.0 ug/L
1,2-Dichlorobenzene (95-50-1)	1.0	< 1.0 ug/L
n-Butylbenzene (104-51-8)	1.0	< 1.0 ug/L
1,2-Dibromomono-3-chloropropane (96-12-8)	1.0	< 1.0 ug/L
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Naphthalene (91-20-3)	1.0	< 1.0 ug/L
Hexachlorobutadiene (87-68-3)	1.0	< 1.0 ug/L
1,2,3-Trichlorobenzene (87-61-6)	1.0	< 1.0 ug/L

SURROGATE % RECOVERY

1,2-Dichloroethane-d4	100 (80 - 120)
Toluene-d8	94 (88 - 110)
Bromofluorobenzene	95 (86 - 115)



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Albuquerque, New Mexico 87107
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MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260
SPIKED SAMPLE : 002062-05
CLIENT : GIANT REFINING CO.-BLOOMFIELD
PROJECT # : (none)
PROJECT NAME : QTRLY INJ. WELL

PINNACLE I.D. : 002048
DATE ANALYZED : 02/17/00
UNITS : ug/L (PPB)

COMPOUND	SAMPLE CONC.	SPIKE ADDED	MS RESULT	MSD RESULT	MS %REC	MSD %REC	RPD	QC LIMITS RPD	QC LIMITS %RECOVERY
1,1-DICHLOROETHENE	<1.0	50.0	60.1	57.6	120	115	4	14	61-145
BENZENE	<1.0	50.0	57.4	59.3	115	119	3	11	76-127
TRICHLOROETHENE	<1.0	50.0	52.5	53.7	105	107	2	14	71-120
TOLUENE	<1.0	50.0	49.7	53.1	99	106	7	13	76-125
CHLOROBENZENE	<1.0	50.0	48.9	49.8	98	100	2	13	75-130



- CERTIFICATE OF ANALYSIS -

Client #: T0499
Pinnacle Laboratories Inc
2709 - D Panamerican Pwy NE
Albuquerque, NM 87107-

Report Date: 25-Feb-00

Attn:

Phone: (505) 344-3777 Ext:
FAX: (505) 344-4413

Our Lab #: MAR00-04012

Your Sample ID: 002048-01

Date Logged-In:

Sample Source: RCRA

Matrix: Water

Client Project #:

PO#: 002048/021503

Project #: 021500-03

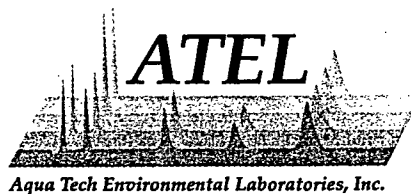
Date Submitted to Lab: 2/16/2000

- COLLECTION INFORMATION -

Date/Time/By: 2/9/00 2:30 PM

Test Group	EPA Method	Test	Result	Units	Analysis Date	Analyst	WS#
AL-ICP	200.7/6010B	Aluminum, Al	130	UG/L	2/18/00	TMB	19170
SB-MS	200.8/6020	Antimony, Sb	< 3.0	UG/L	2/17/00	KRG	19167
AS-MS	6020	Arsenic, As	38	UG/L	2/17/00	KRG	19167
BA-ICP	6010A	Barium, Ba	159	UG/L	2/18/00	TMB	19170
BE-ICP	200.7/6010B	Beryllium, Be	< 5.0	UG/L	2/18/00	TMB	19170
B-MS	6020	Boron, B	310	UG/L	2/17/00	KRG	19167
CD-MS	6020	Cadmium, Cd	< 0.5	UG/L	2/17/00	KRG	19167
CA-ICP	200.7/6010B	Calcium, Ca	80	MG/L	2/18/00	TMB	19170
CR-ICP	6010A	Chromium, Cr	< 20	UG/L	2/18/00	TMB	19170
CO-ICP	200.7/6010B	Cobalt, Co	< 10	UG/L	2/18/00	TMB	19170
CU-ICP	200.7/6010B	Copper, Cu	11	UG/L	2/18/00	TMB	19170
FE-ICP	200.7/6010B	Iron, Fe	6900	UG/L	2/18/00	TMB	19170
PB-MS	6020	Lead, Pb	< 2.0	UG/L	2/17/00	KRG	19167
MG-ICP	200.7/6010B	Magnesium, Mg	18	MG/L	2/18/00	TMB	19170
MN-ICP	200.7/6010B	Manganese, Mn	163	UG/L	2/18/00	TMB	19170
HG	7470	Mercury, Hg	1.3	UG/L	2/23/00	TMB	19244
MO-MS	200.8	Molybdenum, Mo	32	UG/L	2/17/00	KRG	19167
NI-ICP	200.7/6010B	Nickel, Ni	< 20	UG/L	2/18/00	TMB	19170
K-ICP	200.7/6010B	Potassium, K	17	MG/L	2/18/00	TMB	19170
SE-GFAA	7740	Selenium, Se	< 15.0	UG/L	2/22/00	SMM	19215
AG-ICP	6010A	Silver, Ag	39	UG/L	2/18/00	TMB	19170

Lab Number MAR00-04012:Page 1



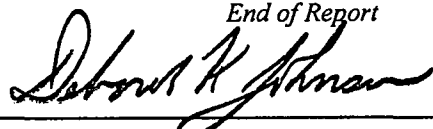
- CERTIFICATE OF ANALYSIS -

Lab Number MAR00-04012 -Continued from Previous Page

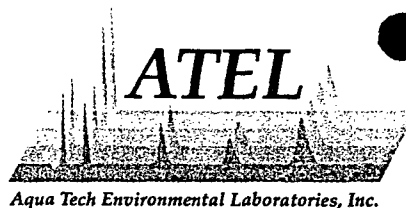
Test Group	EPA Method	Test	Result	Units	Analysis	Analyst	WS#
					Date		
NA-ICP	200.7/6010B	Sodium, Na	1500	MG/L	2/18/00	TMB	19170
TL-MS	200.8/6020	Thallium, Tl	< 1.0	UG/L	2/17/00	KRG	19167
U-MS	6020	Uranium, U	< 20.0	UG/L	2/17/00	KRG	19167
V-ICP	200.7/6010B	Vanadium, V	< 20	UG/L	2/18/00	TMB	19170
ZN-ICP	200.7/6010B	Zinc, Zn	85	UG/L	2/18/00	TMB	19170

Note: The Practical Quantitation Limit (PQL) for Selenium is elevated due to matrix interferences requiring serial dilution of the sample.

Report Approved By:

End of Report

Deborah K. Johnson

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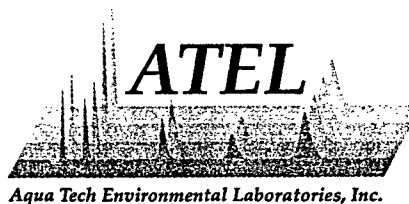
- QUALITY CONTROL REPORT -

Printed: 2/25/2000

WS#	Lab#	Test ID	QC Code	Result	Units	True Added	-- QC Calculations -- QC1	-- QC Calculations -- QC2	Lower Limit	Upper Limit
19167	LCS	AS	C	20.836	UG/L	20	104 %R:		50	150
19167	LCS	B	C	100.339	UG/L	100	100 %R:		50	150
19167	LCS	BA	C	207.647	UG/L	200	104 %R:		50	150
19167	LCS	BE	C	10.575	UG/L	10	106 %R:		50	150
19167	LCS	CD	C	10.532	UG/L	10	105 %R:		50	150
19167	LCS	CR	C	102.893	UG/L	100	103 %R:		50	150
19167	LCS	MO	C	99.681	UG/L	100	100 %R:		50	150
19167	LCS	NI	C	104.715	UG/L	100	105 %R:		50	150
19167	LCS	PB	C	10.533	UG/L	10	105 %R:		50	150
19167	LCS	SB	C	20.679	UG/L	20	103 %R:		50	150
19167	LCS	TL	C	10.486	UG/L	10	105 %R:		50	150
19167	LCS	U	C	107.258	UG/L	100	107 %R:		50	150
19170	LCSA 2.14.5	CD	C	.09902	MG/L	0.1	99 %R:		85	115
19170	LCSA 2.14.5	NA	C	2.48189	MG/L	2.5	99 %R:		85	115
19170	LCSA 2.14.5	PB	C	1.09218	MG/L	1.1	99 %R:		85	115
19167	LCSA 2.15.3	AS	C	24.521	UG/L	20	123 %R:		50	150
19167	LCSA 2.15.3	BA	C	224.966	UG/L	200	112 %R:		50	150
19167	LCSA 2.15.3	BE	C	11.714	UG/L	10	117 %R:		50	150
19167	LCSA 2.15.3	CD	C	11.184	UG/L	10	112 %R:		50	150
19167	LCSA 2.15.3	CR	C	122.861	UG/L	100	123 %R:		50	150
19167	LCSA 2.15.3	MO	C	107.592	UG/L	100	108 %R:		50	150
19167	LCSA 2.15.3	NI	C	110.264	UG/L	100	110 %R:		50	150
19167	LCSA 2.15.3	SB	C	22.666	UG/L	20	113 %R:		50	150
19167	LCSA 2.15.3	TL	C	11.645	UG/L	10	116 %R:		50	150
19170	LCSA 2.15.5	AL	C	1.93714	MG/L	2	97 %R:		85	115
19170	LCSA 2.15.5	CD	C	.10147	MG/L	0.1	101 %R:		85	115
19170	LCSA 2.15.5	CR	C	1.00933	MG/L	1	101 %R:		85	115
19170	LCSA 2.15.5	CU	C	.99171	MG/L	1	99 %R:		85	115
19170	LCSA 2.15.5	FE	C	2.04279	MG/L	2	102 %R:		85	115
19170	LCSA 2.15.5	MN	C	1.01815	MG/L	1	102 %R:		85	115
19170	LCSA 2.15.5	NI	C	1.07322	MG/L	1	107 %R:		85	115
19170	LCSA 2.15.5	PB	C	1.09541	MG/L	1.1	100 %R:		85	115
19170	LCSA 2.16.5	AL	C	1.95781	MG/L	2	98 %R:		85	115
19170	LCSA 2.16.5	CA	C	2.52253	MG/L	2.5	101 %R:		85	115
19170	LCSA 2.16.5	CD	C	.10029	MG/L	0.1	100 %R:		85	115
19170	LCSA 2.16.5	CR	C	1.01996	MG/L	1	102 %R:		85	115
19170	LCSA 2.16.5	CU	C	.98247	MG/L	1	98 %R:		85	115

QC Code Legend

B Blanks	K Calibration Checks	S Spikes
C Control Samples	M Matrix Spike Duplicates	
D Duplicates	R Surrogates	



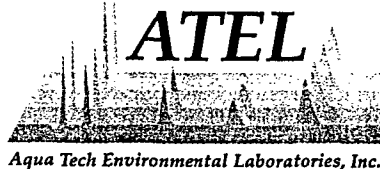
- QUALITY CONTROL REPORT -

Printed: 2/25/2000

WS#	Lab#	Test ID	QC Code	Result	Units	True Added	-- QC Calculations -- QC1	-- QC Calculations -- QC2	Lower Limit	Upper Limit
19170	LCSA 2.16.5	FE	C	2.03881	MG/L	2	102 %R:		85	115
19170	LCSA 2.16.5	MG	C	2.47729	MG/L	2.5	99 %R:		85	115
19170	LCSA 2.16.5	MN	C	1.0168	MG/L	1	102 %R:		85	115
19170	LCSA 2.16.5	NA	C	2.49636	MG/L	2.5	100 %R:		85	115
19170	LCSA 2.16.5	NI	C	1.01978	MG/L	1	102 %R:		85	115
19170	LCSA 2.16.5	PB	C	1.12541	MG/L	1.1	102 %R:		85	115
19170	LCSA 2.16.5	ZN	C	1.02291	MG/L	1	102 %R:		85	115
19170	LCSA 2.16.5	AG	C	.09934	MG/L	0.1	99 %R:		85	115
19170	LCSA 2.17.2	AG	C	.10996	MG/L	0.1	110 %R:		80	120
19170	LCSA 2.17.2	AL	C	1.8886	MG/L	2	94 %R:		80	120
19170	LCSA 2.17.2	BA	C	1.90801	MG/L	2	95 %R:		80	120
19170	LCSA 2.17.2	BE	C	.09929	MG/L	0.1	99 %R:		80	120
19170	LCSA 2.17.2	CA	C	2.47968	MG/L	2.5	99 %R:		80	120
19170	LCSA 2.17.2	CO	C	1.00084	MG/L	1	100 %R:		80	120
19170	LCSA 2.17.2	CR	C	.98294	MG/L	1	98 %R:		80	120
19170	LCSA 2.17.2	CU	C	.95475	MG/L	1	95 %R:		80	120
19170	LCSA 2.17.2	FE	C	2.01566	MG/L	2	101 %R:		80	120
19170	LCSA 2.17.2	K	C	8.4577	MG/L	10	85 %R:		80	120
19170	LCSA 2.17.2	MG	C	2.34252	MG/L	2.5	94 %R:		80	120
19170	LCSA 2.17.2	MN	C	.98021	MG/L	1	98 %R:		80	120
19170	LCSA 2.17.2	NA	C	2.57664	MG/L	2.5	103 %R:		80	120
19170	LCSA 2.17.2	NI	C	.95402	MG/L	1	95 %R:		80	120
19170	LCSA 2.17.2	V	C	1.92371	MG/L	2	96 %R:		80	120
19170	LCSA 2.17.2	ZN	C	.95972	MG/L	1	96 %R:		80	120
19167	LCSA 2.17.3	AS	C	25.354	UG/L	20	127 %R:		50	150
19167	LCSA 2.17.3	B	C	104.242	UG/L	100	104 %R:		50	150
19167	LCSA 2.17.3	CD	C	11.654	UG/L	10	117 %R:		50	150
19167	LCSA 2.17.3	MO	C	107.718	UG/L	100	108 %R:		50	150
19167	LCSA 2.17.3	PB	C	12.135	UG/L	10	121 %R:		50	150
19167	LCSA 2.17.3	SB	C	22.593	UG/L	20	113 %R:		50	150
19167	LCSA 2.17.3	TL	C	11.43	UG/L	10	114 %R:		50	150
19167	LCSA 2.17.3	U	C	1063.63	UG/L	1000	106 %R:		50	150
19170	LCSA 2.17.5	AG	C	.1025	MG/L	0.1	103 %R:		85	115
19170	LCSA 2.17.5	AL	C	1.89381	MG/L	2	95 %R:		85	115
19170	LCSA 2.17.5	CA	C	2.52513	MG/L	2.5	101 %R:		85	115
19170	LCSA 2.17.5	CR	C	.91817	MG/L	1	92 %R:		85	115
19170	LCSA 2.17.5	CU	C	.99014	MG/L	1	99 %R:		85	115

QC Code Legend

B Blanks	K Calibration Checks	S Spikes
C Control Samples	M Matrix Spike Duplicates	
D Duplicates	R Surrogates	



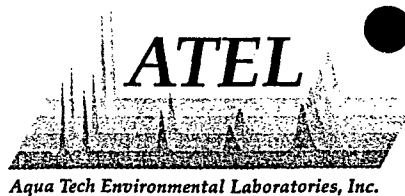
- QUALITY CONTROL REPORT -

Printed: 2/25/2000

WS#	Lab#	Test ID	QC Code	Result	Units	True Added	-- QC Calculations -- QC1	-- QC Calculations -- QC2	Lower Limit	Upper Limit
19170	LCSA 2.17.5	FE	C	2.03412	MG/L	2	102 %R:		85	115
19170	LCSA 2.17.5	MG	C	2.48258	MG/L	2.5	99 %R:		85	115
19170	LCSA 2.17.5	MN	C	.92339	MG/L	1	92 %R:		85	115
19170	LCSA 2.17.5	NI	C	.9064	MG/L	1	91 %R:		85	115
19170	LCSA 2.17.5	ZN	C	.92985	MG/L	1	93 %R:		85	115
19215	LCSA 2.18.3	SE	C	18.37	UG/L	20	92 %R:		70	125
19244	LCSA 2.22	HG	C	2.6	UG/L	2.5	104 %R:		70	125
19244	LCSA 2.23	HG	C	2.47	UG/L	2.5	99 %R:		70	125
19215	LCSA-L 2.18	SE	C	182.8	UG/L	200	91 %R:		80	120
19170	LCSS 2.14.4A	AG	C	92.864	MG/KG	107	87 %R:		70	120
19170	LCSS 2.14.4A	CR	C	87.732	MG/KG	99.4	88 %R:		70	120
19170	LCSS 2.17.4C	AG	C	126.330578	MG/KG	107	118 %R:		70	120
19170	LCSS 2.17.4C	AL	C	9967.20833	MG/KG	10416.7	96 %R:		70	120
19170	LCSS 2.17.4C	CA	C	1267.59504	MG/KG	1320	96 %R:		70	120
19170	LCSS 2.17.4C	CD	C	155.400826	MG/KG	151	103 %R:		70	120
19170	LCSS 2.17.4C	CR	C	88.9421487	MG/KG	99.4	89 %R:		70	120
19170	LCSS 2.17.4C	CU	C	55.9752066	MG/KG	59.2	95 %R:		70	120
19170	LCSS 2.17.4C	FE	C	10688.3333	MG/KG	10416.7	103 %R:		70	120
19170	LCSS 2.17.4C	K	C	1706.78099	MG/KG	2100	81 %R:		70	120
19170	LCSS 2.17.4C	MG	C	842.896694	MG/KG	1200	70 %R:		70	120
19170	LCSS 2.17.4C	MN	C	195.979338	MG/KG	218	90 %R:		70	120
19170	LCSS 2.17.4C	NA	C	13539.4166	MG/KG	13020.8	104 %R:		70	120
19170	LCSS 2.17.4C	NI	C	63.2066115	MG/KG	63.3	100 %R:		70	120
19170	LCSS 2.17.4C	PB	C	98.8305785	MG/KG	98.7	100 %R:		70	120
19215	LCSS 2.17.4C	SE	C	130.909090	MG/KG	142	92 %R:		70	125
19170	LCSS 2.17.4C	ZN	C	114.801652	MG/KG	123	93 %R:		70	120
19170	LFB	AG	C	.87452	MG/L	1	87 %R:		85	115
19170	LFB	CA	C	26.53294	MG/L	25	106 %R:		85	115
19170	LFB	FE	C	5.24127	MG/L	5	105 %R:		85	115
19170	LFB	MG	C	26.24145	MG/L	25	105 %R:		85	115
19170	LFB	MN	C	2.63416	MG/L	2.5	105 %R:		85	115
19170	LFB	NA	C	25.77708	MG/L	25	103 %R:		85	115
19244	LFB 1	HG	C	2.16	UG/L	2	108 %R:		85	115
19244	LFB 2	HG	C	2.11	UG/L	2	106 %R:		85	115
19215	MAR00-02612D	SE	D	368.9	UG/L	1	%D			20
19170	MAR00-03725D	CD	D	1.94	UG/L	26	%D * (<5 x MDL)			20
19170	MAR00-03725D	PB	D	11.84	UG/L	69	%D * (<5 x MDL)			20

QC Code Legend

B Blanks	K Calibration Checks	S Spikes
C Control Samples	M Matrix Spike Duplicates	
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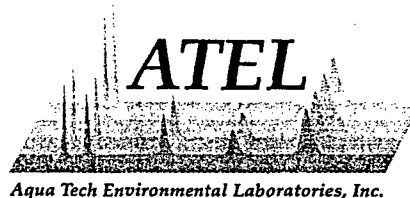
- QUALITY CONTROL REPORT -

Printed: 2/25/2000

WS#	Lab#	Test ID	QC Code	Result	Units	True Added	-- QC Calculations -- QC1	-- QC Calculations -- QC2	Lower Limit	Upper Limit
19170	MAR00-03727D	AG	D	.472949389	MG/KG		40 %D * (<5 x MDL)			20
19167	MAR00-03727D	AS	D	6.07819799	MG/KG		22 %D *			20
19170	MAR00-03727D	CR	D	11.1064572	MG/KG		12 %D			20
19170	MAR00-03728M	AG	M	8.75960752	MG/KG	8.17661	98 %R:	9 %RPD	80	120
19170	MAR00-03728S	AG	S	9.54238833	MG/KG	9.11577	96 %R:		80	120
19170	MAR00-03837S	CD	S	1195.96	UG/L	1250	95 %R:		85	115
19170	MAR00-03837S	PB	S	2430.95	UG/L	2500	96 %R:		85	115
19167	MAR00-03850M	AS	M	27.804	UG/L	20	139 %R: *	20 %RPD	75	125
19167	MAR00-03850M	BA	M	278.997	UG/L	200	131 %R: *	9 %RPD	75	125
19167	MAR00-03850M	CD	M	13.361	UG/L	10	134 %R: *	11 %RPD	75	125
19167	MAR00-03850M	MNI	M	137.846	UG/L	100	134 %R: *	11 %RPD	75	125
19167	MAR00-03850M	SB	M	24.414	UG/L	20	119 %R:	3 %RPD	75	125
19167	MAR00-03850M	TL	M	12.42	UG/L	10	124 %R:	7 %RPD	75	125
19167	MAR00-03850S	AS	S	22.686	UG/L	20	113 %R:		75	125
19167	MAR00-03850S	BA	S	254.918	UG/L	200	119 %R:		75	125
19167	MAR00-03850S	CD	S	11.97	UG/L	10	120 %R:		75	125
19167	MAR00-03850S	NI	S	123.72	UG/L	100	120 %R:		75	125
19167	MAR00-03850S	SB	S	23.65	UG/L	20	116 %R:		75	125
19167	MAR00-03850S	TL	S	11.603	UG/L	10	116 %R:		75	125
19167	MAR00-03851D	AS	D	4.466	UG/L		32 %D * (<5 x MDL)			20
19167	MAR00-03851D	BA	D	68.076	UG/L		3 %D			20
19167	MAR00-03851D	BE	D	.213	UG/L		130 %D * (<5 x MDL)			20
19167	MAR00-03851D	CD	D	.017	UG/L		158 %D * (<5 x MDL)			20
19167	MAR00-03851D	CR	D	4.509	UG/L		3 %D (<5 x MDL)			20
19167	MAR00-03851D	NI	D	9.05	UG/L		1 %D (<5 x MDL)			20
19167	MAR00-03851D	SB	D	.236	UG/L		7 %D (<5 x MDL)			20
19167	MAR00-03851D	TL	D	0	UG/L		1 %D (<5 x MDL)			20
19244	MAR00-03931D	HG	D	.00062	MG/L		63 %D * (<5 x MDL)			20
19215	MAR00-03931D	SE	D	.0275	MG/L		0 %D (<5 x MDL)			20
19244	MAR00-03931S	HG	S	.0216	MG/L	0.02	102 %R:		50	150
19215	MAR00-03931S	SE	S	1.129	MG/L	1	110 %R:		50	150
19244	MAR00-03932S	HG	S	.0223	MG/L	0.02	109 %R:		50	150
19215	MAR00-03932S	SE	S	1.087	MG/L	1	107 %R:		50	150
19170	MAR00-03941D	CR	D	5.13	UG/L		51 %D * (<5 x MDL)			20
19170	MAR00-03941D	CU	D	10.75	UG/L		0 %D (<5 x MDL)			20
19170	MAR00-03941D	NI	D	21.75	UG/L		47 %D * (<5 x MDL)			20
19170	MAR00-03955S	AL	S	10472.53	UG/L	10000	98 %R:		85	115

QC Code Legend

B	Blanks	K	Calibration Checks	S	Spikes
C	Control Samples	M	Matrix Spike Duplicates		
D	Duplicates	R	Surrogates		



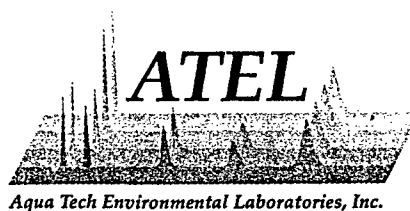
- QUALITY CONTROL REPORT -

Printed: 2/25/2000

WS#	Lab#	Test ID	QC Code	Result	Units	True Added	-- QC Calculations -- QC1	-- QC Calculations -- QC2	Lower Limit	Upper Limit
19170	MAR00-03955S	FE	S	6040.78	UG/L	5000	100 %R:		85	115
19170	MAR00-03991MK		M	7590.81355	MG/KG	6518.90	93 %R:	2 %RPD	70	130
19170	MAR00-03991S	K	S	7449.92998	MG/KG	6605.02	90 %R:		70	130
19244	MAR00-04002MHG		M	2.16	UG/L	2	105 %R:	0 %RPD	75	125
19244	MAR00-04002S	HG	S	2.17	UG/L	2	106 %R:		75	125
19170	MAR00-04010MFE		M	5089.39	UG/L	5000	102 %R:	1 %RPD	85	115
19170	MAR00-04010MMN		M	2955.34	UG/L	2500	101 %R:	1 %RPD	85	115
19170	MAR00-04010S	FE	S	5118.87	UG/L	5000	102 %R:		85	115
19170	MAR00-04010S	MN	S	2976.15	UG/L	2500	102 %R:		85	115
19170	MAR00-04012D	AG	D	.54	UG/L		195 %D * (<5 x MDL)			20
19170	MAR00-04012D	AL	D	133.94	UG/L		2 %D (<5 x MDL)			20
19167	MAR00-04012D	AS	D	41.471	UG/L		8 %D			20
19167	MAR00-04012D	B	D	307.367	UG/L		0 %D			20
19170	MAR00-04012D	BA	D	160.05	UG/L		1 %D			20
19170	MAR00-04012D	BE	D	0	UG/L		200 %D * (<5 x MDL)			20
19170	MAR00-04012D	CA	D	79.99197	MG/L		0 %D			20
19167	MAR00-04012D	CD	D	0	UG/L		200 %D * (<5 x MDL)			20
19170	MAR00-04012D	CO	D	0	UG/L		200 %D * (<5 x MDL)			20
19170	MAR00-04012D	CR	D	4.58	UG/L		32 %D * (<5 x MDL)			20
19170	MAR00-04012D	CU	D	6.12	UG/L		55 %D * (<5 x MDL)			20
19170	MAR00-04012D	FE	D	6863.67	UG/L		1 %D			20
19170	MAR00-04012D	K	D	16.50376	MG/L		4 %D			20
19170	MAR00-04012D	MG	D	18.38595	MG/L		0 %D			20
19170	MAR00-04012D	MN	D	161.86	UG/L		1 %D			20
19167	MAR00-04012D	MO	D	33.558	UG/L		3 %D (<5 x MDL)			20
19170	MAR00-04012D	NA	D	1509.6264	MG/L		2 %D			20
19170	MAR00-04012D	NI	D	9.5	UG/L		37 %D * (<5 x MDL)			20
19167	MAR00-04012D	PB	D	1.014	UG/L		17 %D (<5 x MDL)			20
19167	MAR00-04012D	SB	D	.687	UG/L		5 %D (<5 x MDL)			20
19215	MAR00-04012D	SE	D	13.8	UG/L		32 %D * (<5 x MDL)			20
19167	MAR00-04012D	TL	D	0	UG/L		3 %D (<5 x MDL)			20
19167	MAR00-04012D	U	D	.857	UG/L		1 %D (<5 x MDL)			20
19170	MAR00-04012D	V	D	2.22	UG/L		64 %D * (<5 x MDL)			20
19170	MAR00-04012D	ZN	D	79.97	UG/L		7 %D			20
19244	MAR00-04027D	HG	D	.049	UG/L		72 %D * (<5 x MDL)			20
19170	MAR00-04029D	CR	D	0	UG/L		200 %D * (<5 x MDL)			20
19170	MAR00-04029D	CU	D	6.36	UG/L		+03 %D * (<5 x MDL)			20

QC Code Legend

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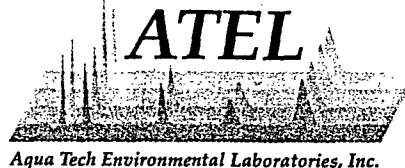
- QUALITY CONTROL REPORT -

Printed: 2/25/2000

WS#	Lab#	Test ID	QC Code	Result	Units	True Added	-- QC Calculations -- QC1	-- QC Calculations -- QC2	Lower Limit	Upper Limit
19170	MAR00-04029D	NI	D	23.78	UG/L		23 %D * (<5 x MDL)			20
19170	MAR00-04029D	ZN	D	43.24	UG/L		1 %D (<5 x MDL)			20
19170	MAR00-04035M	PB	M	1076.5	UG/L	1100	98 %R:	4 %RPD	70	130
19170	MAR00-04035M	ZN	M	1024.46	UG/L	1000	98 %R:	4 %RPD	70	130
19170	MAR00-04035S	PB	S	1038.35	UG/L	1100	94 %R:		70	130
19170	MAR00-04035S	ZN	S	988.08	UG/L	1000	94 %R:		70	130
19170	MAR00-04093M	FE	M	4946.67	UG/L	5000	99 %R:	1 %RPD	85	115
19170	MAR00-04093M	MN	M	2475.35	UG/L	2500	99 %R:	1 %RPD	85	115
19170	MAR00-04093S	FE	S	4974.09	UG/L	5000	99 %R:		85	115
19170	MAR00-04093S	MN	S	2492.08	UG/L	2500	99 %R:		85	115
19170	MAR00-04094D	FE	D	0	UG/L		0 %D (<5 x MDL)			20
19170	MAR00-04094D	MN	D	.29	UG/L		106 %D * (<5 x MDL)			20
19244	MAR00-04114S	HG	S	.0218	MG/L	0.02	107 %R:		50	150
19215	MAR00-04114S	SE	S	1.1065	MG/L	1	110 %R:		50	150
19170	MAR00-04121D	NA	D	9.99741	MG/L		3 %D			20
19170	MAR00-04127D	AL	D	535.5	UG/L		4 %D			20
19170	MAR00-04128S	AL	S	9950.48	UG/L	10000	95 %R:		85	115
19170	MAR00-04131M	FE	M	4798.06	UG/L	5000	96 %R:	2 %RPD	85	115
19170	MAR00-04131S	FE	S	4683.32	UG/L	5000	94 %R:		85	115
19170	MAR00-04133D	AG	D	35.9363295	MG/KG		3 %D			20
19170	MAR00-04133D	AL	D	14793.8071	MG/KG		2 %D			20
19170	MAR00-04133D	CA	D	39483.4363	MG/KG		2 %D			20
19170	MAR00-04133D	CD	D	6.06741573	MG/KG		18 %D			20
19170	MAR00-04133D	CR	D	73.0617977	MG/KG		4 %D			20
19170	MAR00-04133D	CU	D	492.213483	MG/KG		4 %D			20
19170	MAR00-04133D	FE	D	24326.6835	MG/KG		3 %D			20
19170	MAR00-04133D	K	D	1583.83895	MG/KG		6 %D (<5 x MDL)			20
19170	MAR00-04133D	MG	D	5093.96441	MG/KG		2 %D			20
19170	MAR00-04133D	MN	D	106.653558	MG/KG		3 %D			20
19170	MAR00-04133D	NA	D	1771.41947	MG/KG		3 %D			20
19170	MAR00-04133D	NI	D	33.3445692	MG/KG		2 %D			20
19170	MAR00-04133D	PB	D	32.2453183	MG/KG		10 %D (<5 x MDL)			20
19215	MAR00-04133D	SE	D	4.02621722	MG/KG		7 %D (<5 x MDL)			20
19170	MAR00-04133D	ZN	D	625.204119	MG/KG		2 %D			20
19170	MAR00-04144M	CR	M	1031.25	UG/L	1000	97 %R:	0 %RPD	70	130
19170	MAR00-04144M	CU	M	1032.35	UG/L	1000	98 %R:	0 %RPD	70	130
19170	MAR00-04144M	MN	M	1005.52	UG/L	1000	99 %R:	0 %RPD	70	130

QC Code Legend

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C Control Samples	M Matrix Spike Duplicates	
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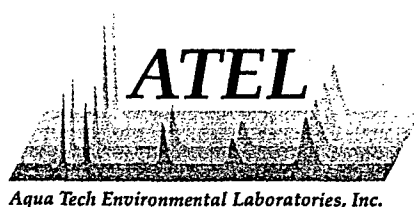
- QUALITY CONTROL REPORT -

Printed: 2/25/2000

WS#	Lab#	Test ID	QC Code	Result	Units	True Added	-- QC Calculations -- QC1	-- QC Calculations -- QC2	Lower Limit	Upper Limit
19170	MAR00-04144	MZN	M	1068.49	UG/L	1000	100 %R:	0 %RPD	70	130
19170	MAR00-04144	S CR	S	1035.48	UG/L	1000	98 %R:		70	130
19170	MAR00-04144	S CU	S	1032.35	UG/L	1000	98 %R:		70	130
19170	MAR00-04144	S MN	S	1002.23	UG/L	1000	98 %R:		70	130
19170	MAR00-04144	S ZN	S	1066.19	UG/L	1000	100 %R:		70	130
19170	MAR00-04152	D CR	D	5.52	UG/L		15 %D (<5 x MDL)			20
19170	MAR00-04152	D CU	D	25.73	UG/L		6 %D (<5 x MDL)			20
19170	MAR00-04152	D NI	D	57.62	UG/L		21 %D * (<5 x MDL)			20
19170	MAR00-04152	D ZN	D	0	UG/L		0 %D (<5 x MDL)			20
19170	MAR00-04162	S ZN	S	2464.41	UG/L	2500	98 %R:		85	115
19170	MAR00-04165	D ZN	D	3.96	UG/L		1 %D (<5 x MDL)			20
19170	MAR00-04170	S ZN	S	2512.99	UG/L	2500	100 %R:		85	125
19170	MAR00-04190	D CR	D	.5	UG/L		438 %D * (<5 x MDL)			20
19170	MAR00-04192	MAG	M	90.11	0.01	100	88 %R:	1 %RPD	70	130
19170	MAR00-04192	MBA	M	1893.37	0.01	2000	88 %R:	2 %RPD	70	130
19170	MAR00-04192	M CR	M	896.75	0.02	1000	90 %R:	2 %RPD	70	130
19170	MAR00-04192	M CU	M	916.2	0.01	1000	87 %R:	2 %RPD	70	130
19170	MAR00-04192	M NI	M	921.92	0.02	1000	92 %R:	5 %RPD	70	130
19170	MAR00-04192	M ZN	M	977.7	0.01	1000	91 %R:	2 %RPD	70	130
19170	MAR00-04192	S AG	S	89.36	0.01	100	87 %R:		70	130
19170	MAR00-04192	S BA	S	1860.06	0.01	2000	86 %R:		70	130
19170	MAR00-04192	S CR	S	880.38	0.02	1000	88 %R:		70	130
19170	MAR00-04192	S CU	S	896.84	0.01	1000	85 %R:		70	130
19170	MAR00-04192	S NI	S	873.48	0.02	1000	87 %R:		70	130
19170	MAR00-04192	S ZN	S	960.38	0.01	1000	89 %R:		70	130
19170	MAR00-04193	D AG	D	2.06	0.01		481 %D * (<5 x MDL)			20
19170	MAR00-04193	D BA	D	26.59	0.01		4 %D			20
19170	MAR00-04193	D CR	D	0	0.02		200 %D * (<5 x MDL)			20
19170	MAR00-04193	D CU	D	16.05	0.01		46 %D * (<5 x MDL)			20
19170	MAR00-04193	D NI	D	6.38	0.02		39 %D * (<5 x MDL)			20
19170	MAR00-04193	D ZN	D	34.39	0.01		0 %D			20
19215	MAR00-04247	D SE	D	3.25	UG/L		17 %D (<5 x MDL)			20
19215	MAR00-04250	M SE	M	20.5	UG/L	20	89 %R:	4 %RPD	80	120
19215	MAR00-04250	S SE	S	21.4	UG/L	20	94 %R:		80	120
19244	MAR00-04394	M HG	M	2.14	UG/L	2	105 %R:	3 %RPD	75	125
19244	MAR00-04394	S HG	S	2.2	UG/L	2	108 %R:		75	125
19244	MAR00-04403	D HG	D	.034	UG/L		23 %D * (<5 x MDL)			20

QC Code Legend

B Blanks	K Calibration Checks	S Spikes
C Control Samples	M Matrix Spike Duplicates	
D Duplicates	R Surrogates	



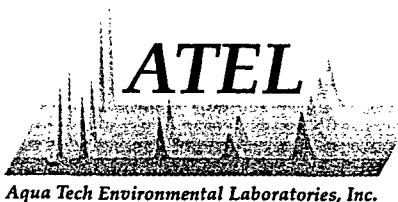
- QUALITY CONTROL REPORT -

Printed: 2/25/2000

WS#	Lab#	Test ID	QC Code	Result	Units	True Added	-- QC Calculations -- QC1	-- QC Calculations -- QC2	Lower Limit	Upper Limit
19215	PBL 2.18	SE	C	.58	UG/L					
19170	PBS 2.14.4A	AG	C	0	UG/L		0			
19170	PBS 2.14.4A	CR	C	1.3	UG/L		0			
19170	PBS 2.17.4C	AG	C	1.88	UG/L		0			
19170	PBS 2.17.4C	AL	C	5.06	UG/L		0			
19170	PBS 2.17.4C	CA	C	0	MG/L		0			
19170	PBS 2.17.4C	CD	C	1.43	UG/L		0			
19170	PBS 2.17.4C	CR	C	.18	UG/L		0			
19170	PBS 2.17.4C	CU	C	6.13	UG/L		0			
19170	PBS 2.17.4C	FE	C	3.2	UG/L		0			
19170	PBS 2.17.4C	K	C	.20881	MG/L		0			
19170	PBS 2.17.4C	MG	C	.0052	MG/L		0			
19170	PBS 2.17.4C	MN	C	2	UG/L		0			
19170	PBS 2.17.4C	NA	C	.05151	MG/L		0			
19170	PBS 2.17.4C	NI	C	14.46	UG/L		0			
19170	PBS 2.17.4C	PB	C	5.21	UG/L		0			
19215	PBS 2.17.4C	SE	C	.2	UG/L					
19170	PBS 2.17.4C	ZN	C	.34	UG/L		0			
19244	PBW 1	HG	C	.055	UG/L					
19215	PBW 12.18.3	SE	C	-.19	UG/L					
19244	PBW 2	HG	C	0	UG/L		0			
19170	PBW 2.14.5	CD	C	.0018	MG/L		0			
19170	PBW 2.14.5	NA	C	.06411	MG/L		0			
19170	PBW 2.14.5	PB	C	.00004	MG/L		0			
19167	PBW 2.15.3	AS	C	1.108	UG/L					
19167	PBW 2.15.3	BA	C	.09	UG/L					
19167	PBW 2.15.3	BE	C	.028	UG/L					
19167	PBW 2.15.3	CD	C	.009	UG/L					
19167	PBW 2.15.3	CR	C	5.381	UG/L					
19167	PBW 2.15.3	MO	C	.323	UG/L					
19167	PBW 2.15.3	NI	C	3.105	UG/L					
19167	PBW 2.15.3	SB	C	.064	UG/L					
19167	PBW 2.15.3	TL	C	0	UG/L					
19170	PBW 2.15.5	AL	C	.00152	MG/L		0			
19170	PBW 2.15.5	CD	C	.00233	MG/L		0			
19170	PBW 2.15.5	CR	C	.00055	MG/L		0			
19170	PBW 2.15.5	CU	C	0	MG/L		0			

QC Code Legend

B Blanks	K Calibration Checks	S Spikes
C Control Samples	M Matrix Spike Duplicates	
D Duplicates	R Surrogates	



Aqua Tech Environmental Laboratories, Inc.

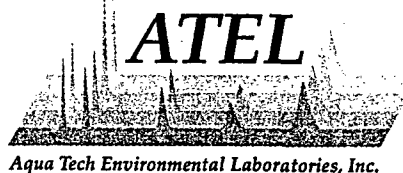
- QUALITY CONTROL REPORT -

Printed: 2/25/2000

WS#	Lab#	Test ID	QC Code	Result	Units	True Added	-- QC Calculations -- QC1	-- QC Calculations -- QC2	Lower Limit	Upper Limit
19170	PBW 2.15.5	FE	C	.00882	MG/L		0			
19170	PBW 2.15.5	MN	C	.00301	MG/L		0			
19170	PBW 2.15.5	NI	C	0	MG/L		0			
19170	PBW 2.15.5	PB	C	.00522	MG/L		0			
19170	PBW 2.16.5	AG	C	0	MG/L		0			
19170	PBW 2.16.5	AL	C	0	MG/L		0			
19170	PBW 2.16.5	CA	C	0	MG/L		0			
19170	PBW 2.16.5	CD	C	.00249	MG/L		0			
19170	PBW 2.16.5	CR	C	0	MG/L		0			
19170	PBW 2.16.5	CU	C	0	MG/L		0			
19170	PBW 2.16.5	FE	C	.00039	MG/L		0			
19170	PBW 2.16.5	MG	C	.01253	MG/L		0			
19170	PBW 2.16.5	MN	C	.00301	MG/L		0			
19170	PBW 2.16.5	NA	C	.05057	MG/L		0			
19170	PBW 2.16.5	NI	C	.00425	MG/L		0			
19170	PBW 2.16.5	PB	C	.00832	MG/L		0			
19170	PBW 2.16.5	ZN	C	0	MG/L		0			
19170	PBW 2.17.2	AG	C	0	MG/L		0			
19170	PBW 2.17.2	AL	C	.0172	MG/L		0			
19170	PBW 2.17.2	BA	C	.0005	MG/L		0			
19170	PBW 2.17.2	BE	C	.00053	MG/L		0			
19170	PBW 2.17.2	CA	C	0	MG/L		0			
19170	PBW 2.17.2	CO	C	0	MG/L		0			
19170	PBW 2.17.2	CR	C	.00055	MG/L		0			
19170	PBW 2.17.2	CU	C	0	MG/L		0			
19170	PBW 2.17.2	FE	C	.04159	MG/L		0			
19170	PBW 2.17.2	K	C	0	MG/L		0			
19170	PBW 2.17.2	MG	C	.00279	MG/L		0			
19170	PBW 2.17.2	MN	C	.00199	MG/L		0			
19170	PBW 2.17.2	NA	C	.05991	MG/L		0			
19170	PBW 2.17.2	NI	C	0	MG/L		0			
19170	PBW 2.17.2	V	C	0	MG/L		0			
19170	PBW 2.17.2	ZN	C	.00023	MG/L		0			
19167	PBW 2.17.3	AS	C	2.521	UG/L					
19167	PBW 2.17.3	B	C	1.367	UG/L					
19167	PBW 2.17.3	CD	C	.172	UG/L					
19167	PBW 2.17.3	MO	C	0	UG/L					

QC Code Legend

B Blanks	K Calibration Checks	S Spikes
C Control Samples	M Matrix Spike Duplicates	
D Duplicates	R Surrogates	



- QUALITY CONTROL REPORT -

Printed: 2/25/2000

WS#	Lab#	Test ID	QC Code	Result	Units	True Added	-- QC Calculations -- QC1	-- QC Calculations -- QC2	Lower Limit	Upper Limit
19167	PBW 2.17.3	PB	C	.377	UG/L					
19167	PBW 2.17.3	SB	C	0	UG/L					
19167	PBW 2.17.3	TL	C	0	UG/L					
19167	PBW 2.17.3	U	C	.012	UG/L					
19170	PBW 2.17.5	AL	C	.01024	MG/L		0			
19170	PBW 2.17.5	CR	C	0	MG/L		0			
19170	PBW 2.17.5	CU	C	.00002	MG/L		0			
19170	PBW 2.17.5	MN	C	0	MG/L		0			
19170	PBW 2.17.5	NI	C	0	MG/L		0			
19170	PBW 2.17.5	ZN	C	0	MG/L		0			
19170	PBW 2.17.5 B	AG	C	.00201	MG/L		0			
19170	PBW 2.17.5 B	CA	C	0	MG/L		0			
19170	PBW 2.17.5 B	CR	C	.00103	MG/L		0			
19170	PBW 2.17.5 B	CU	C	.00315	MG/L		0			
19170	PBW 2.17.5 B	FE	C	.01383	MG/L		0			
19170	PBW 2.17.5 B	MG	C	.00608	MG/L		0			
19170	PBW 2.17.5 B	NI	C	0	MG/L		0			
19170	PBW 2.17.5 B	ZN	C	.00227	MG/L		0			
19170	PBW 2.18 DIS	FE	C	.00084	MG/L		0			
19170	PBW 2.18 DIS	MN	C	.00183	MG/L		0			

QC Code Legend

B	Blanks	K	Calibration Checks	S	Spikes
C	Control Samples	M	Matrix Spike Duplicates		
D	Duplicates	R	Surrogates		

Network Project Manager: Kimberly D. McNeill

Pinnacle Laboratories, Inc.
2709-D Pan American Freeway, NE
Albuquerque, New Mexico 87107
(505) 344-3777 Fax (505) 344-4413

60497

Please see attached sheet for
Detection Limits

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	ANALYSIS REQUEST
002048-01	2/9	1430	AQ		Metals (8) RCRA
					RCRA TCLP METALS
					Metals-13 PP List
					Metals-Cu, Mn, Al, Zn, Co, Fe, Mg
					Mo, Ni, K, Na, Ca, V, Ti, Sb, Be
					Boron
					TOC
					Gen Chemistry
					Oil and Grease
					Volatile Organics GC/MS (8260)
					BOD
					COD
					PESTICIDES/PCB (608/8080)
					8270 BY GC/MS
					PNA (8310)
					8240 (TCLP 1311) ZHE
					Herbicides (615/8150)
					Base/Neutral Acid Compounds GC/MS (625/8270)
					URANIUM by ICP-MS
					RADIUM 226+228
					Gross Alpha/Beta
					TO-14
					NUMBER OF CONTAINERS

PROJECT INFORMATION		SAMPLE RECEIPT		SAMPLES SENT TO:		RELINQUISHED BY:		RELINQUISHED BY:	
PROJECT #:	002048	Total Number of Containers		PENSACOLA - STL-FL		Signature:		Signature:	
PROJ. NAME:	ARCB	Chain of Custody Seals		PORTLAND - ESL-OR		Printed Name:		Printed Name:	
QC LEVEL:	STD IV	Received Intact?		STL - CT		Date:		Date:	
QC REQUIRED:	MS MSD BLANK	Received Good Cond./Cold		STL - NEW JERSEY		Signature:		Signature:	
TAT:	STANDARD RUSH!!	LAB NUMBER:		N. CREEK		RECEIVED BY:		RECEIVED BY:	
DUE DATE:	2/23	COMMENTS:	DUE DATE	BARRINGER		Signature:		Signature:	
RUSH SURCHARGE:	-			SEQUOIA		Time:		Time:	
CLIENT DISCOUNT:	-			ATEL		Printed Name:		Printed Name:	
SPECIAL CERTIFICATION						Date:		Date:	
REQUIRED: YES/NO	NO					Company	ATEL	Company	



LOG NO: C0-02378
Received: 12 FEB 00
Reported: 25 FEB 00

Ms. Kim McNeill
Pinnacle Laboratories
2709-D Pan American Freeway Northeast
Albuquerque, NM 87107

Project: 002048, GRCB
Sampled By: Client
Code: 134800225
Page 1

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
02378-1	002048-01	02-09-00/14:30
PARAMETER	02378-1	
Alkalinity Series		
Alkalinity (to pH 4.5) as CaCO ₃ , mg/l	580	
Bicarbonate (2320/4500), mg/l	1	
Carbon Dioxide, mg/l	58	
pH, mg/l	7.3	
Analyst	BE	
Prep Date	02.22.00	
Analysis Date	02.22.00	
Batch ID	AEW014	
Prep Method	310.1	
Dilution Factor	1	
Chloride (SM4500E), mg/l		
Analyst	WH	
Prep Date	02.15.00	
Analysis Date	02.16.00	
Batch ID	CKW10A	
Prep Method	325.2	
Dilution Factor	50	
Sulfate as SO ₄ (375.4), mg/l		
Analyst	BE	
Prep Date	02.22.00	
Analysis Date	02.22.00	
Batch ID	SEW021	
Prep Method	375.4	
Dilution Factor	25	



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Page 2

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
02378-1	002048-01	02-09-00/14:30
PARAMETER	02378-1	
Total Dissolved Solids (160.1), mg/l	5200	
Analyst	ED	
Prep Date	02.14.00	
Analysis Date	02.16.00	
Batch ID	TDW011	
Prep Method	160.1	
Dilution Factor	1	
Specific Conductance (120.1), umhos/cm	7400	
Analyst	ED	
Prep Date	02.23.00	
Analysis Date	02.23.00	
Batch ID	CDW004	
Prep Method	120.1	
Dilution Factor	1	
Ignitability-flash point (1010), Degrees C	>100	
Analyst	ST	
Prep Date	02.17.00	
Analysis Date	02.17.00	
Batch ID	FPX007	
Prep Method	1010	
Dilution Factor	1	



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Page 3

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
02378-1	002048-01	02-09-00/14:30
PARAMETER	02378-1	
Total Releasable Cyanide (SW7.3.3.2), mg HCN/kg	<25	
Analyst	CR	
Prep Date	02.15.00	
Analysis Date	02.16.00	
Batch ID	RCX004	
Prep Method	SW9014	
Dilution Factor	1	
Total Releasable Sulfide (SW7.3.4.2), mg H ₂ S/kg	<150	
Analyst	CR	
Prep Date	02.15.00	
Analysis Date	02.15.00	
Batch ID	RCX004	
Prep Method		
Dilution Factor	1	



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Project: 002048, GRCB
Sampled By: Client
Code: 134800225
Page 4

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
02378-1	002048-01	02-09-00/14:30
PARAMETER	02378-1	
Semivolatile Organic Compounds (8270)		
Benzoic acid, ug/l		<50
4-Chloro-3-methylphenol (p-Chloro-m-cresol), ug/l		<10
2-Chlorophenol, ug/l		<10
2,4-Dichlorophenol, ug/l		<10
2,6-Dichlorophenol, ug/l		<10
2,4-Dimethylphenol, ug/l		<10
4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol), ug/l		<50
2,4-Dinitrophenol, ug/l		<50
2-Methylphenol (o-cresol), ug/l		<10
3-Methylphenol/4-Methylphenol (m&p-Cresol), ug/l		<10
2-Nitrophenol (o-Nitrophenol), ug/l		<10
4-Nitrophenol (p-Nitrophenol), ug/l		<50
Pentachlorophenol, ug/l		<50
Phenol, ug/l		42
2,4,5-Trichlorophenol, ug/l		<50
2,4,6-Trichlorophenol, ug/l		<10
Acenaphthene, ug/l		<10
Acenaphthylene, ug/l		<10
Anthracene, ug/l		<10
Benzidine, ug/l		<50
Benzo(a)anthracene, ug/l		<10
Benzo(b)fluoranthene, ug/l		<10
Benzo(k)fluoranthene, ug/l		<10
Benzo(g,h,i)perylene, ug/l		<10
Benzo(a)pyrene, ug/l		<10



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Page 5

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
02378-1	002048-01	02-09-00/14:30
PARAMETER	02378-1	
Benzyl alcohol, ug/l	<10	
4-Bromophenylphenyl ether, ug/l	<10	
Butylbenzylphthalate, ug/l	<10	
4-Chloroaniline (p-Chloroaniline), ug/l	<10	
bis(2-Chloroethoxy)methane, ug/l	<10	
bis(2-Chloroethyl)ether, ug/l	<10	
bis(2-Chloroisopropyl) ether, ug/l	<10	
2-Chloronaphthalene, ug/l	<10	
4-Chlorophenylphenyl ether, ug/l	<10	
Chrysene, ug/l	12	
Dibenzo(a,h)anthracene, ug/l	<10	
Dibenzofuran, ug/l	<10	
Di-n-butylphthalate, ug/l	<10	
1,2-Dichlorobenzene (o-Dichlorobenzene), ug/l	<10	
1,3-Dichlorobenzene (m-Dichlorobenzene), ug/l	<10	
1,4-Dichlorobenzene (p-Dichlorobenzene), ug/l	<10	
3,3'-Dichlorobenzidine, ug/l	<50	
Diethylphthalate, ug/l	<10	
Dimethylphthalate, ug/l	<10	
2,4-Dinitrotoluene, ug/l	<10	
2,6-Dinitrotoluene, ug/l	<10	
Di-n-octylphthalate, ug/l	<10	
1,2-Diphenylhydrazine, ug/l	<10	
bis(2-Ethylhexyl)phthalate, ug/l	<10	
Fluoranthene, ug/l	<10	
Fluorene, ug/l	<10	



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Project: 002048, GRCB
Sampled By: Client
Code: 134800225
Page 6

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
02378-1	002048-01	02-09-00/14:30
PARAMETER	02378-1	
Hexachlorobenzene, ug/l	<10	
Hexachlorobutadiene, ug/l	<10	
Hexachlorocyclopentadiene, ug/l	<10	
Hexachloroethane, ug/l	<10	
Indeno(1,2,3-cd)pyrene, ug/l	<10	
Isophorone, ug/l	<10	
2-Methylnaphthalene, ug/l	<10	
Naphthalene, ug/l	<10	
2-Nitroaniline (o-Nitroaniline), ug/l	<10	
3-Nitroaniline (m-Nitroaniline), ug/l	<10	
4-Nitroaniline (p-Nitroaniline), ug/l	<10	
Nitrobenzene, ug/l	<10	
N-Nitrosodi-n-butylamine, ug/l	<10	
N-Nitrosodimethylamine, ug/l	<10	
N-Nitrosodiphenylamine/Diphenylamine, ug/l	<10	
n-Nitrosodi-n-propylamine, ug/l	<10	
Phenanthrene, ug/l	<10	
Pyrene, ug/l	11	
1,2,4-Trichlorobenzene, ug/l	<10	
Surrogate - 2-Fluorobiphenyl	88 %	
Surrogate - 2-Fluorophenol	73 %	
Surrogate - Nitrobenzene - d5	77 %	
Surrogate - Phenol-d5	82 %	
Surrogate - Terphenyl-d14	100 %	
Surrogate - 2,4,6-Tribromophenol	103 %	
Analyst	RW	
Prep Date	02.16.00	
Analysis Date	02.22.00	
Batch ID	ALW166	
Prep Method	3520	
Dilution Factor	1	



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Project: 002048, GRCB
Sampled By: Client
Code: 134800225
Page 7

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED			
02378-2	Method Blank				
02378-3	Lab Control Standard % Recovery				
02378-4	Matrix Spike % Recovery				
02378-5	Matrix Spike Duplicate % Recovery				
PARAMETER	02378-2	02378-3	02378-4	02378-5	
Alkalinity Series					
Alkalinity (to pH 4.5) as CaCO ₃ , mg/l	<1	110 %	96 %	96 %	
Bicarbonate (2320/4500), mg/l	<1	---	---	---	
Carbon Dioxide, mg/l	<1	---	---	---	
Analyst	BE	BE	BE	BE	
Prep Date	02.22.00	02.22.00	02.22.00	02.22.00	
Analysis Date	02.22.00	02.22.00	02.22.00	02.22.00	
Batch ID	AEW014	AEW014	AEW014	AEW014	
Prep Method	310.1	310.1	310.1	310.1	
Dilution Factor	1	1	1	1	
Chloride (SM4500E), mg/l					
Analyst	WH	WH	WH	WH	
Prep Date	02.15.00	02.15.00	02.15.00	02.15.00	
Analysis Date	02.16.00	02.16.00	02.16.00	02.16.00	
Batch ID	CKW10A	CKW10A	CKW10A	CKW10A	
Prep Method	325.2	325.2	325.2	325.2	
Dilution Factor	1	1	1	1	
Sulfate as SO ₄ (375.4), mg/l					
Analyst	BE	BE	BE	BE	
Prep Date	02.22.00	02.22.00	02.22.00	02.22.00	
Analysis Date	02.22.00	02.22.00	02.22.00	02.22.00	
Batch ID	SEW021	SEW021	SEW021	SEW021	
Prep Method	375.4	375.4	375.4	375.4	
Dilution Factor	1	1	4	4	



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Page 8

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED			
02378-2	Method Blank				
02378-3	Lab Control Standard % Recovery				
02378-4	Matrix Spike % Recovery				
02378-5	Matrix Spike Duplicate % Recovery				
PARAMETER	02378-2	02378-3	02378-4	02378-5	
Total Dissolved Solids (160.1), mg/l	<5	101 %	N/A	N/A	
Analyst	ED	ED	---	---	
Prep Date	02.14.00	02.14.00	---	---	
Analysis Date	02.16.00	02.16.00	---	---	
Batch ID	TDW011	TDW011	---	---	
Prep Method	160.1	160.1	---	---	
Dilution Factor	1	1	---	---	
Specific Conductance (120.1), umhos/cm	<1	98 %	NA	NA	
Analyst	ED	ED	---	---	
Prep Date	02.23.00	02.23.00	---	---	
Analysis Date	02.23.00	02.23.00	---	---	
Batch ID	CDW004	CDW004	---	---	
Prep Method	120.1	120.1	---	---	
Dilution Factor	1	1	---	---	
Total Releasable Cyanide (SW7.3.3.2), mg HCN/kg	<25	95 %	N/A	N/A	
Analyst	CR	CR	---	---	
Prep Date	02.15.00	02.15.00	---	---	
Analysis Date	02.16.00	02.16.00	---	---	
Batch ID	RCX004	RCX004	---	---	
Prep Method	SW9014	SW9014	---	---	
Dilution Factor	1	1	---	---	



LOG NO: C0-02378
Received: 12 FEB 00
Reported: 25 FEB 00

Ms. Kim McNeill
Pinnacle Laboratories
2709-D Pan American Freeway Northeast
Albuquerque, NM 87107

Project: 002048, GRCB
Sampled By: Client
Code: 134800225
Page 9

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED		
02378-2	Method Blank			
02378-3	Lab Control Standard % Recovery			
02378-4	Matrix Spike % Recovery			
02378-5	Matrix Spike Duplicate % Recovery			
PARAMETER	02378-2	02378-3	02378-4	02378-5
Total Releasable Sulfide (SW7.3.4.2), mg H2S/kg	<150	90 %	N/A	N/A
Analyst	CR	CR	---	---
Prep Date	02.15.00	02.15.00	---	---
Analysis Date	02.15.00	02.15.00	---	---
Batch ID	RCX004	RCX004	---	---
Prep Method			---	---
Dilution Factor	1	1	---	---
Ignitability-flash point (1010), Degrees F	N/A	104 %	N/A	N/A
Analyst	---	ST	---	---
Prep Date	---	02.17.00	---	---
Analysis Date	---	02.17.00	---	---
Batch ID	---	FPX007	---	---
Prep Method	---	1010	---	---
Dilution Factor	---	1	---	---



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Code: 134800225
Page 10

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED			
02378-2	Method Blank				
02378-3	Lab Control Standard % Recovery				
02378-4	Matrix Spike % Recovery				
02378-5	Matrix Spike Duplicate % Recovery				
PARAMETER		02378-2	02378-3	02378-4	02378-5
Semivolatile Organic Compounds (8270)					
Benzoic acid, ug/l		<50	---	---	---
4-Chloro-3-methylphenol (p-Chloro-m-cresol), ug/l		<10	91 %	---	---
2-Chlorophenol, ug/l		<10	80 %	---	---
2,4-Dichlorophenol, ug/l		<10	---	---	---
2,6-Dichlorophenol, ug/l		<10	---	---	---
2,4-Dimethylphenol, ug/l		<10	---	---	---
4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol), ug/l		<50	---	---	---
2,4-Dinitrophenol, ug/l		<50	---	---	---
2-Methylphenol (o-cresol), ug/l		<10	---	---	---
3-Methylphenol/4-Methylphenol (m&p-Cresol), ug/l		<10	---	---	---
2-Nitrophenol (o-Nitrophenol), ug/l		<10	---	---	---
4-Nitrophenol (p-Nitrophenol), ug/l		<50	86 %	---	---
Pentachlorophenol, ug/l		<50	90 %	---	---
Phenol, ug/l		<10	78 %	---	---
2,4,5-Trichlorophenol, ug/l		<50	---	---	---
2,4,6-Trichlorophenol, ug/l		<10	---	---	---
Acenaphthene, ug/l		<10	88 %	---	---
Acenaphthylene, ug/l		<10	---	---	---
Anthracene, ug/l		<10	---	---	---



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Project: 002048, GRCB
Sampled By: Client
Code: 134800225
Page 11

REPORT OF RESULTS

DATE/
TIME SAMPLED

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES				
02378-2	Method Blank				
02378-3	Lab Control Standard % Recovery				
02378-4	Matrix Spike % Recovery				
02378-5	Matrix Spike Duplicate % Recovery				
PARAMETER		02378-2	02378-3	02378-4	02378-5
Benzidine, ug/l		<50	---	---	---
Benzo(a)anthracene, ug/l		<10	---	---	---
Benzo(b)fluoranthene, ug/l		<10	---	---	---
Benzo(k)fluoranthene, ug/l		<10	---	---	---
Benzo(g,h,i)perylene, ug/l		<10	---	---	---
Benzo(a)pyrene, ug/l		<10	---	---	---
Benzyl alcohol, ug/l		<10	---	---	---
4-Bromophenylphenyl ether, ug/l		<10	---	---	---
Butylbenzylphthalate, ug/l		<10	---	---	---
4-Chloroaniline (p-Chloroaniline), ug/l		<10	---	---	---
bis(2-Chloroethoxy)methane, ug/l		<10	---	---	---
bis(2-Chloroethyl)ether, ug/l		<10	---	---	---
bis(2-Chloroisopropyl) ether, ug/l		<10	---	---	---
2-Chloronaphthalene, ug/l		<10	---	---	---
4-Chlorophenylphenyl ether, ug/l		<10	---	---	---
Chrysene, ug/l		<10	---	---	---
Dibenzo(a,h)anthracene, ug/l		<10	---	---	---
Dibenzofuran, ug/l		<10	---	---	---
Di-n-butylphthalate, ug/l		<10	---	---	---
1,2-Dichlorobenzene (o-Dichlorobenzene), ug/l		<10	---	---	---
1,3-Dichlorobenzene (m-Dichlorobenzene), ug/l		<10	---	---	---
1,4-Dichlorobenzene (p-Dichlorobenzene), ug/l		<10	70 %	---	---
3,3'-Dichlorobenzidine, ug/l		<50	---	---	---



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Project: 002048, GRCB
Sampled By: Client
Code: 134800225
Page 12

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED		
02378-2	Method Blank			
02378-3	Lab Control Standard % Recovery			
02378-4	Matrix Spike % Recovery			
02378-5	Matrix Spike Duplicate % Recovery			
PARAMETER	02378-2	02378-3	02378-4	02378-5
Diethylphthalate, ug/l	<10	---	---	---
Dimethylphthalate, ug/l	<10	---	---	---
2,4-Dinitrotoluene, ug/l	<10	97 %	---	---
2,6-Dinitrotoluene, ug/l	<10	---	---	---
Di-n-octylphthalate, ug/l	<10	---	---	---
1,2-Diphenylhydrazine, ug/l	<10	---	---	---
bis(2-Ethylhexyl)phthalate, ug/l	<10	---	---	---
Fluoranthene, ug/l	<10	---	---	---
Fluorene, ug/l	<10	---	---	---
Hexachlorobenzene, ug/l	<10	---	---	---
Hexachlorobutadiene, ug/l	<10	---	---	---
Hexachlorocyclopentadiene, ug/l	<10	---	---	---
Hexachloroethane, ug/l	<10	---	---	---
Indeno(1,2,3-cd)pyrene, ug/l	<10	---	---	---
Isophorone, ug/l	<10	---	---	---
2-Methylnaphthalene, ug/l	<10	---	---	---
Naphthalene, ug/l	<10	---	---	---
2-Nitroaniline (o-Nitroaniline), ug/l	<10	---	---	---
3-Nitroaniline (m-Nitroaniline), ug/l	<10	---	---	---
4-Nitroaniline (p-Nitroaniline), ug/l	<10	---	---	---
Nitrobenzene, ug/l	<10	---	---	---
N-Nitrosodi-n-butylamine, ug/l	<10	---	---	---
N-Nitrosodimethylamine, ug/l	<10	---	---	---



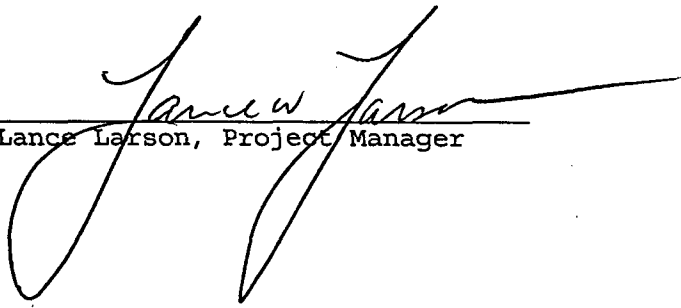
LOG NO: C0-02378
Received: 12 FEB 00
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Project: 002048, GRCB
Sampled By: Client
Code: 134800225
Page 13

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED		
02378-2	Method Blank			
02378-3	Lab Control Standard % Recovery			
02378-4	Matrix Spike % Recovery			
02378-5	Matrix Spike Duplicate % Recovery			
PARAMETER	02378-2	02378-3	02378-4	02378-5
N-Nitrosodiphenylamine/Diphenylamine, ug/l	<10	---	---	---
n-Nitrosodi-n-propylamine, ug/l	<10	82 %	---	---
Phenanthrene, ug/l	<10	---	---	---
Pyrene, ug/l	<10	100 %	---	---
1,2,4-Trichlorobenzene, ug/l	<10	89 %	---	---
Surrogate - 2-Fluorobiphenyl	87 %	102 %	NA	NA
Surrogate - 2-Fluorophenol	78 %	81 %	NA	NA
Surrogate - Nitrobenzene - d5	74 %	93 %	NA	NA
Surrogate - Phenol-d5	79 %	97 %	NA	NA
Surrogate - Terphenyl-d14	112 %	109 %	NA	NA
Surrogate - 2,4,6-Tribromophenol	106 %	121 %	NA	NA
Analyst	RW	RW	---	---
Prep Date	02.16.00	02.16.00	---	---
Analysis Date	02.18.00	02.18.00	---	---
Batch ID	ALW166	ALW166	---	---
Prep Method	3520	3520	---	---
Dilution Factor	1	1	---	---


Lance Larson, Project Manager

Final Page Of Report

Data Qualifiers for Final Report

STL-Pensacola Inorganic/Organic

J4	(For positive results)	Temperature limits exceeded ($\leq 2^{\circ}\text{C}$ or $\geq 6^{\circ}\text{C}$)
J5	(TICs)	The reported value is quantitated as a TIC; therefore, it is estimated
J6	(For positive results)	LCS or Surrogate %R is $>$ upper control limit (UCL) or $<$ lower control limit (LCL)
J7	(For positive results)	The reported value is $>$ the laboratory MDL and $<$ lowest calibration standards (when STL RL is not at or above low calibration standard); therefore, the quantitation is estimation
J (description)	The analyte was positively identified, the quantitation is estimation	
R1	(For nondetects)	Temperature limits exceeded ($\leq 2^{\circ}\text{C}$ or $\geq 6^{\circ}\text{C}$)
R2	Improper preservation, no preservative present or insufficient amount of preservative in sample upon receipt	
R3	Improper preservation, incorrect preservative present in sample upon receipt	
R4	Holding time exceeded	
R10	(Must use for North Carolina Samples!!!!) Holding time exceeded, non-reportable for NDPES compliance monitoring.	
R5	Collection requirements not met, improper container used for sample	
R6	LCS or surrogate %R is $<$ LCL and analyte is not detected or surrogate %R is $<$ 10% for detects/nondetects	
R7	Internal standard area outside -50% to +100% of initial calibration midpoint standard.	
R8	Initial calibration or any calibration verification exceeds acceptance criteria.	
R9	Improper preservation, sample not filtered in the field.	
R (description)	The data are unusable due to deficiencies in the ability to analyze the sample and meet QC criteria	
F	$<$ laboratory or AFCEE RL and $>$ laboratory MDL; estimated numerical value	
F (description)	The analyte was positively identified but the associated numerical value is below the AFCEE or lab RL	
U2	$<$ Laboratory MDL (value for result will be the MDL, never below the MDL)	
U (description)	The analyte was analyzed for but not detected. The associated numerical value is at or below the MDL	
B (description)	The analyte was found in the associated blank as well as in the associated sample(s).	
B1	Analyte was detected in the associated method blank.	
B2	Analyte was detected in the sample(s) and in the blank analyzed on the day samples were extruded; however, this analyte was not detected in the blank analyzed with the samples.	
@	Adjusted reporting limit due to sample matrix (dilution prior to digestion and/or analysis)	
+	Elevated reporting limit due to dilution into calibration range	
* (Metals & Wet Chem)	Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)	
** (Organics)	Compounds flagged are not within the five point initial calibration curve. They are searched for qualitatively or as TICs.	
#	Elevated reporting limit due to insufficient sample size	
M	A matrix effect was present (sample was analyzed twice to confirm or chromatogram had interfering peaks)	
NoMS	Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and duplicate (MSD)	
S	Incorrect sample amount was submitted to the laboratory for analysis	
T	Second-column confirmation exceeded the SW-846 criteria of 40% RPD for this compound.	
TIC	Samples are searched for qualitatively as Tentatively Identified Compounds.	
E	Compound concentration exceeds the upper calibration range of the instrument.	
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.	
N/C	Sample and duplicate results are at or below the STL Reporting Limit; therefore, the RPD is "Not Calculable" and no control limits apply.	
G	Sample and/or duplicate result is at or below 5 X (times) the STL Reporting Limit and the absolute difference between the sample and duplicate result is at or below the STL reporting limit; therefore, the results are "in control".	
Q	The analytical (post digestion) spike is reported due to the percent recovery being outside limits on the matrix (pre-digestion) spike.	
H	Sample and/or duplicate is below 5 X (times) the STL Reporting Limit and the absolute difference between the results exceeds the STL Reporting Limit; therefore, the results are "out of control"	
NH	Sample and/or duplicate result is below 5 X (times) the STL Reporting Limit and the absolute difference between the results exceeds the STL Reporting Limit; therefore, the results are "out of control"	
A	Sample and duplicate results are "out of control". The sample is nonhomogeneous.	
J8	Matrix spike and post spike recoveries are outside control limits. See out of Control Events/Corrective Action Form.	
Z	The sample result for the spike is below the STL Reporting Limit. However, this result is reported for accurate QC calculations.	
S	The Method of Standard Additions (MSA) has been performed on this sample.	
FF	Sample spiked is greater than ($>$) 4X (times) matrix spike concentration	
N/C+	Not Calculable	
N/C-	Not Calculable; Sample spiked is $>$ 4X spike concentration	
P	Analytical (post-digestion) spike	
I	Duplicate Injection	
D	Diluted out	

**SEVERN TRENT LABORATORIES, INC. - PENSACOLA, FLORIDA
STATE CERTIFICATIONS**

Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL)

Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater)

Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental)

State of California, Department of Health Services, Laboratory ID No. 2338 (Hazardous Waste and Wastewater)

State of Connecticut, Department of Health Services, Connecticut Lab Approval No. PH-0697 (Drinking Water, Hazardous Waste and Wastewater)

Delaware Health & Social Services, Division of Public Health, Laboratory ID No. FL094 (Drinking Water by Reciprocity with FL)

Florida DOH Laboratory ID No. 81142 (Drinking Water), Laboratory ID No. E81010 (Hazardous Waste and Wastewater)

Florida, Radioactive Materials License No. G0733-1

Foreign Soil Permit, Permit No. S-37599

Kansas Department of Health & Environment, Laboratory ID No. E10253 (Wastewater and Hazardous Waste)

Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet, Laboratory ID No. 90043 (Drinking Water)

State of Louisiana, DHH, Office of Public Health Division of Laboratories, Laboratory ID No. 98-25 (Drinking Water)

State of Maryland, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida)

Commonwealth of Massachusetts, DEP, Laboratory ID No. M-FL094 (Hazardous Waste and Wastewater)

State of Michigan, Bureau of E&OccH, Laboratory ID No. 9912 (Drinking Water by Reciprocity with Florida)

New Hampshire DES, Laboratory ID No. 250598-A (Wastewater)

State of New Jersey, Department of Environmental Protection & Energy, Laboratory ID No. 49006 (Wastewater and Hazardous Waster)

New York State, Department of Health, Laboratory ID No. 11503 (Wastewater and Solids/Hazardous Waste)

North Carolina Department of Environment, Health, & Natural Resources, Laboratory ID No. 314 (Hazardous Waste and Wastewater)

North Dakota DH&Consol Labs, Laboratory ID No. R-108 (Hazardous Waste and Wastewater by Reciprocity with Florida)

State of Oklahoma, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater)

Commonwealth of Pennsylvania, Department of Environmental Resources, Laboratory ID No. 68-467 (Drinking Water)

South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater by Reciprocity with FL and Solids/Hazardous Waste by Reciprocity with CA)

Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water)

Tennessee Division of Underground Storage Tanks Approved Laboratory

Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL)

State of Washington, Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater)

West Virginia Division of Environmental Protection, Office of Water Resources, Laboratory ID No. 136 (Hazardous Waste and Wastewater by Reciprocity with FL)

American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 100704

ANALYSIS REQUEST

	ME	MATRIX	LAB ID
NE	30	ALU	
Reactivity			
78			
Metals (8) RCRA			
RCRA TCLP METALS			
Metals-13 PP List			
Metals-TAL			
X Reactive Sulfide ± Cu			
TOX			
X Alkalinity + Bicarb. Calc.			
X Gen Chemistry: Cl ⁻ , SO ₄ , TDS			
X Conductivity, Ignitability			
Oil and Grease			
Volatile Organics GC/MS (8260)			
BOD			
COD			
PESTICIDES/PCB (608/8080)			
8270 BY GC/MS X			
PNA (8310)			
8240 (TCLP 1311) ZHE			
Herbicides (615/8150)			
Base/Neutral Acid Compounds GC/MS (625/8270)			
URANIUM			
RADIUM 226+228			
Gross Alpha/Beta			
TO-14			
NUMBER OF CONTAINERS			

SAMPLE RECEIPT		SAMPLES SENT TO:		RELINQUISHED BY:	1.	RELINQUISHED BY:	2.
Number of Containers		☒ PENSACOLA - STL-FL		Signature: <i>Francine Tavano</i>	Time: <i>1:00</i>	Signature:	Time:
Number of Custody Seals		PORTLAND - ESL-OR		Printed Name: <i>Francine Tavano</i>	Date: <i>2/11/00</i>	Printed Name:	Date:
Seals Intact?		STL - CT					
Seals Good Cond./Cold		STL - NEW JERSEY					
NUMBER:		N. CREEK		Pinnacle Laboratories, Inc.		Company	
		BARRINGER		RECEIVED BY:	1.	RECEIVED BY:	2.
		SEQUOIA		Signature: <i>Francine Tavano</i>	Time: <i>1:00</i>	Signature:	Time:
				Printed Name: <i>Francine Tavano</i>	Date: <i>2/11/00</i>	Printed Name:	Date:
				Signature: <i>Francine Tavano</i>	Time: <i>1:00</i>	Signature:	Time:
				Printed Name: <i>Francine Tavano</i>	Date: <i>2/11/00</i>	Printed Name:	Date:
				Company: <i>STL/FL</i>		Company	

Sev...n Trent Laboratories • Florida

PROJECT SAMPLE INSPECTION FORM

Lab Accession #: C002378

Date Received: 12-Feb-00

- | | |
|--|---|
| <p>1. Was there a Chain of Custody? ☒ Yes No⁺</p> <p>2. Was Chain of Custody properly filled out and relinquished? ☒ Yes No⁺</p> <p>3. Were samples received cold? ☒ Yes No⁺ N/A
(Criteria: 2° - 6°C: STL-SOP 1055)</p> <p>4. Were all samples properly labeled and identified? ☒ Yes No⁺</p> <p>5. Did samples require splitting? Yes⁺ ☒ No
Req By: PM Client Other*</p> <p>6. Were samples received in proper containers for analysis requested? ☒ Yes No⁺</p> <p>7. Were all sample containers received intact? ☒ Yes No⁺</p> | <p>8. Were samples checked for preservative? ☒ Yes No⁺ N/A
(Check pH of all H₂O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)*</p> <p>9. Is there sufficient volume for analysis requested? ☒ Yes No⁺ N/A (Can)</p> <p>10. Were samples received within Holding Time? ☒ Yes No⁺ (REFER TO STL-SOP 1040)</p> <p>11. Is Headspace visible > 1/4" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section. Yes⁺ No ☒ N/A</p> <p>12. If sent, were matrix spike bottles returned? Yes No⁺ ☒ N/A</p> <p>13. Was Project Manager notified of problems? (initials: <u>LLK</u>) ☒ Yes No⁺ N/A</p> |
|--|---|

Airbill Number(s): 128781684443497952

Shipped By: UPS

Cooler Number(s): Client

Shipping Charges: N/A

Cooler Weight(s): N/A

Cooler Temp(s) (°C): 5.0°C

CC1K 10
(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

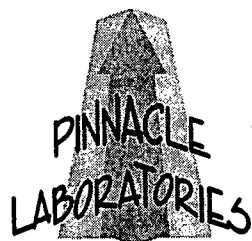
Out of Control Events and Inspection Comments:

Samples were received packed on blue ice & wet ice. ^{LLK} 2/12/00
CLIENT IS AWARE OF TEMP. PER KIM McNEIL, OKAY TO RUN
SAMPLES. LL 2/15 10:00

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: LLK Date: 12-Feb-00 Logged By: LLK Date: 12-Feb-00

- * Note all Out-of-Control and/or questionable events on Comment Section of this form.
- * Note who requested the splitting of samples on the Comment Section of this form.
- * All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (STL-SOP 938).
- * According to EPA, 1/4" of headspace is allowed in 40 ml vials requiring volatile analysis, however, STL makes it policy to record any headspace as out-of-control (STL-SOP 938).



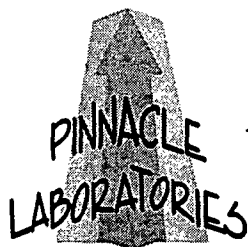
7th qtr
2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260
CLIENT : GIANT REFINING COMPANY
PROJECT # : (none)
PROJECT NAME : QTR WELL SAMPLE
PINNACLE I.D. : 008077
DATE RECEIVED : 08/22/00

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
008077-01	QTR INJ WELL	AQUEOUS	08/21/00	N/A	08/31/00	1
PARAMETER (CAS#)	DET. LIMIT	RESULT	UNITS			

Dichlorodifluoromethane (75-71-8)	1.0	< 1.0	ug/L	
Chloromethane (74-87-9)	1.0	< 1.0	ug/L	
Vinyl Chloride (75-01-4)	1.0	< 1.0	ug/L	
Bromomethane (74-83-9)	1.0	< 1.0	ug/L	
Chloroethane (75-00-3)	1.0	< 1.0	ug/L	
Trichlorofluoromethane (75-69-4)	1.0	< 1.0	ug/L	
Acetone (67-64-1)	10	15	ug/L	
Acrolein (107-02-8)	5.0	< 5.0	ug/L	
1,1-Dichloroethene (75-35-4)	1.0	< 1.0	ug/L	
Iodomethane (74-88-4)	1.0	< 1.0	ug/L	
Methylene Chloride (75-09-2)	1.0	< 1.0	ug/L	
Acrylonitrile (107-13-1)	5.0	< 5.0	ug/L	
cis-1,2-Dichloroethene (107-06-2)	1.0	< 1.0	ug/L	
Methyl-t-butyl Ether (628-28-4)	1.0	320	ug/L	(D5)
1,1,2-Trichlorotrifluoroethane (76-13-1)	5.0	< 5.0	ug/L	
1,1-Dichloroethane (75-34-3)	1.0	< 1.0	ug/L	
trans-1,2-Dichloroethene (156-60-5)	1.0	< 1.0	ug/L	
2-Butanone (78-93-3)	10	< 10	ug/L	
Carbon Disulfide (75-15-0)	1.0	< 1.0	ug/L	
Bromochloromethane (74-97-5)	1.0	< 1.0	ug/L	
Chloroform (67-66-3)	1.0	< 1.0	ug/L	
2,2-Dichloropropane (594-20-7)	1.0	< 1.0	ug/L	
1,2-Dichloroethane (107-06-2)	1.0	< 1.0	ug/L	
Vinyl Acetate (108-05-4)	1.0	< 1.0	ug/L	
1,1,1-Trichloroethane (71-55-6)	1.0	< 1.0	ug/L	
1,1-Dichloropropene (563-58-6)	1.0	< 1.0	ug/L	
Carbon Tetrachloride (56-23-5)	1.0	< 1.0	ug/L	
Benzene (71-43-2)	1.0	< 1.0	ug/L	
1,2-Dichloropropane (78-87-5)	1.0	< 1.0	ug/L	
Trichloroethene (79-01-6)	1.0	< 1.0	ug/L	
Bromodichloromethane (75-27-4)	1.0	< 1.0	ug/L	
2-Chloroethyl Vinyl Ether (110-75-8)	10	< 10	ug/L	
cis-1,3-Dichloropropene (10061-01-5)	1.0	< 1.0	ug/L	
trans-1,3-Dichloropropene (10061-02-6)	1.0	< 1.0	ug/L	
1,1,2-Trichloroethane (79-00-5)	1.0	< 1.0	ug/L	
1,3-Dichloropropane (142-28-9)	1.0	< 1.0	ug/L	
Dibromomethane (74-95-3)	1.0	< 1.0	ug/L	
Toluene (108-88-3)	1.0	2.9	ug/L	
1,2-Dibromoethane (106-93-4)	1.0	< 1.0	ug/L	
4-Methyl-2-Pentanone (108-10-1)	10	< 10	ug/L	
2-Hexanone (591-78-6)	10	< 10	ug/L	
Dibromochloromethane (124-48-1)	1.0	< 1.0	ug/L	
Tetrachloroethene (127-18-4)	1.0	< 1.0	ug/L	
Chlorobenzene (108-90-7)	1.0	< 1.0	ug/L	
Ethylbenzene (100-41-4)	1.0	< 1.0	ug/L	
1,1,1,2-Tetrachloroethane (630-20-6)	1.0	< 1.0	ug/L	
m&p Xylenes (108-38-3, 106-42-3)	1.0	2.3	ug/L	



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GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260
CLIENT : GIANT REFINING COMPANY
PROJECT # : (none)
PROJECT NAME : QTR WELL SAMPLE

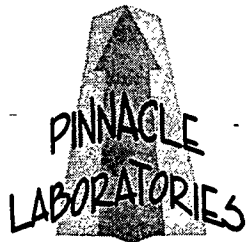
PINNACLE I.D. : 008077
DATE RECEIVED : 08/22/00

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
008077-01	QTR INJ WELL	AQUEOUS	08/21/00	N/A	08/31/00	1
PARAMETER (CAS#)	DET. LIMIT	RESULT	UNITS			
o-Xylene (95-47-6)	1.0	1.1	ug/L			
Styrene (100-42-5)	1.0	< 1.0	ug/L			
Bromoform (75-25-2)	1.0	< 1.0	ug/L			
1,1,2,2-Tetrachloroethane (79-34-5)	1.0	< 1.0	ug/L			
1,2,3-Trichloropropane (96-18-4)	1.0	< 1.0	ug/L			
Isopropyl Benzene (98-82-8)	1.0	< 1.0	ug/L			
Bromobenzene (108-86-1)	1.0	< 1.0	ug/L			
trans-1,4-Dichloro-2-Butene (110-57-6)	1.0	< 1.0	ug/L			
n-Propylbenzene (103-65-1)	1.0	< 1.0	ug/L			
2-Chlorotoluene (95-49-8)	1.0	< 1.0	ug/L			
4-Chlorotoluene (106-43-4)	1.0	< 1.0	ug/L			
1,3,5-Trimethylbenzene (108-67-8)	1.0	< 1.0	ug/L			
tert-Butylbenzene (98-06-6)	1.0	< 1.0	ug/L			
1,2,4-Trimethylbenzene (95-63-6)	1.0	< 1.0	ug/L			
sec-Butylbenzene (135-98-9)	1.0	< 1.0	ug/L			
1,3-Dichlorobenzene (541-73-1)	1.0	< 1.0	ug/L			
1,4-Dichlorobenzene (106-46-7)	1.0	< 1.0	ug/L			
p-Isopropyltoluene (99-87-6)	1.0	< 1.0	ug/L			
1,2-Dichlorobenzene (95-50-1)	1.0	< 1.0	ug/L			
n-Butylbenzene (104-51-8)	1.0	< 1.0	ug/L			
1,2-Dibromomono-3-chloropropane (96-12-8)	1.0	< 1.0	ug/L			
1,2,4-Trichlorobenzene (120-82-1)	1.0	< 1.0	ug/L			
Naphthalene (91-20-3)	1.0	< 1.0	ug/L			
Hexachlorobutadiene (87-68-3)	1.0	< 1.0	ug/L			
1,2,3-Trichlorobenzene (87-61-6)	1.0	< 1.0	ug/L			
1,4-Dioxane (123-91-1)	20.0	< 20.0	ug/L			

SURROGATE % RECOVERY

1,2-Dichloroethane-d4	100 (80 - 120)
Toluene-d8	98 (88 - 110)
Bromofluorobenzene	97 (86 - 115)

D5 = Diluted 5X, Analyzed 9/5/00.



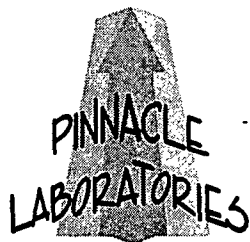
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MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260
SPIKED SAMPLE : 008078-26
CLIENT : GIANT REFINING COMPANY
PROJECT # : (none)
PROJECT NAME : QTR WELL SAMPLE

PINNACLE I.D. : 008077
DATE ANALYZED : 08/30/00
UNITS : ug/L (PPB)

COMPOUND	SAMPLE CONC.	SPIKE ADDED	MS RESULT	MSD RESULT	MS %REC	MSD %REC	RPD	QC LIMITS RPD	QC LIMITS %RECOVERY
1,1-DICHLOROETHENE	<1.0	50.0	41.5	41.4	83	83	0	14	61-145
BENZENE	<1.0	50.0	47.6	47.4	95	95	0	11	76-127
TRICHLOROETHENE	<1.0	50.0	48.9	48.7	98	97	0	14	71-120
TOLUENE	<1.0	50.0	45.9	45.5	92	91	1	13	76-125
CHLOROBENZENE	<1.0	50.0	51.7	51.4	103	103	1	13	75-130



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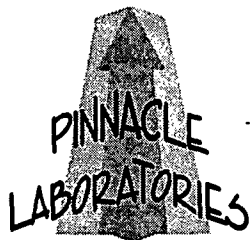
GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260
CLIENT : GIANT REFINING COMPANY
PROJECT # : (none)
PROJECT NAME : QTR WELL SAMPLE

PINNACLE I.D. : 008077

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	083100	AQUEOUS	N/A	08/31/00	1
PARAMETER (CAS#)	DET. LIMIT	RESULT	UNITS		

Dichlorodifluoromethane (75-71-8)	1.0	< 1.0	ug/L
Chloromethane (74-87-9)	1.0	< 1.0	ug/L
Vinyl Chloride (75-01-4)	1.0	< 1.0	ug/L
Bromomethane (74-83-9)	1.0	< 1.0	ug/L
Chloroethane (75-00-3)	1.0	< 1.0	ug/L
Trichlorofluoromethane (75-69-4)	1.0	< 1.0	ug/L
Acetone (67-64-1)	10	< 10	ug/L
Acrolein (107-02-8)	5.0	< 5.0	ug/L
1,1-Dichloroethene (75-35-4)	1.0	< 1.0	ug/L
Iodomethane (74-88-4)	1.0	< 1.0	ug/L
Methylene Chloride (75-09-2)	1.0	< 1.0	ug/L
Acrylonitrile (107-13-1)	5.0	< 5.0	ug/L
cis-1,2-Dichloroethene (107-06-2)	1.0	< 1.0	ug/L
Methyl-t-butyl Ether (628-28-4)	1.0	< 1.0	ug/L
1,1,2-Trichlorotrifluoroethane (76-13-1)	5.0	< 5.0	ug/L
1,1-Dichloroethane (75-34-3)	1.0	< 1.0	ug/L
trans-1,2-Dichloroethene (156-60-5)	1.0	< 1.0	ug/L
2-Butanone (78-93-3)	10	< 10	ug/L
Carbon Disulfide (75-15-0)	1.0	< 1.0	ug/L
Bromochloromethane (74-97-5)	1.0	< 1.0	ug/L
Chloroform (67-66-3)	1.0	< 1.0	ug/L
2,2-Dichloropropane (594-20-7)	1.0	< 1.0	ug/L
1,2-Dichloroethane (107-06-2)	1.0	< 1.0	ug/L
Vinyl Acetate (108-05-4)	1.0	< 1.0	ug/L
1,1,1-Trichloroethane (71-55-6)	1.0	< 1.0	ug/L
1,1-Dichloropropene (563-58-6)	1.0	< 1.0	ug/L
Carbon Tetrachloride (56-23-5)	1.0	< 1.0	ug/L
Benzene (71-43-2)	1.0	< 1.0	ug/L
1,2-Dichloropropane (78-87-5)	1.0	< 1.0	ug/L
Trichloroethene (79-01-6)	1.0	< 1.0	ug/L
Bromodichloromethane (75-27-4)	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether (110-75-8)	10	< 10	ug/L
cis-1,3-Dichloropropene (10061-01-5)	1.0	< 1.0	ug/L
trans-1,3-Dichloropropene (10061-02-6)	1.0	< 1.0	ug/L
1,1,2-Trichloroethane (79-00-5)	1.0	< 1.0	ug/L
1,3-Dichloropropane (142-28-9)	1.0	< 1.0	ug/L
Dibromomethane (74-95-3)	1.0	< 1.0	ug/L
Toluene (108-88-3)	1.0	< 1.0	ug/L
1,2-Dibromoethane (106-93-4)	1.0	< 1.0	ug/L
4-Methyl-2-Pentanone (108-10-1)	10	< 10	ug/L
2-Hexanone (591-78-6)	10	< 10	ug/L
Dibromochloromethane (124-48-1)	1.0	< 1.0	ug/L
Tetrachloroethene (127-18-4)	1.0	< 1.0	ug/L
Chlorobenzene (108-90-7)	1.0	< 1.0	ug/L
Ethylbenzene (100-41-4)	1.0	< 1.0	ug/L
1,1,1,2-Tetrachloroethane (630-20-6)	1.0	< 1.0	ug/L



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GC/MS RESULTS

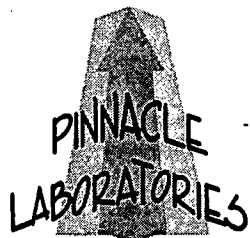
TEST : VOLATILE ORGANICS EPA METHOD 8260
CLIENT : GIANT REFINING COMPANY
PROJECT # : (none)
PROJECT NAME : QTR WELL SAMPLE

PINNACLE I.D. : 008077

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	083100	AQUEOUS	N/A	08/31/00	1
PARAMETER (CAS#)	DET. LIMIT	RESULT	UNITS		
m&p Xylenes (108-38-3, 106-42-3)	1.0	< 1.0	ug/L		
o-Xylene (95-47-6)	1.0	< 1.0	ug/L		
Styrene (100-42-5)	1.0	< 1.0	ug/L		
Bromoform (75-25-2)	1.0	< 1.0	ug/L		
1,1,2,2-Tetrachloroethane (79-34-5)	1.0	< 1.0	ug/L		
1,2,3-Trichloropropane (96-18-4)	1.0	< 1.0	ug/L		
Isopropyl Benzene (98-82-8)	1.0	< 1.0	ug/L		
Bromobenzene (108-86-1)	1.0	< 1.0	ug/L		
trans-1,4-Dichloro-2-Butene (110-57-6)	1.0	< 1.0	ug/L		
n-Propylbenzene (103-65-1)	1.0	< 1.0	ug/L		
2-Chlorotoluene (95-49-8)	1.0	< 1.0	ug/L		
4-Chlorotoluene (106-43-4)	1.0	< 1.0	ug/L		
1,3,5-Trimethylbenzene (108-67-8)	1.0	< 1.0	ug/L		
tert-Butylbenzene (98-06-6)	1.0	< 1.0	ug/L		
1,2,4-Trimethylbenzene (95-63-6)	1.0	< 1.0	ug/L		
sec-Butylbenzene (135-98-9)	1.0	< 1.0	ug/L		
1,3-Dichlorobenzene (541-73-1)	1.0	< 1.0	ug/L		
1,4-Dichlorobenzene (106-46-7)	1.0	< 1.0	ug/L		
p-Isopropyltoluene (99-87-6)	1.0	< 1.0	ug/L		
1,2-Dichlorobenzene (95-50-1)	1.0	< 1.0	ug/L		
n-Butylbenzene (104-51-8)	1.0	< 1.0	ug/L		
1,2-Dibromomo-3-chloropropane (96-12-8)	1.0	< 1.0	ug/L		
1,2,4-Trichlorobenzene (120-82-1)	1.0	< 1.0	ug/L		
Naphthalene (91-20-3)	1.0	< 1.0	ug/L		
Hexachlorobutadiene (87-68-3)	1.0	< 1.0	ug/L		
1,2,3-Trichlorobenzene (87-61-6)	1.0	< 1.0	ug/L		
1,4-Dioxane (123-91-1)	20.0	< 20.0	ug/L		

SURROGATE % RECOVERY

1,2-Dichloroethane-d4 97
(80 - 120)
Toluene-d8 94
(88 - 110)
Bromofluorobenzene 99
(86 - 115)



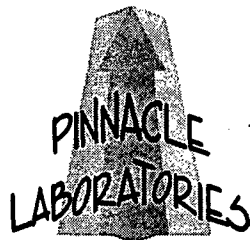
2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
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GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260
CLIENT : GIANT REFINING COMPANY PINNACLE I.D. : 008077
PROJECT # : (none)
PROJECT NAME : QTR WELL SAMPLE

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	083000	AQUEOUS	N/A	08/30/00	1
PARAMETER (CAS#)	DET. LIMIT	RESULT	UNITS		

Dichlorodifluoromethane (75-71-8)	1.0	< 1.0	ug/L
Chloromethane (74-87-9)	1.0	< 1.0	ug/L
Vinyl Chloride (75-01-4)	1.0	< 1.0	ug/L
Bromomethane (74-83-9)	1.0	< 1.0	ug/L
Chloroethane (75-00-3)	1.0	< 1.0	ug/L
Trichlorofluoromethane (75-69-4)	1.0	< 1.0	ug/L
Acetone (67-64-1)	10	< 10	ug/L
Acrolein (107-02-8)	5.0	< 5.0	ug/L
1,1-Dichloroethene (75-35-4)	1.0	< 1.0	ug/L
Iodomethane (74-88-4)	1.0	< 1.0	ug/L
Methylene Chloride (75-09-2)	1.0	< 1.0	ug/L
Acrylonitrile (107-13-1)	5.0	< 5.0	ug/L
cis-1,2-Dichloroethene (107-06-2)	1.0	< 1.0	ug/L
Methyl-t-butyl Ether (628-28-4)	1.0	< 1.0	ug/L
1,1,2-Trichlorotrifluoroethane (76-13-1)	5.0	< 5.0	ug/L
1,1-Dichloroethane (75-34-3)	1.0	< 1.0	ug/L
trans-1,2-Dichloroethene (156-60-5)	1.0	< 1.0	ug/L
2-Butanone (78-93-3)	10	< 10	ug/L
Carbon Disulfide (75-15-0)	1.0	< 1.0	ug/L
Bromochloromethane (74-97-5)	1.0	< 1.0	ug/L
Chloroform (67-66-3)	1.0	< 1.0	ug/L
2,2-Dichloropropane (594-20-7)	1.0	< 1.0	ug/L
1,2-Dichloroethane (107-06-2)	1.0	< 1.0	ug/L
Vinyl Acetate (108-05-4)	1.0	< 1.0	ug/L
1,1,1-Trichloroethane (71-55-6)	1.0	< 1.0	ug/L
1,1-Dichloropropene (563-58-6)	1.0	< 1.0	ug/L
Carbon Tetrachloride (56-23-5)	1.0	< 1.0	ug/L
Benzene (71-43-2)	1.0	< 1.0	ug/L
1,2-Dichloropropane (78-87-5)	1.0	< 1.0	ug/L
Trichloroethene (79-01-6)	1.0	< 1.0	ug/L
Bromodichloromethane (75-27-4)	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether (110-75-8)	10	< 10	ug/L
cis-1,3-Dichloropropene (10061-01-5)	1.0	< 1.0	ug/L
trans-1,3-Dichloropropene (10061-02-6)	1.0	< 1.0	ug/L
1,1,2-Trichloroethane (79-00-5)	1.0	< 1.0	ug/L
1,3-Dichloropropane (142-28-9)	1.0	< 1.0	ug/L
Dibromomethane (74-95-3)	1.0	< 1.0	ug/L
Toluene (108-88-3)	1.0	< 1.0	ug/L
1,2-Dibromoethane (106-93-4)	1.0	< 1.0	ug/L
4-Methyl-2-Pentanone (108-10-1)	10	< 10	ug/L
2-Hexanone (591-78-6)	10	< 10	ug/L
Dibromochloromethane (124-48-1)	1.0	< 1.0	ug/L
Tetrachloroethene (127-18-4)	1.0	< 1.0	ug/L
Chlorobenzene (108-90-7)	1.0	< 1.0	ug/L
Ethylbenzene (100-41-4)	1.0	< 1.0	ug/L
1,1,1,2-Tetrachloroethane (630-20-6)	1.0	< 1.0	ug/L



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GC/MS RESULTS

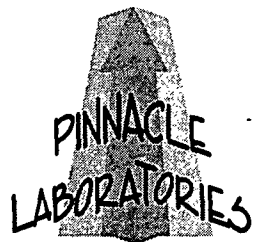
TEST : VOLATILE ORGANICS EPA METHOD 8260
CLIENT : GIANT REFINING COMPANY
PROJECT # : (none)
PROJECT NAME : QTR WELL SAMPLE

PINNACLE I.D. : 008077

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	083000	AQUEOUS	N/A	08/30/00	1
PARAMETER (CAS#)	DET. LIMIT	RESULT	UNITS		
m&p Xylenes (108-38-3, 106-42-3)	1.0	< 1.0	ug/L		
o-Xylene (95-47-6)	1.0	< 1.0	ug/L		
Styrene (100-42-5)	1.0	< 1.0	ug/L		
Bromoform (75-25-2)	1.0	< 1.0	ug/L		
1,1,2,2-Tetrachloroethane (79-34-5)	1.0	< 1.0	ug/L		
1,2,3-Trichloropropane (96-18-4)	1.0	< 1.0	ug/L		
Isopropyl Benzene (98-82-8)	1.0	< 1.0	ug/L		
Bromobenzene (108-86-1)	1.0	< 1.0	ug/L		
trans-1,4-Dichloro-2-Butene (110-57-6)	1.0	< 1.0	ug/L		
n-Propylbenzene (103-65-1)	1.0	< 1.0	ug/L		
2-Chlorotoluene (95-49-8)	1.0	< 1.0	ug/L		
4-Chlorotoluene (106-43-4)	1.0	< 1.0	ug/L		
1,3,5-Trimethylbenzene (108-67-8)	1.0	< 1.0	ug/L		
tert-Butylbenzene (98-06-6)	1.0	< 1.0	ug/L		
1,2,4-Trimethylbenzene (95-63-6)	1.0	< 1.0	ug/L		
sec-Butylbenzene (135-98-9)	1.0	< 1.0	ug/L		
1,3-Dichlorobenzene (541-73-1)	1.0	< 1.0	ug/L		
1,4-Dichlorobenzene (106-46-7)	1.0	< 1.0	ug/L		
p-Isopropyltoluene (99-87-6)	1.0	< 1.0	ug/L		
1,2-Dichlorobenzene (95-50-1)	1.0	< 1.0	ug/L		
n-Butylbenzene (104-51-8)	1.0	< 1.0	ug/L		
1,2-Dibromomo-3-chloropropane (96-12-8)	1.0	< 1.0	ug/L		
1,2,4-Trichlorobenzene (120-82-1)	1.0	< 1.0	ug/L		
Naphthalene (91-20-3)	1.0	< 1.0	ug/L		
Hexachlorobutadiene (87-68-3)	1.0	< 1.0	ug/L		
1,2,3-Trichlorobenzene (87-61-6)	1.0	< 1.0	ug/L		
1,4-Dioxane (123-91-1)	20.0	< 20.0	ug/L		

SURROGATE % RECOVERY

1,2-Dichloroethane-d4	99 (80 - 120)
Toluene-d8	93 (88 - 110)
Bromofluorobenzene	101 (86 - 115)



2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
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MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260
SPIKED SAMPLE : 008078-26
CLIENT : GIANT REFINING COMPANY
PROJECT # : (none)
PROJECT NAME : QTR WELL SAMPLE

PINNACLE I.D. : 008077
DATE ANALYZED : 08/30/00
UNITS : ug/L (PPB)

COMPOUND	SAMPLE CONC.	SPIKE ADDED	MS RESULT	MSD RESULT	MS %REC	MSD %REC	RPD	QC LIMITS RPD	QC LIMITS %RECOVERY
BENZENE	<1.0	50.0	47.6	47.4	95	95	0	11	76-127
TOLUENE	<1.0	50.0	45.9	45.5	92	91	1	13	76-125
CHLOROBENZENE	<1.0	50.0	51.7	51.4	103	103	1	13	75-130

STL Pensacola
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Pensacola, FL 32514

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CASE NARRATIVE

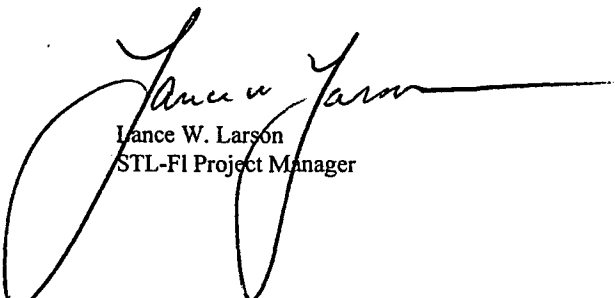
Date: September 12, 2000
STL Order Number: C008658
Project Name: QTR. WELL SAMPLE
Project Location: N/S
Methods: 8270

STL Sample ID
008658-05

Client Sample ID
008077-01

Target compounds not listed in the 8270 results were searched for by the NBS Library Search Program and the following five requested compounds were not found:

Quinoline
Benzenethiolo
Indene
4-Methyl Phenol
Methyl Chrysene



Lance W. Larson
STL-FI Project Manager

SEVERN

TRENT

SERVICES

STL Pensacola

LOG NO: C0-08658

Received: 24 AUG 00

Reported: 08 SEP 00

Ms. JACINTA TENORIO
Pinnacle Laboratories
2709-D Pan American Freeway Northeast
Albuquerque, NM 87107

Requisition: 008077

Project: 008077, GRCB QTR WELL SAMPLE

Sampled By: Client

Code: 12570098

Page 1

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
08658-1	008077-01	08-21-00/14:30
PARAMETER	08658-1	
Alkalinity Series (2320B/SM4500)		
Alkalinity (to pH 4.5) as CaCO ₃ , mg/l	410	
Bicarbonate (2320/4500), mg/l	340	
Carbon Dioxide, mg/l	<1.0	
pH, mg/l	9.3	
Hydroxide, mg/l	1.0	
Carbonate (2320/4500), mg/l	65	
Dilution Factor	1	
Prep Date	08.28.00	
Analysis Date	08.28.00	
Batch ID	AEW068	
Prep Method	4500	
Analyst	BE	
Chloride (SM4500E), mg/l		
Dilution Factor	40	
Prep Date	08.28.00	
Analysis Date	08.29.00	
Batch ID	CKW47A	
Prep Method	SM4500E	
Analyst	WG	
Sulfate as SO ₄ (375.4), mg/l		
Dilution Factor	10	
Prep Date	08.30.00	
Analysis Date	08.30.00	
Batch ID	SEW100	
Prep Method	375.4	
Analyst	BE	

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STL Pensacola

LOG NO: C0-08658

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Requisition: 008077

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Page 2

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
08658-1	008077-01	08-21-00/14:30
PARAMETER	08658-1	
Total Dissolved Solids (160.1), mg/l	7200	
Dilution Factor	1	
Prep Date	08.25.00	
Analysis Date	08.29.00	
Batch ID	TDW056	
Prep Method	160.1	
Analyst	ST	
Specific Conductance (120.1), umhos/cm	10	
Dilution Factor	1	
Prep Date	08.30.00	
Analysis Date	08.30.00	
Batch ID	CDW018	
Prep Method	120.1	
Analyst	ST	
Ignitability-flash point (1010), Degrees C	>100	
Dilution Factor	1	
Prep Date	08.30.00	
Analysis Date	08.30.00	
Batch ID	FPX039	
Prep Method	1010	
Analyst	CR	

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SERVICES

STL Pensacola

LOG NO: C0-08658

Received: 24 AUG 00

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Requisition: 008077

Project: 008077, GRCB QTR WELL SAMPLE

Sampled By: Client

Code: 12570098

Page 3

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
08658-1	008077-01	08-21-00/14:30
PARAMETER	08658-1	
Total Releasable Cyanide (SW7.3.3.2), mg HCN/kg	<25	
Dilution Factor	1	
Prep Date	08.31.00	
Analysis Date	08.31.00	
Batch ID	RCX026	
Prep Method	SW7.3.3.2	
Analyst	BH	
Total Releasable Sulfide (SW7.3.4.2), mg H2S/kg	<150	
Dilution Factor	1	
Prep Date	08.31.00	
Analysis Date	08.31.00	
Batch ID	RSX026	
Prep Method	SW7.3.4.2	
Analyst	BH	

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SERVICES

STL Pensacola

LOG NO: C0-08658

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Requisition: 008077

Project: 008077, GRCB QTR WELL SAMPLE

Sampled By: Client

Code: 12570098

Page 4

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
08658-1	008077-01	08-21-00/14:30
PARAMETER	08658-1	
RCRA Metals (6010)		
Arsenic, mg/l	0.042	
Barium, mg/l	0.153	
Cadmium, mg/l	<0.005	
Chromium, mg/l	<0.005	
Lead, mg/l	<0.005	
Selenium, mg/l	0.048	
Silver, mg/l	<0.005	
Dilution Factor	1	
Prep Date	08.29.00	
Analysis Date	08.30.00	
Batch ID	PW295	
Prep Method	3010A	
Analyst	GSP	
Mercury (7470), mg/l	0.0023	
Dilution Factor	1	
Prep Date	08.30.00	
Analysis Date	08.30.00	
Batch ID	HGW111	
Prep Method	7470A	
Analyst	JDE	

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LOG NO: C0-08658

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Requisition: 008077

Project: 008077, GRCB QTR WELL SAMPLE

Sampled By: Client

Code: 12570098

Page 5

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
08658-1	008077-01	08-21-00/14:30
PARAMETER	08658-1	
Metals (6010)		
Calcium, mg/l	51	
Magnesium, mg/l	16	
Potassium, mg/l	43	
Sodium, mg/l	2600	
Dilution Factor	1,100	
Prep Date	08.29.00	
Analysis Date	08.30.00	
Batch ID	PW295	
Prep Method	3010A	
Analyst	GSP	
NBS Library Search (BN/A-TIC)		
NBS Library Search (BN/A-TIC)	0 TICS	
Dilution Factor	1	
Prep Date	08.28.00	
Analysis Date	09.01.00	
Batch ID	ALW065	
Prep Method	3520	
Analyst	RW	

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Sampled By: Client

Code: 12570098

Page 6

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
08658-1	008077-01	08-21-00/14:30
PARAMETER	08658-1	
Semivolatile Organic Compounds (8270)		
Benzoic acid, ug/l		<50
4-Chloro-3-methylphenol (p-Chloro-m-cresol), ug/l		<10
2-Chlorophenol, ug/l		<10
2,4-Dichlorophenol, ug/l		<10
2,6-Dichlorophenol, ug/l		<10
2,4-Dimethylphenol, ug/l		<10
4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol), ug/l		<50
2,4-Dinitrophenol, ug/l		<50
2-Methylphenol (o-Cresol), ug/l		<10
3-Methylphenol/4-Methylphenol (m&p-Cresol), ug/l		<10
2-Nitrophenol (o-Nitrophenol), ug/l		<10
4-Nitrophenol (p-Nitrophenol), ug/l		<50
Pentachlorophenol, ug/l		<50
Phenol, ug/l		<10
2,3,4,6-Tetrachlorophenol, ug/l		<10
2,4,5-Trichlorophenol, ug/l		<50
2,4,6-Trichlorophenol, ug/l		<10
Acenaphthene, ug/l		<10
Acenaphthylene, ug/l		<10
Acetophenone, ug/l		<10
4-Aminobiphenyl, ug/l		<10
Aniline, ug/l		<10
Anthracene, ug/l		<10
Benzidine, ug/l		<50
Benzo(a)anthracene, ug/l		<10

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LOG NO: C0-08658
Received: 24 AUG 00
Reported: 08 SEP 00

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Requisition: 008077

Project: 008077, GRCB QTR WELL SAMPLE
Sampled By: Client
Code: 12570098

REPORT OF RESULTS

Page 7

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
08658-1	008077-01	08-21-00/14:30
PARAMETER	08658-1	
Benzo(b) fluoranthene, ug/l	<10	
Benzo(k) fluoranthene, ug/l	<10	
Benzo(g,h,i) perylene, ug/l	<10	
Benzo(a) pyrene, ug/l	<10	
Benzyl alcohol, ug/l	<10	
4-Bromophenylphenyl ether, ug/l	<10	
Butylbenzylphthalate, ug/l	<10	
Carbazole, ug/l	<10	
4-Chloroaniline (p-Chloroaniline), ug/l	<10	
bis(2-Chloroethoxy)methane, ug/l	<10	
bis(2-Chloroethyl) ether, ug/l	<10	
bis(2-Chloroisopropyl) ether, ug/l	<10	
1-Chloronaphthalene, ug/l	<10	
2-Chloronaphthalene, ug/l	<10	
4-Chlorophenylphenyl ether, ug/l	<10	
Chrysene, ug/l	<10	
Dibenz(a,j)acridine, ug/l	<10	
Dibenzo(a,h)anthracene, ug/l	<10	
Dibenzofuran, ug/l	<10	
Di-n-butylphthalate, ug/l	<10	
1,2-Dichlorobenzene (o-Dichlorobenzene), ug/l	<10	
1,3-Dichlorobenzene (m-Dichlorobenzene), ug/l	<10	
1,4-Dichlorobenzene (p-Dichlorobenzene), ug/l	<10	
3,3'-Dichlorobenzidine, ug/l	<50	
Diethylene Glycol Monobutyl Ether, ug/l	<10	
Diethylphthalate, ug/l	<10	

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Requisition: 008077

Project: 008077, GRCB QTR WELL SAMPLE

Sampled By: Client

Code: 12570098

Page 8

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
08658-1	008077-01	08-21-00/14:30
PARAMETER	08658-1	
p-(Dimethylamino)azobenzene, ug/l	<10	
7,12-Dimethylbenz(a)anthracene, ug/l	<10	
alpha,alpha-Dimethylphenethylamine, ug/l	<10	
Dimethylphthalate, ug/l	<10	
2,4-Dinitrotoluene, ug/l	<10	
2,6-Dinitrotoluene, ug/l	<10	
Di-n-octylphthalate, ug/l	<10	
1,2-Diphenylhydrazine, ug/l	<10	
bis(2-Ethylhexyl)phthalate, ug/l	<10	
Ethyl methanesulfonate, ug/l	<10	
Fluoranthene, ug/l	<10	
Fluorene, ug/l	<10	
Hexachlorobenzene, ug/l	<10	
Hexachlorobutadiene, ug/l	<10	
Hexachlorocyclopentadiene, ug/l	<10	
Hexachloroethane, ug/l	<10	
Indeno(1,2,3-cd)pyrene, ug/l	<10	
Isophorone, ug/l	<10	
3-Methylcholanthrene, ug/l	<10	
Methyl methanesulfonate, ug/l	<10	
1-Methylnaphthalene, ug/l	<10	
2-Methylnaphthalene, ug/l	<10	
Naphthalene, ug/l	<10	
1-Naphthylamine, ug/l	<10	
2-Naphthylamine, ug/l	<10	
2-Nitroaniline (o-Nitroaniline), ug/l	<10	

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Requisition: 008077

Project: 008077, GRCB QTR WELL SAMPLE

Sampled By: Client

Code: 12570098

Page 9

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
08658-1	008077-01	08-21-00/14:30
PARAMETER	08658-1	
3-Nitroaniline (m-Nitroaniline), ug/l	<10	
4-Nitroaniline (p-Nitroaniline), ug/l	<10	
Nitrobenzene, ug/l	<10	
N-Nitrosodi-n-butylamine, ug/l	<10	
N-Nitrosodimethylamine, ug/l	<10	
N-Nitrosodiphenylamine, ug/l	<10	
n-Nitrosodi-n-propylamine, ug/l	<10	
N-Nitrosopiperidine, ug/l	<10	
Pentachlorobenzene, ug/l	<10	
Pentachloronitrobenzene, ug/l	<10	
Phenacetin, ug/l	<10	
Phenanthrene, ug/l	<10	
2-Picoline, ug/l	<10	
Pronamide, ug/l	<10	
Pyrene, ug/l	<10	
Pyridine, ug/l	<10	
1,2,4,5-Tetrachlorobenzene, ug/l	<10	
1,2,4-Trichlorobenzene, ug/l	<10	
Surrogate - 2-Fluorobiphenyl	77 %	
Surrogate - 2-Fluorophenol	39 %	
Surrogate - Nitrobenzene - d5	87 %	
Surrogate - Phenol-d5	71 %	
Surrogate - Terphenyl-d14	82 %	
Surrogate - 2,4,6-Tribromophenol	96 %	
Dilution Factor	1	
Prep Date	08.28.00	
Analysis Date	09.01.00	
Batch ID	ALW065	
Prep Method	3520	
Analyst	RW	

STL Pensacola
LOG NO: C0-08658
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Project: 008077, GRCB QTR WELL SAMPLE
Sampled By: Client
Code: 12570098

Page 10

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED
08658-2	Method Blank	
08658-3	Lab Control Standard % Recovery	
PARAMETER	08658-2	08658-3
Alkalinity Series (2320B/SM4500)		
Alkalinity (to pH 4.5) as CaCO ₃ , mg/l	<1.0	97 %
Bicarbonate (2320/4500), mg/l	<1.0	N/A
Carbon Dioxide, mg/l	<1.0	N/A
pH, mg/l	N/A	N/A
Hydroxide, mg/l	<1.0	N/A
Carbonate (2320/4500), mg/l	<1.0	N/A
Dilution Factor	1	1
Prep Date	08.28.00	08.28.00
Analysis Date	08.28.00	08.28.00
Batch ID	AEW068	AEW068
Prep Method	4500	4500
Analyst	BE	BE
Chloride (SM4500E), mg/l	<2.0	101 %
Dilution Factor	1	1
Prep Date	08.28.00	08.28.00
Analysis Date	08.29.00	08.29.00
Batch ID	CKW47A	CKW47A
Prep Method	SM4500E	SM4500E
Analyst	WG	BH

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SERVICES

STL Pensacola

LOG NO: C0-08658

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Ms. JACINTA TENORIO
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Code: 12570098

Page 11

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED
08658-2	Method Blank	
08658-3	Lab Control Standard % Recovery	
PARAMETER	08658-2	08658-3
Sulfate as SO4 (375.4), mg/l	<5.0	100 %
Dilution Factor	1	1
Prep Date	08.30.00	08.30.00
Analysis Date	08.30.00	08.30.00
Batch ID	SEW100	SEW100
Prep Method	375.4	375.4
Analyst	BE	BE
Total Dissolved Solids (160.1), mg/l	<5	94 %
Dilution Factor	1	1
Prep Date	08.25.00	08.25.00
Analysis Date	08.29.00	08.29.00
Batch ID	TDW056	TDW056
Prep Method	160.1	160.1
Analyst	ST	ST
Specific Conductance (120.1), umhos/cm	<1.0	100 %
Dilution Factor	1	1
Prep Date	08.30.00	08.30.00
Analysis Date	08.30.00	08.30.00
Batch ID	CDW018	CDW018
Prep Method	120.1	120.1
Analyst	ST	ST

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Requisition: 008077

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Sampled By: Client

Code: 12570098

Page 12

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED
08658-2	Method Blank	
08658-3	Lab Control Standard % Recovery	
PARAMETER	08658-2	08658-3
Total Releasable Cyanide (SW7.3.3.2), mg HCN/kg	<25	95 %
Dilution Factor	1	1
Prep Date	08.31.00	08.31.00
Analysis Date	08.31.00	08.31.00
Batch ID	RCX026	RCX026
Prep Method	SW7.3.3.2	SW7.3.3.2
Analyst	BH	BH
Total Releasable Sulfide (SW7.3.4.2), mg H2S/kg	<150	95 %
Dilution Factor	1	1
Prep Date	08.31.00	08.31.00
Analysis Date	08.31.00	08.31.00
Batch ID	RSX026	RSX026
Prep Method	SW7.3.4.2	SW7.3.4.2
Analyst	BH	BH
Ignitability-flash point (1010), Degrees C	N/A	104 %
Dilution Factor	---	1
Prep Date	---	08.30.00
Analysis Date	---	08.30.00
Batch ID	---	FPX039
Prep Method	---	1010
Analyst	---	CR

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SERVICES

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Requisition: 008077

Project: 008077, GRCB QTR WELL SAMPLE

Sampled By: Client

Code: 12570098

Page 13

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED
08658-2	Method Blank	
08658-3	Lab Control Standard % Recovery	
PARAMETER	08658-2	08658-3
RCRA Metals (6010)		
Arsenic, mg/l	<0.005	100 %
Barium, mg/l	<0.010	102 %
Cadmium, mg/l	<0.005	101 %
Chromium, mg/l	<0.005	101 %
Lead, mg/l	<0.005	101 %
Selenium, mg/l	<0.010	94 %
Silver, mg/l	<0.005	98 %
Dilution Factor	1	1
Prep Date	08.29.00	08.29.00
Analysis Date	08.30.00	08.30.00
Batch ID	PW295	PW295
Prep Method	3010A	3010A
Analyst	GSP	GSP
Mercury (7470), mg/l	<0.00020	99 %
Dilution Factor	1	1
Prep Date	08.30.00	08.30.00
Analysis Date	08.30.00	08.30.00
Batch ID	HGW111	HGW111
Prep Method	7470A	7470A
Analyst	JDE	JDE

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Requisition: 008077

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Sampled By: Client

Code: 12570098

Page 14

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED
08658-2	Method Blank	
08658-3	Lab Control Standard % Recovery	
PARAMETER	08658-2	08658-3
Metals (6010)		
Calcium, mg/l	<0.005	101 %
Magnesium, mg/l	<0.50	100 %
Potassium, mg/l	<1.0	95 %
Sodium, mg/l	<1.0	95 %
Dilution Factor	1	1
Prep Date	08.29.00	08.29.00
Analysis Date	08.30.00	08.30.00
Batch ID	PW295	PW295
Prep Method	3010A	3010A
Analyst	GSP	GSP

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Code: 12570098

Page 15

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED
08658-2	Method Blank	
08658-3	Lab Control Standard % Recovery	
PARAMETER	08658-2	08658-3
Semivolatile Organic Compounds (8270)		
Benzoic acid, ug/l	<50	---
4-Chloro-3-methylphenol (p-Chloro-m-cresol), ug/l	<10	87 %
2-Chlorophenol, ug/l	<10	69 %
2,4-Dichlorophenol, ug/l	<10	---
2,6-Dichlorophenol, ug/l	<10	---
2,4-Dimethylphenol, ug/l	<10	---
4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol), ug/l	<50	---
2,4-Dinitrophenol, ug/l	<50	---
2-Methylphenol (o-Cresol), ug/l	<10	---
3-Methylphenol/4-Methylphenol (m&p-Cresol), ug/l	<10	---
2-Nitrophenol (o-Nitrophenol), ug/l	<10	---
4-Nitrophenol (p-Nitrophenol), ug/l	<50	68 %
Pentachlorophenol, ug/l	<50	77 %
Phenol, ug/l	<10	73 %
2,3,4,6-Tetrachlorophenol, ug/l	<10	---
2,4,5-Trichlorophenol, ug/l	<50	---
2,4,6-Trichlorophenol, ug/l	<10	---
Acenaphthene, ug/l	<10	80 %
Acenaphthylene, ug/l	<10	---
Acetophenone, ug/l	<10	---
4-Aminobiphenyl, ug/l	<10	---
Aniline, ug/l	<10	---
Anthracene, ug/l	<10	---
Benzidine, ug/l	<50	---

STL Pensacola

LOG NO: C0-08658

Received: 24 AUG 00

Reported: 08 SEP 00

Ms. JACINTA TENORIO
Pinnacle Laboratories
2709-D Pan American Freeway Northeast
Albuquerque, NM 87107

Requisition: 008077

Project: 008077, GRCB QTR WELL SAMPLE

Sampled By: Client

Code: 12570098

Page 16

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED
08658-2	Method Blank	
08658-3	Lab Control Standard % Recovery	
PARAMETER	08658-2	08658-3
Benzo(a)anthracene, ug/l	<10	---
Benzo(b)fluoranthene, ug/l	<10	---
Benzo(k)fluoranthene, ug/l	<10	---
Benzo(g,h,i)perylene, ug/l	<10	---
Benzo(a)pyrene, ug/l	<10	---
Benzyl alcohol, ug/l	<10	---
4-Bromophenylphenyl ether, ug/l	<10	---
Butylbenzylphthalate, ug/l	<10	---
Carbazole, ug/l	<10	---
4-Chloroaniline (p-Chloroaniline), ug/l	<10	---
bis(2-Chloroethoxy)methane, ug/l	<10	---
bis(2-Chloroethyl)ether, ug/l	<10	---
bis(2-Chloroisopropyl) ether, ug/l	<10	---
1-Chloronaphthalene, ug/l	<10	---
2-Chloronaphthalene, ug/l	<10	---
4-Chlorophenylphenyl ether, ug/l	<10	---
Chrysene, ug/l	<10	---
Dibenz(a,j)acridine, ug/l	<10	---
Dibenzo(a,h)anthracene, ug/l	<10	---
Dibenzofuran, ug/l	<10	---
Di-n-butylphthalate, ug/l	<10	---
1,2-Dichlorobenzene (o-Dichlorobenzene), ug/l	<10	---
1,3-Dichlorobenzene (m-Dichlorobenzene), ug/l	<10	---
1,4-Dichlorobenzene (p-Dichlorobenzene), ug/l	<10	70 %
3,3'-Dichlorobenzidine, ug/l	<50	---

STL Pensacola
LOG NO: C0-08658
Received: 24 AUG 00
Reported: 08 SEP 00

Ms. JACINTA TENORIO
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2709-D Pan American Freeway Northeast
Albuquerque, NM 87107

Requisition: 008077

Project: 008077, GRCB QTR WELL SAMPLE
Sampled By: Client
Code: 12570098
Page 17

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED
08658-2	Method Blank	
08658-3	Lab Control Standard % Recovery	
PARAMETER	08658-2	08658-3
Diethylene Glycol Monobutyl Ether, ug/l	<10	---
Diethylphthalate, ug/l	<10	---
p-(Dimethylamino)azobenzene, ug/l	<10	---
7,12-Dimethylbenz(a)anthracene, ug/l	<10	---
alpha,alpha-Dimethylphenethylamine, ug/l	<10	---
Dimethylphthalate, ug/l	<10	---
2,4-Dinitrotoluene, ug/l	<10	85 %
2,6-Dinitrotoluene, ug/l	<10	---
Di-n-octylphthalate, ug/l	<10	---
1,2-Diphenylhydrazine, ug/l	<10	---
bis(2-Ethylhexyl)phthalate, ug/l	<10	---
Ethyl methanesulfonate, ug/l	<10	---
Fluoranthene, ug/l	<10	---
Fluorene, ug/l	<10	---
Hexachlorobenzene, ug/l	<10	---
Hexachlorobutadiene, ug/l	<10	---
Hexachlorocyclopentadiene, ug/l	<10	---
Hexachloroethane, ug/l	<10	---
Indeno(1,2,3-cd)pyrene, ug/l	<10	---
Isophorone, ug/l	<10	---
3-Methylcholanthrene, ug/l	<10	---
Methyl methanesulfonate, ug/l	<10	---
1-Methylnaphthalene, ug/l	<10	---
2-Methylnaphthalene, ug/l	<10	---
Naphthalene, ug/l	<10	---

SEVERN

TRENT

SERVICES

STL Pensacola

LOG NO: C0-08658

Received: 24 AUG 00

Reported: 08 SEP 00

Ms. JACINTA TENORIO
Pinnacle Laboratories
2709-D Pan American Freeway Northeast
Albuquerque, NM 87107

Requisition: 008077

Project: 008077, GRCB QTR WELL SAMPLE

Sampled By: Client

Code: 12570098

Page 18

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED
08658-2	Method Blank	
08658-3	Lab Control Standard % Recovery	
PARAMETER	08658-2	08658-3
1-Naphthylamine, ug/l	<10	---
2-Naphthylamine, ug/l	<10	---
2-Nitroaniline (o-Nitroaniline), ug/l	<10	---
3-Nitroaniline (m-Nitroaniline), ug/l	<10	---
4-Nitroaniline (p-Nitroaniline), ug/l	<10	---
Nitrobenzene, ug/l	<10	---
N-Nitrosodi-n-butylamine, ug/l	<10	---
N-Nitrosodimethylamine, ug/l	<10	---
N-Nitrosodiphenylamine, ug/l	<10	---
n-Nitrosodi-n-propylamine, ug/l	<10	88 %
N-Nitrosopiperidine, ug/l	<10	---
Pentachlorobenzene, ug/l	<10	---
Pentachloronitrobenzene, ug/l	<10	---
Phenacetin, ug/l	<10	---
Phenanthrene, ug/l	<10	---
2-Picoline, ug/l	<10	---
Pronamide, ug/l	<10	---
Pyrene, ug/l	<10	87 %
Pyridine, ug/l	<10	---
1,2,4,5-Tetrachlorobenzene, ug/l	<10	---
1,2,4-Trichlorobenzene, ug/l	<10	77 %
Surrogate - 2-Fluorobiphenyl	75 %	84 %
Surrogate - 2-Fluorophenol	41 %	54 %
Surrogate - Nitrobenzene - d5	77 %	87 %
Surrogate - Phenol-d5	62 %	77 %

SEVERN

TRENT

SERVICES

STL Pensacola

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Ms. JACINTA TENORIO
Pinnacle Laboratories
2709-D Pan American Freeway Northeast
Albuquerque, NM 87107

Requisition: 008077

Project: 008077, GRCB QTR WELL SAMPLE

Sampled By: Client

Code: 12570098

Page 19

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED
08658-2	Method Blank	
08658-3	Lab Control Standard % Recovery	
PARAMETER	08658-2	08658-3
Surrogate - Terphenyl-d14	88 %	89 %
Surrogate - 2,4,6-Tribromophenol	80 %	94 %
Dilution Factor	1	1
Prep Date	08.28.00	08.28.00
Analysis Date	08.31.00	08.31.00
Batch ID	ALW065	ALW065
Prep Method	3520	3520
Analyst	RW	RW

SEVERN

TRENT

SERVICES

STL Pensacola

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Ms. JACINTA TENORIO
Pinnacle Laboratories
2709-D Pan American Freeway Northeast
Albuquerque, NM 87107

Requisition: 008077

Project: 008077, GRCB QTR WELL SAMPLE

Sampled By: Client

Code: 12570098

Page 20

REPORT OF RESULTS

DATE/
TIME SAMPLED

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES

08658-4 Matrix Spike % Recovery
08658-5 Matrix Spike Duplicate % Recovery

PARAMETER 08658-4 08658-5

Alkalinity Series (2320B/SM4500)

Alkalinity (to pH 4.5) as CaCO ₃ , mg/l	112 %	92 %
Bicarbonate (2320/4500), mg/l	N/A	N/A
Carbon Dioxide, mg/l	N/A	N/A
pH, mg/l	N/A	N/A
Hydroxide, mg/l	N/A	N/A
Carbonate (2320/4500), mg/l	N/A	N/A
Dilution Factor	1	1
Prep Date	08.28.00	08.28.00
Analysis Date	08.28.00	08.28.00
Batch ID	AEW068	AEW068
Prep Method	4500	4500
Analyst	BE	BE

Chloride (SM4500E), mg/l	101 %	95 %
Dilution Factor	2	2
Prep Date	08.28.00	08.28.00
Analysis Date	08.29.00	08.29.00
Batch ID	CKW47A	CKW47A
Prep Method	SM4500E	SM4500E
Analyst	BH	BH

SEVERN

TRENT

SERVICES

STL Pensacola

LOG NO: C0-08658

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Ms. JACINTA TENORIO
Pinnacle Laboratories
2709-D Pan American Freeway Northeast
Albuquerque, NM 87107

Requisition: 008077

Project: 008077, GRCB QTR WELL SAMPLE

Sampled By: Client

Code: 12570098

Page 21

REPORT OF RESULTS

DATE/

TIME SAMPLED

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/	TIME SAMPLED
08658-4	Matrix Spike % Recovery		
08658-5	Matrix Spike Duplicate % Recovery		
PARAMETER	08658-4	08658-5	
Sulfate as SO4 (375.4), mg/l	105 %	98 %	
Dilution Factor	1	1	
Prep Date	08.30.00	08.30.00	
Analysis Date	08.30.00	08.30.00	
Batch ID	SEW100	SEW100	
Prep Method	375.4	375.4	
Analyst	BE	BE	
RCRA Metals (6010)			
Arsenic, mg/l	98 %	100 %	
Barium, mg/l	102 %	103 %	
Cadmium, mg/l	100 %	101 %	
Chromium, mg/l	100 %	102 %	
Lead, mg/l	100 %	101 %	
Selenium, mg/l	93 %	95 %	
Silver, mg/l	97 %	99 %	
Dilution Factor	1	1	
Prep Date	08.29.00	08.29.00	
Analysis Date	08.30.00	08.30.00	
Batch ID	PW295	PW295	
Prep Method	3010A	3010A	
Analyst	GSP	GSP	

SEVERN

TRENT

SERVICES

STL Pensacola

LOG NO: C0-08658

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Ms. JACINTA TENORIO
Pinnacle Laboratories
2709-D Pan American Freeway Northeast
Albuquerque, NM 87107

Requisition: 008077

Project: 008077, GRCB QTR WELL SAMPLE

Sampled By: Client

Code: 12570098

Page 22

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED
08658-4	Matrix Spike % Recovery	
08658-5	Matrix Spike Duplicate % Recovery	
PARAMETER	08658-4	08658-5
Mercury (7470), mg/l	94 %	93 %
Dilution Factor	1	1
Prep Date	08.30.00	08.30.00
Analysis Date	08.30.00	08.30.00
Batch ID	HGW111	HGW111
Prep Method	7470A	7470A
Analyst	JDE	JDE
Metals (6010)		
Calcium, mg/l	100 %	101 %
Magnesium, mg/l	99 %	100 %
Potassium, mg/l	94 %	96 %
Sodium, mg/l	95 %	97 %
Dilution Factor	1	1
Prep Date	08.29.00	08.29.00
Analysis Date	08.30.00	08.30.00
Batch ID	PW295	PW295
Prep Method	3010A	3010A
Analyst	GSP	GSP

SEVERN

TRENT

SERVICES

STL Pensacola

LOG NO: C0-08658

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Reported: 08 SEP 00

Ms. JACINTA TENORIO
Pinnacle Laboratories
2709-D Pan American Freeway Northeast
Albuquerque, NM 87107

Requisition: 008077

Project: 008077, GRCB QTR WELL SAMPLE

Sampled By: Client

Code: 12570098

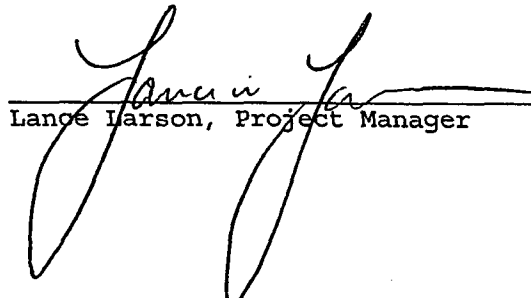
Page 23

REPORT OF RESULTS

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES DATE/
TIME SAMPLED

08658-4 Matrix Spike % Recovery
08658-5 Matrix Spike Duplicate % Recovery

PARAMETER	08658-4	08658-5
Semivolatile Organic Compounds (8270)		
4-Chloro-3-methylphenol (p-Chloro-m-cresol), ug/l	67 %	73 %
2-Chlorophenol, ug/l	25 % M1	49 % M1
4-Nitrophenol (p-Nitrophenol), ug/l	56 %	61 %
Pentachlorophenol, ug/l	99 %	93 %
Phenol, ug/l	36 % M1	54 % M1
Acenaphthene, ug/l	61 %	59 %
1,4-Dichlorobenzene (p-Dichlorobenzene), ug/l	26 %	23 %
2,4-Dinitrotoluene, ug/l	74 %	70 %
n-Nitrosodi-n-propylamine, ug/l	57 %	66 %
Pyrene, ug/l	103 %	84 %
1,2,4-Trichlorobenzene, ug/l	39 % M1	51 %
Surrogate - 2-Fluorobiphenyl	58 %	59 %
Surrogate - 2-Fluorophenol	14 %	38 %
Surrogate - Nitrobenzene - d5	51 %	62 %
Surrogate - Phenol-d5	36 %	55 %
Surrogate - Terphenyl-d14	82 %	77 %
Surrogate - 2,4,6-Tribromophenol	82 %	76 %
Dilution Factor	3	3
Prep Date	08.28.00	08.28.00
Analysis Date	08.31.00	08.31.00
Batch ID	ALW065	ALW065
Prep Method	3520	3520
Analyst	RW	RW


Lance Larson, Project Manager

Final Page Of Report

Data Qualifiers for Final Report

STL-Pensacola Inorganic/Organic

B1	The analyte was detected in the associated method blank (sample itself is flagged even though sample is ND).
B2	The analyte was detected in the sample(s) and in the associated method blank analyzed on the day samples were extruded; however, this analyte was not detected in the blank analyzed with the samples.
B3	The analyte was found in the associated blank as well as in the associated sample(s) (qualifier is applied to the sample, not to the blank).
B4	Sample results were corrected due to contaminants in Fractionation Blank
D	Diluted out (surrogate or spike due to sample dilution)
E	Compound concentration exceeds the upper calibration range of the instrument.
F	The reported value is < STL-Pensacola RL and > the STL-Pensacola MDL; therefore, the quantitation is estimation (The STL-PN RL is at or above lowest calibration standard in the initial calibration curve).
G	Sample and/or duplicate result is at or below 5 X (times) the STL Reporting Limit and the absolute difference between the sample and duplicate result is at or below the STL reporting limit; therefore, the results are "in control".
H1	Sample and/or duplicate is below 5 X (times) the STL Reporting Limit and the absolute difference between the results exceeds the STL Reporting Limit; therefore, the results are "out of control"
H2	Sample and duplicate (or MS and MSD) RPD is above control limit.
J (description)	The analyte was positively identified, the quantitation may be an estimation
J4	(For positive results) Temperature limits exceeded ($\leq 2^{\circ}\text{C}$ or $\geq 6^{\circ}\text{C}$); non-reportable for NPDES compliance monitoring.
J6	(For positive results) LCS or Surrogate %R is > upper control limit (UCL), results may be biased high
J7	The reported value is > the laboratory MDL and < lowest calibration standard; therefore, the quantitation is an estimation (this qualifier should only be used when the STL-PN RL is below the lowest calibration standard in the initial calibration).
J8	Matrix spike and post spike recoveries are outside control limits. See out of Control Events/Corrective Action Form.
J9	(For positive results) LCS or Surrogate %R is < lower control limit (LCL), results may be biased low
M1	A matrix effect was present (¹ sample, MS or MSD was analyzed twice to confirm surrogate/spike failure, ² sample and/or MS/MSD chromatogram(s) had interfering peaks, ³ sample result was > 4 X spike added, ⁴ metals serial dilution was performed, or ⁵ metals post spike is < 40% R)
M2	The MS and/or MSD %R or RPD was outside upper or lower control limits; not necessarily due to matrix effect.
N/C	Not Calculable; Sample spiked is > 4X spike concentration (may also use this flag in place of negative numbers)
NH	Sample and duplicate results are "out of control". The sample is nonhomogeneous.
NoMS	Not enough sample provided to prepare and/or analyze a method-required matrix spike (MS) and/or duplicate (MSD)
Q	The analytical (post digestion) spike is reported due to the percent recovery being outside limits on the matrix (pre-digestion) spike.
R (description)	The data may be unusable due to deficiencies in the ability to analyze the sample and meet QC criteria
R1	(For nondetects) Temperature limits exceeded ($\leq 2^{\circ}\text{C}$ or $\geq 6^{\circ}\text{C}$); non-reportable for NPDES compliance monitoring
R2	Improper preservation, no preservative present or insufficient amounts of preservative in sample upon receipt, non-reportable for NPDES compliance monitoring
R3	Improper preservation, incorrect preservative present in sample upon receipt, non-reportable for NPDES compliance
R4	Holding time exceeded, non-reportable for NPDES compliance monitoring.
R5	Collection requirements not met, improper container used for sample
R6	LCS or surrogate %R is < LCL and analyte is not detected or surrogate %R is < 10% for detects/nondetects.
R7	Internal standard area outside -50% to +100% of calibration verification standard.
R8	Initial calibration or any calibration verification exceeds acceptance criteria.
R9	Not filtered and preserved at time of collection.
R10	Headspace > 1/4" in diameter in volatile vials, non-reportable for NPDES compliance monitoring
R11	Samples were filtered and preserved within 4 hours of collection.
R12	Analysis performed outside the 12-hour tune or not within tune criteria.
S1	The Method of Standard Additions (MSA) has been performed on this sample.
S2	Incorrect sample amount was submitted to the laboratory for analysis
S3 (Flashpoint)	This method is not designed for solids and the results may not be accepted by any regulator for such purposes.
T	Second-column or detector confirmation exceeded the SW-846 criteria of 40% RPD for this compound.
TIC	The compound is not within the initial calibration curve. It is searched for qualitatively or as a Tentatively Identified Compound.
U	The reported value is < Laboratory MDL (value for result will be the MDL, never below the MDL)
W	Post-digestion spike for Furnace AA is out of control limits (85-115%), while sample absorbance is less than 50% spike absorbance.
@	Adjusted reporting limit due to sample composition, not due to overcal (dilution prior to digestion and/or analysis).
#	Elevated reporting limit due to insufficient sample size
1 pt	The compound has been quantitated against a one point calibration.
* (Metals & Wet Chem)	Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)

SEVERN TRENT LABORATORIES, INC. - PENSACOLA, FLORIDA
STATE CERTIFICATIONS

Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL)

Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater)

Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental)

State of California, Department of Health Services, Laboratory ID No. 2338 (Hazardous Waste and Wastewater)

State of Connecticut, Department of Health Services, Connecticut Lab Approval No. PH-0697 (Drinking Water, Hazardous Waste and Wastewater)

Delaware Health & Social Services, Division of Public Health, Laboratory ID No. FL094 (Drinking Water by Reciprocity with FL)

Florida DOH Laboratory ID No. E81010 (Drinking Water, Hazardous Waste and Wastewater)

Florida, Radioactive Materials License No. G0733-1

Foreign Soil Permit, Permit No. S-37599

Kansas Department of Health & Environment, Laboratory ID No. E10253 (Wastewater and Hazardous Waste)

Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet, Laboratory ID No. 90043 (Drinking Water)

State of Louisiana, DHH, Office of Public Health Division of Laboratories, Laboratory ID No. LA000017 (Drinking Water)

State of Maryland, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida)

Commonwealth of Massachusetts, DEP, Laboratory ID No. M-FL094 (Hazardous Waste and Wastewater)

State of Michigan, Bureau of E&OccH, Laboratory ID No. 9912 (Drinking Water by Reciprocity with Florida)

New Hampshire DES ELAP, Laboratory ID No. 250599A (Wastewater)

State of New Jersey, Department of Environmental Protection & Energy, Laboratory ID No. 49006 (Wastewater and Hazardous Waste)

New York State, Department of Health, Laboratory ID No. 11503 (Wastewater and Solids/Hazardous Waste)

North Carolina Department of Environment & Natural Resources, Laboratory ID No. 314 (Hazardous Waste and Wastewater)

North Dakota DH&Consol Labs, Laboratory ID No. R-108 (Hazardous Waste and Wastewater by Reciprocity with Florida)

State of Oklahoma, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater)

Commonwealth of Pennsylvania, Department of Environmental Resources, Laboratory ID No. 68-467 (Drinking Water)

South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater by Reciprocity with FL and Solids/Hazardous Waste by Reciprocity with CA)

Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water)

Tennessee Division of Underground Storage Tanks Approved Laboratory

Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL)

State of Washington, Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater)

West Virginia Division of Environmental Protection, Office of Water Resources, Laboratory ID No. 136 (Hazardous Waste and Wastewater by Reciprocity with FL)

Date: 8/23 Page: 1 of 1

Network Project Manager: Jacinta A. Tenorio

(505) 344-3777 Fax (505) 344-4413

Please see attached sheet for parameter list.

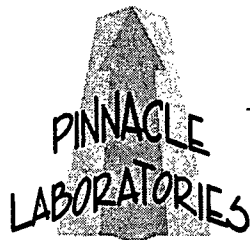
008077-01	8/21	1430	AG
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[illegible]

PROJECT INFORMATION		SAMPLE RECEIPT	
PROJECT #:	008077	Total Number of Containers	
PROJ. NAME:	GRCB	Chain of Custody Seals	
QCC LEVEL:	STD IV	Received Intact?	
QCC REQUIRED	MS MSD BLANK	Received Good Cond./Cold	
QCC TYPE:	STANDARD RUSH!!	LAB NUMBER:	

COMMENTS:	
DUE DATE:	9/5
RUSH SURCHARGE:	—
CLIENT DISCOUNT:	—
SPECIAL CERTIFICATION REQUIRED: YES <u>NO</u>	

RELINQUISHED BY: 1	RELINQUISHED BY: 2
Signature: <i>Francine Tarrivie</i> 1730	Signature: _____
Date: _____	Date: _____
Printed Name: <i>Francine Tarrivie</i>	Printed Name: _____
Pinnacle Laboratories, Inc.	Company: _____
RECEIVED BY: 1	RECEIVED BY: 2
Signature: _____	Signature: _____
Date: _____	Date: _____
Printed Name: _____	Printed Name: _____
Company: _____	Company: _____



4th qtr

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

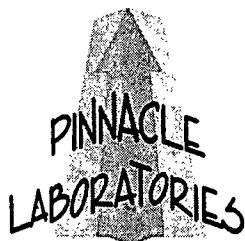
GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260
CLIENT : GIANT REFINING CO.-BLOOMFIELD
PROJECT # : 4TH QTR WELL SAMPLE
PROJECT NAME : 4TH QTR WELL SAMPLE

PINNACLE I.D. : 012099
DATE RECEIVED : 12/29/00

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
012099-01	QTR INJ WELL	AQUEOUS	12/28/00	N/A	01/02/01	1
PARAMETER (CAS#)	DET. LIMIT	RESULT	UNITS			

Dichlorodifluoromethane (75-71-8)	1.0	< 1.0	ug/L	
Chloromethane (74-87-9)	1.0	< 1.0	ug/L	
Vinyl Chloride (75-01-4)	1.0	< 1.0	ug/L	
Bromomethane (74-83-9)	1.0	< 1.0	ug/L	
Chloroethane (75-00-3)	1.0	< 1.0	ug/L	
Trichlorofluoromethane (75-69-4)	1.0	< 1.0	ug/L	
Acetone (67-64-1)	10	120	ug/L	
Acrolein (107-02-8)	5.0	< 5.0	ug/L	
1,1-Dichloroethene (75-35-4)	1.0	< 1.0	ug/L	
Iodomethane (74-88-4)	1.0	< 1.0	ug/L	
Methylene Chloride (75-09-2)	1.0	< 1.0	ug/L	
Acrylonitrile (107-13-1)	5.0	< 5.0	ug/L	
cis-1,2-Dichloroethene (107-06-2)	1.0	< 1.0	ug/L	
Methyl-t-butyl Ether (628-28-4)	1.0	960	ug/L	(D20)
1,1,2-Trichlorotrifluoroethane (76-13-1)	5.0	< 5.0	ug/L	
1,1-Dichloroethane (75-34-3)	1.0	< 1.0	ug/L	
trans-1,2-Dichloroethene (156-60-5)	1.0	< 1.0	ug/L	
2-Butanone (78-93-3)	10	< 10	ug/L	
Carbon Disulfide (75-15-0)	1.0	< 1.0	ug/L	
Bromochloromethane (74-97-5)	1.0	< 1.0	ug/L	
Chloroform (67-66-3)	1.0	< 1.0	ug/L	
2,2-Dichloropropane (594-20-7)	1.0	< 1.0	ug/L	
1,2-Dichloroethane (107-06-2)	1.0	< 1.0	ug/L	
Vinyl Acetate (108-05-4)	1.0	< 1.0	ug/L	
1,1,1-Trichloroethane (71-55-6)	1.0	< 1.0	ug/L	
1,1-Dichloropropene (563-58-6)	1.0	< 1.0	ug/L	
Carbon Tetrachloride (56-23-5)	1.0	< 1.0	ug/L	
Benzene (71-43-2)	1.0	< 1.0	ug/L	
1,2-Dichloropropane (78-87-5)	1.0	< 1.0	ug/L	
Trichloroethene (79-01-6)	1.0	< 1.0	ug/L	
Bromodichloromethane (75-27-4)	1.0	< 1.0	ug/L	
2-Chloroethyl Vinyl Ether (110-75-8)	10	< 10	ug/L	
cis-1,3-Dichloropropene (10061-01-5)	1.0	< 1.0	ug/L	
trans-1,3-Dichloropropene (10061-02-6)	1.0	< 1.0	ug/L	
1,1,2-Trichloroethane (79-00-5)	1.0	< 1.0	ug/L	
1,3-Dichloropropane (142-28-9)	1.0	< 1.0	ug/L	
Dibromomethane (74-95-3)	1.0	< 1.0	ug/L	
Toluene (108-88-3)	1.0	< 1.0	ug/L	
1,2-Dibromoethane (106-93-4)	1.0	< 1.0	ug/L	
4-Methyl-2-Pentanone (108-10-1)	10	< 10	ug/L	
2-Hexanone (591-78-6)	10	< 10	ug/L	
Dibromochloromethane (124-48-1)	1.0	< 1.0	ug/L	
Tetrachloroethene (127-18-4)	1.0	< 1.0	ug/L	
Chlorobenzene (108-90-7)	1.0	< 1.0	ug/L	
Ethylbenzene (100-41-4)	1.0	< 1.0	ug/L	
1,1,1,2-Tetrachloroethane (630-20-6)	1.0	< 1.0	ug/L	
m&p Xylenes (108-38-3, 106-42-3)	1.0	< 1.0	ug/L	



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GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260
CLIENT : GIANT REFINING CO.-BLOOMFIELD
PROJECT # : 4TH QTR WELL SAMPLE
PROJECT NAME : 4TH QTR WELL SAMPLE

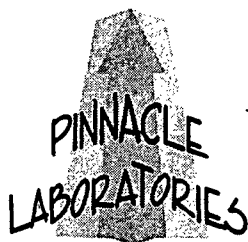
PINNACLE I.D. : 012099
DATE RECEIVED : 12/29/00

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
012099-01	QTR INJ WELL	AQUEOUS	12/28/00	N/A	01/02/01	1
PARAMETER (CAS#)	DET. LIMIT	RESULT	UNITS			
o-Xylene (95-47-6)	1.0	< 1.0	ug/L			
Styrene (100-42-5)	1.0	< 1.0	ug/L			
Bromoform (75-25-2)	1.0	< 1.0	ug/L			
1,1,2,2-Tetrachloroethane (79-34-5)	1.0	< 1.0	ug/L			
1,2,3-Trichloropropane (96-18-4)	1.0	< 1.0	ug/L			
Isopropyl Benzene (98-82-8)	1.0	< 1.0	ug/L			
Bromobenzene (108-86-1)	1.0	< 1.0	ug/L			
trans-1,4-Dichloro-2-Butene (110-57-6)	1.0	< 1.0	ug/L			
n-Propylbenzene (103-65-1)	1.0	< 1.0	ug/L			
2-Chlorotoluene (95-49-8)	1.0	< 1.0	ug/L			
4-Chlorotoluene (106-43-4)	1.0	< 1.0	ug/L			
1,3,5-Trimethylbenzene (108-67-8)	1.0	< 1.0	ug/L			
tert-Butylbenzene (98-06-6)	1.0	< 1.0	ug/L			
1,2,4-Trimethylbenzene (95-63-6)	1.0	< 1.0	ug/L			
sec-Butylbenzene (135-98-9)	1.0	< 1.0	ug/L			
1,3-Dichlorobenzene (541-73-1)	1.0	< 1.0	ug/L			
1,4-Dichlorobenzene (106-46-7)	1.0	< 1.0	ug/L			
p-Isopropyltoluene (99-87-6)	1.0	< 1.0	ug/L			
1,2-Dichlorobenzene (95-50-1)	1.0	< 1.0	ug/L			
n-Butylbenzene (104-51-8)	1.0	< 1.0	ug/L			
1,2-Dibromomo-3-chloropropane (96-12-8)	1.0	< 1.0	ug/L			
1,2,4-Trichlorobenzene (120-82-1)	1.0	< 1.0	ug/L			
Naphthalene (91-20-3)	1.0	< 1.0	ug/L			
Hexachlorobutadiene (87-68-3)	1.0	< 1.0	ug/L			
1,2,3-Trichlorobenzene (87-61-6)	1.0	< 1.0	ug/L			
1,4-Dioxane (123-91-1)	50	< 50	ug/L			

SURROGATE % RECOVERY

1,2-Dichloroethane-d4 108
(80 - 120)
Toluene-d8 102
(88 - 110)
Bromofluorobenzene 106
(86 - 115)

D20 = Diluted 20X, Analyzed 1/3/00.



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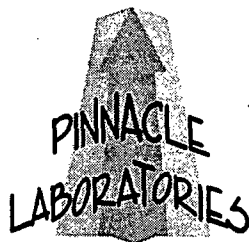
GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260
CLIENT : GIANT REFINING CO.-BLOOMFIELD
PROJECT # : 4TH QTR WELL SAMPLE
PROJECT NAME : 4TH QTR WELL SAMPLE

PINNACLE I.D. : 012099

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	010201	AQUEOUS	N/A	01/02/01	1
PARAMETER (CAS#)	DET. LIMIT	RESULT	UNITS		

Dichlorodifluoromethane (75-71-8)	1.0	< 1.0	ug/L
Chloromethane (74-87-9)	1.0	< 1.0	ug/L
Vinyl Chloride (75-01-4)	1.0	< 1.0	ug/L
Bromomethane (74-83-9)	1.0	< 1.0	ug/L
Chloroethane (75-00-3)	1.0	< 1.0	ug/L
Trichlorofluoromethane (75-69-4)	1.0	< 1.0	ug/L
Acetone (67-64-1)	10	< 10	ug/L
Acrolein (107-02-8)	5.0	< 5.0	ug/L
1,1-Dichloroethene (75-35-4)	1.0	< 1.0	ug/L
Iodomethane (74-88-4)	1.0	< 1.0	ug/L
Methylene Chloride (75-09-2)	1.0	< 1.0	ug/L
Acrylonitrile (107-13-1)	5.0	< 5.0	ug/L
cis-1,2-Dichloroethene (107-06-2)	1.0	< 1.0	ug/L
Methyl-t-butyl Ether (628-28-4)	1.0	< 1.0	ug/L
1,1,2-Trichlorotrifluoroethane (76-13-1)	5.0	< 5.0	ug/L
1,1-Dichloroethane (75-34-3)	1.0	< 1.0	ug/L
trans-1,2-Dichloroethene (156-60-5)	1.0	< 1.0	ug/L
2-Butanone (78-93-3)	10	< 10	ug/L
Carbon Disulfide (75-15-0)	1.0	< 1.0	ug/L
Bromochloromethane (74-97-5)	1.0	< 1.0	ug/L
Chloroform (67-66-3)	1.0	< 1.0	ug/L
2,2-Dichloropropane (594-20-7)	1.0	< 1.0	ug/L
1,2-Dichloroethane (107-06-2)	1.0	< 1.0	ug/L
Vinyl Acetate (108-05-4)	1.0	< 1.0	ug/L
1,1,1-Trichloroethane (71-55-6)	1.0	< 1.0	ug/L
1,1-Dichloropropene (563-58-6)	1.0	< 1.0	ug/L
Carbon Tetrachloride (56-23-5)	1.0	< 1.0	ug/L
Benzene (71-43-2)	1.0	< 1.0	ug/L
1,2-Dichloropropane (78-87-5)	1.0	< 1.0	ug/L
Trichloroethene (79-01-6)	1.0	< 1.0	ug/L
Bromodichloromethane (75-27-4)	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether (110-75-8)	10	< 10	ug/L
cis-1,3-Dichloropropene (10061-01-5)	1.0	< 1.0	ug/L
trans-1,3-Dichloropropene (10061-02-6)	1.0	< 1.0	ug/L
1,1,2-Trichloroethane (79-00-5)	1.0	< 1.0	ug/L
1,3-Dichloropropane (142-28-9)	1.0	< 1.0	ug/L
Dibromomethane (74-95-3)	1.0	< 1.0	ug/L
Toluene (108-88-3)	1.0	< 1.0	ug/L
1,2-Dibromoethane (106-93-4)	1.0	< 1.0	ug/L
4-Methyl-2-Pentanone (108-10-1)	10	< 10	ug/L
2-Hexanone (591-78-6)	10	< 10	ug/L
Dibromochloromethane (124-48-1)	1.0	< 1.0	ug/L
Tetrachloroethene (127-18-4)	1.0	< 1.0	ug/L
Chlorobenzene (108-90-7)	1.0	< 1.0	ug/L
Ethylbenzene (100-41-4)	1.0	< 1.0	ug/L
1,1,1,2-Tetrachloroethane (630-20-6)	1.0	< 1.0	ug/L



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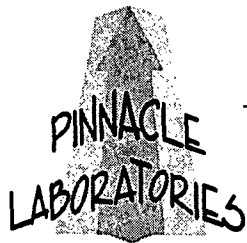
GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260
CLIENT : GIANT REFINING CO.-BLOOMFIELD PINNACLE I.D. : 012099
PROJECT # : 4TH QTR WELL SAMPLE
PROJECT NAME : 4TH QTR WELL SAMPLE

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	010201	AQUEOUS	N/A	01/02/01	1
PARAMETER (CAS#)	DET. LIMIT	RESULT	UNITS		
m&p Xylenes (108-38-3, 106-42-3)	1.0	< 1.0	ug/L		
o-Xylene (95-47-6)	1.0	< 1.0	ug/L		
Styrene (100-42-5)	1.0	< 1.0	ug/L		
Bromoform (75-25-2)	1.0	< 1.0	ug/L		
1,1,2,2-Tetrachloroethane (79-34-5)	1.0	< 1.0	ug/L		
1,2,3-Trichloropropane (96-18-4)	1.0	< 1.0	ug/L		
Isopropyl Benzene (98-82-8)	1.0	< 1.0	ug/L		
Bromobenzene (108-86-1)	1.0	< 1.0	ug/L		
trans-1,4-Dichloro-2-Butene (110-57-6)	1.0	< 1.0	ug/L		
n-Propylbenzene (103-65-1)	1.0	< 1.0	ug/L		
2-Chlorotoluene (95-49-8)	1.0	< 1.0	ug/L		
4-Chlorotoluene (106-43-4)	1.0	< 1.0	ug/L		
1,3,5-Trimethylbenzene (108-67-8)	1.0	< 1.0	ug/L		
tert-Butylbenzene (98-06-6)	1.0	< 1.0	ug/L		
1,2,4-Trimethylbenzene (95-63-6)	1.0	< 1.0	ug/L		
sec-Butylbenzene (135-98-9)	1.0	< 1.0	ug/L		
1,3-Dichlorobenzene (541-73-1)	1.0	< 1.0	ug/L		
1,4-Dichlorobenzene (106-46-7)	1.0	< 1.0	ug/L		
p-Isopropyltoluene (99-87-6)	1.0	< 1.0	ug/L		
1,2-Dichlorobenzene (95-50-1)	1.0	< 1.0	ug/L		
n-Butylbenzene (104-51-8)	1.0	< 1.0	ug/L		
1,2-Dibromomono-3-chloropropane (96-12-8)	1.0	< 1.0	ug/L		
1,2,4-Trichlorobenzene (120-82-1)	1.0	< 1.0	ug/L		
Naphthalene (91-20-3)	1.0	< 1.0	ug/L		
Hexachlorobutadiene (87-68-3)	1.0	< 1.0	ug/L		
1,2,3-Trichlorobenzene (87-61-6)	1.0	< 1.0	ug/L		
1,4-Dioxane (123-91-1)	50	< 50	ug/L		

SURROGATE % RECOVERY

1,2-Dichloroethane-d4 104
(80 - 120)
Toluene-d8 101
(88 - 110)
Bromofluorobenzene 104
(86 - 115)



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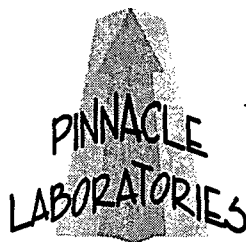
GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260
CLIENT : GIANT REFINING CO.-BLOOMFIELD
PROJECT # : 4TH QTR WELL SAMPLE
PROJECT NAME : 4TH QTR WELL SAMPLE

PINNACLE I.D. : 012099

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	010301	AQUEOUS	N/A	01/03/01	1
PARAMETER (CAS#)	DET. LIMIT	RESULT	UNITS		

Dichlorodifluoromethane (75-71-8)	1.0	< 1.0	ug/L
Chloromethane (74-87-9)	1.0	< 1.0	ug/L
Vinyl Chloride (75-01-4)	1.0	< 1.0	ug/L
Bromomethane (74-83-9)	1.0	< 1.0	ug/L
Chloroethane (75-00-3)	1.0	< 1.0	ug/L
Trichlorofluoromethane (75-69-4)	1.0	< 1.0	ug/L
Acetone (67-64-1)	10	< 10	ug/L
Acrolein (107-02-8)	5.0	< 5.0	ug/L
1,1-Dichloroethene (75-35-4)	1.0	< 1.0	ug/L
Iodomethane (74-88-4)	1.0	< 1.0	ug/L
Methylene Chloride (75-09-2)	1.0	< 1.0	ug/L
Acrylonitrile (107-13-1)	5.0	< 5.0	ug/L
cis-1,2-Dichloroethene (107-06-2)	1.0	< 1.0	ug/L
Methyl-t-butyl Ether (628-28-4)	1.0	< 1.0	ug/L
1,1,2-Trichlorotrifluoroethane (76-13-1)	5.0	< 5.0	ug/L
1,1-Dichloroethane (75-34-3)	1.0	< 1.0	ug/L
trans-1,2-Dichloroethene (156-60-5)	1.0	< 1.0	ug/L
2-Butanone (78-93-3)	10	< 10	ug/L
Carbon Disulfide (75-15-0)	1.0	< 1.0	ug/L
Bromochloromethane (74-97-5)	1.0	< 1.0	ug/L
Chloroform (67-66-3)	1.0	< 1.0	ug/L
2,2-Dichloropropane (594-20-7)	1.0	< 1.0	ug/L
1,2-Dichloroethane (107-06-2)	1.0	< 1.0	ug/L
Vinyl Acetate (108-05-4)	1.0	< 1.0	ug/L
1,1,1-Trichloroethane (71-55-6)	1.0	< 1.0	ug/L
1,1-Dichloropropene (563-58-6)	1.0	< 1.0	ug/L
Carbon Tetrachloride (56-23-5)	1.0	< 1.0	ug/L
Benzene (71-43-2)	1.0	< 1.0	ug/L
1,2-Dichloropropane (78-87-5)	1.0	< 1.0	ug/L
Trichloroethene (79-01-6)	1.0	< 1.0	ug/L
Bromodichloromethane (75-27-4)	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether (110-75-8)	10	< 10	ug/L
cis-1,3-Dichloropropene (10061-01-5)	1.0	< 1.0	ug/L
trans-1,3-Dichloropropene (10061-02-6)	1.0	< 1.0	ug/L
1,1,2-Trichloroethane (79-00-5)	1.0	< 1.0	ug/L
1,3-Dichloropropane (142-28-9)	1.0	< 1.0	ug/L
Dibromomethane (74-95-3)	1.0	< 1.0	ug/L
Toluene (108-88-3)	1.0	< 1.0	ug/L
1,2-Dibromoethane (106-93-4)	1.0	< 1.0	ug/L
4-Methyl-2-Pentanone (108-10-1)	10	< 10	ug/L
2-Hexanone (591-78-6)	10	< 10	ug/L
Dibromochloromethane (124-48-1)	1.0	< 1.0	ug/L
Tetrachloroethene (127-18-4)	1.0	< 1.0	ug/L
Chlorobenzene (108-90-7)	1.0	< 1.0	ug/L
Ethylbenzene (100-41-4)	1.0	< 1.0	ug/L
1,1,1,2-Tetrachloroethane (630-20-6)	1.0	< 1.0	ug/L



GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260
CLIENT : GIANT REFINING CO.-BLOOMFIELD
PROJECT # : 4TH QTR WELL SAMPLE
PROJECT NAME : 4TH QTR WELL SAMPLE

PINNACLE

SAMPLE			DATE
ID #	BATCH	MATRIX	EXTRACTED
REAGENT BLANK	010301	AQUEOUS	N/A
PARAMETER (CAS#)	DET. LIMIT	RESULT	UNITS
m&p Xylenes (108-38-3, 106-42-3)	1.0	< 1.0	ug/L
o-Xylene (95-47-6)	1.0	< 1.0	ug/L
Styrene (100-42-5)	1.0	< 1.0	ug/L
Bromoform (75-25-2)	1.0	< 1.0	ug/L
1,1,2,2-Tetrachloroethane (79-34-5)	1.0	< 1.0	ug/L
1,2,3-Trichloropropane (96-18-4)	1.0	< 1.0	ug/L
Isopropyl Benzene (98-82-8)	1.0	< 1.0	ug/L
Bromobenzene (108-86-1)	1.0	< 1.0	ug/L
trans-1,4-Dichloro-2-Butene (110-57-6)	1.0	< 1.0	ug/L
n-Propylbenzene (103-65-1)	1.0	< 1.0	ug/L
2-Chlorotoluene (95-49-8)	1.0	< 1.0	ug/L
4-Chlorotoluene (106-43-4)	1.0	< 1.0	ug/L
1,3,5-Trimethylbenzene (108-67-8)	1.0	< 1.0	ug/L
tert-Butylbenzene (98-06-6)	1.0	< 1.0	ug/L
1,2,4-Trimethylbenzene (95-63-6)	1.0	< 1.0	ug/L
sec-Butylbenzene (135-98-9)	1.0	< 1.0	ug/L
1,3-Dichlorobenzene (541-73-1)	1.0	< 1.0	ug/L
1,4-Dichlorobenzene (106-46-7)	1.0	< 1.0	ug/L
p-Isopropyltoluene (99-87-6)	1.0	< 1.0	ug/L
1,2-Dichlorobenzene (95-50-1)	1.0	< 1.0	ug/L
n-Butylbenzene (104-51-8)	1.0	< 1.0	ug/L
1,2-Dibromomono-3-chloropropane (96-12-8)	1.0	< 1.0	ug/L
1,2,4-Trichlorobenzene (120-82-1)	1.0	< 1.0	ug/L
Naphthalene (91-20-3)	1.0	< 1.0	ug/L
Hexachlorobutadiene (87-68-3)	1.0	< 1.0	ug/L
1,2,3-Trichlorobenzene (87-61-6)	1.0	< 1.0	ug/L
1,4-Dioxane (123-91-1)	50	< 50	ug/L

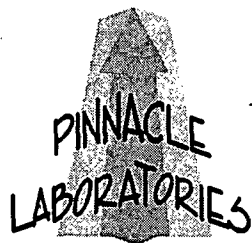
SURROGATE % RECOVERY

1,2-Dichloroethane-d4	97 (80 - 120)
Toluene-d8	100 (88 - 110)
Bromofluorobenzene	103 (86 - 115)

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D. : 012099

DATE ANALYZED	DIL. FACTOR
01/03/01	1



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MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260
SPIKED SAMPLE : 012081-04
CLIENT : GIANT REFINING CO.-BLOOMFIELD
PROJECT # : 4TH QTR WELL SAMPLE
PROJECT NAME : 4TH QTR WELL SAMPLE

PINNACLE I.D. : 012099
DATE ANALYZED : 01/02/01
UNITS : ug/L (PPB)

COMPOUND	SAMPLE CONC.	SPIKE ADDED	MS RESULT	MSD RESULT	MS %REC	MSD %REC	RPD	QC LIMITS RPD	QC LIMITS %RECOVERY
1,1-DICHLOROETHENE	<1.0	50.0	48.2	48.7	96	97	1	14	61-145
BENZENE	<1.0	50.0	52.7	52.5	105	105	0	11	76-127
TRICHLOROETHENE	<1.0	50.0	53.5	54.0	107	108	1	14	71-120
TOLUENE	<1.0	50.0	52.0	51.5	104	103	1	13	76-125
CHLOROBENZENE	<1.0	50.0	50.4	50.0	101	100	1	13	75-130

CASE NARRATIVE

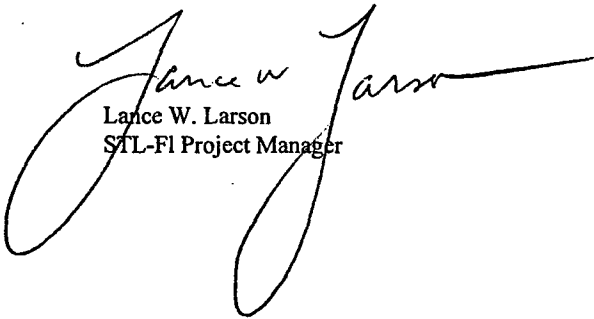
Date: January 10, 2001
STL Order Number: C012705
Project Name: QTR. WELL SAMPLE
Project Location: N/S
Methods: 8270

STL Sample ID
012705-01

Client Sample ID
012099-01

Target compounds not listed in the 8270 results were searched for by the NBS Library Search Program and the following five requested compounds were not found:

Quinoline
Benzenethiolo
Indene
4-Methyl Phenol
Methyl Chrysene



Lance W. Larson
STL-FI Project Manager

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TRENT

SERVICES

STL Pensacola

LOG NO: C0-12705

Received: 30 DEC 00

Reported: 10 JAN 01

Ms. Jacinta Tenorio
Pinnacle Laboratories
2709-D Pan American Freeway Northeast
Albuquerque, NM 87107

Project: 012099, GRCB-4th QTR WELL

Sampled By: Client

Code: 163610110

Page 1

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
12705-1	012099-01	12-28-00/11:15
PARAMETER	12705-1	
Ignitability-flash point (1010), Degrees C	>100	
Dilution Factor	1	
Prep Date	01.10.01	
Analysis Date	01.10.01	
Batch ID	FPX001	
Prep Method	SW1010	
Analyst	WG	
Chloride (SM4500E), mg/l	1800	
Dilution Factor	20	
Prep Date	01.03.01	
Analysis Date	01.03.01	
Batch ID	CKW01A	
Prep Method	4500E	
Analyst	CR	
Sulfate as SO4 (375.4), mg/l	1100	
Dilution Factor	50	
Prep Date	01.09.01	
Analysis Date	01.09.01	
Batch ID	SEW003	
Prep Method	375.4	
Analyst	BE	

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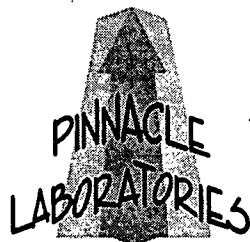
Sampled By: Client

Code: 163610110

Page 2

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
12705-1	012099-01	12-28-00/11:15
PARAMETER	12705-1	
Total Dissolved Solids (160.1), mg/l	5200	
Dilution Factor	1	
Prep Date	01.02.01	
Analysis Date	01.04.01	
Batch ID	TDW001	
Prep Method	160.1	
Analyst	ST	
pH (150.1), units	7.3R4	
Dilution Factor	1	
Prep Date	12.30.00	
Analysis Date	12.30.00	
Batch ID	PHW269	
Prep Method	150.1	
Analyst	WG	
Specific Conductance (120.1), umhos/cm	7700	
Dilution Factor	1	
Prep Date	01.03.01	
Analysis Date	01.03.01	
Batch ID	CDW001	
Prep Method	120.1	
Analyst	ST	



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GC/MS RESULTS

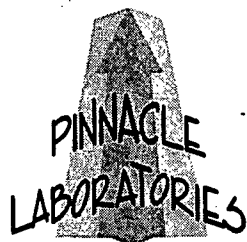
TEST : VOLATILE ORGANICS EPA METHOD 8260 (SKINNER LIST)
CLIENT : GIANT REFINING COMPANY PINNACLE I.D. : 003085
PROJECT # : (none) DATE RECEIVED : 03/30/00
PROJECT NAME : QTR WELL SAMPLE

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
008077-01	QTR INJ WELL	AQUEOUS	08/21/00	N/A	08/31/00	1
PARAMETER (CAS#)	DET. LIMIT	RESULT	UNITS			

2-Butanone (78-93-3)	10	< 10	ug/L
Carbon Disulfide (75-15-0)	1.0	< 1.0	ug/L
1,2-Dichloroethane (107-06-2)	1.0	< 1.0	ug/L
Benzene (71-43-2)	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether (110-75-8)	10	< 10	ug/L
Toluene (108-88-3)	1.0	2.9	ug/L
1,2-Dibromoethane (106-93-4)	1.0	< 1.0	ug/L
Chlorobenzene (108-90-7)	1.0	< 1.0	ug/L
Ethylbenzene (100-41-4)	1.0	< 1.0	ug/L
m&p Xylenes (108-38-3, 106-42-3)	1.0	2.3	ug/L
o-Xylene (95-47-6)	1.0	1.1	ug/L
Styrene (100-42-5)	1.0	< 1.0	ug/L
1,4-Dioxane (123-91-1)	20	< 20	ug/L

SURROGATE % RECOVERY

1,2-Dichloroethane-d4	98 (80 - 120)
Toluene-d8	94 (88 - 110)
Bromofluorobenzene	97 (86 - 115)



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GC/MS RESULTS

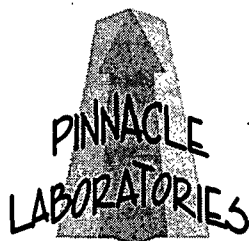
TEST : VOLATILE ORGANICS EPA METHOD 8260 (SKINNER LIST)
CLIENT : GIANT REFINING COMPANY PINNACLE I.D. : 008077
PROJECT # : (none)
PROJECT NAME : QTR WELL SAMPLE

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	083100	AQUEOUS	N/A	08/31/00	1
PARAMETER (CAS#)	DET. LIMIT	RESULT	UNITS		

2-Butanone (78-93-3)	10	< 10	ug/L
Carbon Disulfide (75-15-0)	1.0	< 1.0	ug/L
1,2-Dichloroethane (107-06-2)	1.0	< 1.0	ug/L
Benzene (71-43-2)	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether (110-75-8)	10	< 10	ug/L
Toluene (108-88-3)	1.0	< 1.0	ug/L
1,2-Dibromoethane (106-93-4)	1.0	< 1.0	ug/L
Chlorobenzene (108-90-7)	1.0	< 1.0	ug/L
Ethylbenzene (100-41-4)	1.0	< 1.0	ug/L
m&p Xylenes (108-38-3, 106-42-3)	1.0	< 1.0	ug/L
o-Xylene (95-47-6)	1.0	< 1.0	ug/L
Styrene (100-42-5)	1.0	< 1.0	ug/L
1,4-Dioxane (123-91-1)	20	< 20	ug/L

SURROGATE % RECOVERY

1,2-Dichloroethane-d4	97 (80 - 120)
Toluene-d8	94 (88 - 110)
Bromofluorobenzene	99 (86 - 115)



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GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260 (SKINNER LIST)
CLIENT : GIANT REFINING COMPANY PINNACLE I.D. : 008077
PROJECT # : (none)
PROJECT NAME : QTR WELL SAMPLE

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	083000	AQUEOUS	N/A	08/30/00	1
PARAMETER (CAS#)	DET. LIMIT	RESULT	UNITS		

2-Butanone (78-93-3)	10	< 10	ug/L
Carbon Disulfide (75-15-0)	1.0	< 1.0	ug/L
1,2-Dichloroethane (107-06-2)	1.0	< 1.0	ug/L
Benzene (71-43-2)	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether (110-75-8)	10	< 10	ug/L
Toluene (108-88-3)	1.0	< 1.0	ug/L
1,2-Dibromoethane (106-93-4)	1.0	< 1.0	ug/L
Chlorobenzene (108-90-7)	1.0	< 1.0	ug/L
Ethylbenzene (100-41-4)	1.0	< 1.0	ug/L
m&p Xylenes (108-38-3, 106-42-3)	1.0	< 1.0	ug/L
o-Xylene (95-47-6)	1.0	< 1.0	ug/L
Styrene (100-42-5)	1.0	< 1.0	ug/L
1,4-Dioxane (123-91-1)	20	< 20	ug/L

SURROGATE % RECOVERY

1,2-Dichloroethane-d4	99 (80 - 120)
Toluene-d8	93 (88 - 110)
Bromofluorobenzene	101 (86 - 115)

STL Pensacola

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Code: 163610110

REPORT OF RESULTS

Page 3

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
12705-1	012099-01	12-28-00/11:15
PARAMETER	12705-1	
Alkalinity Series (2320B/SM4500)		
Alkalinity (to pH 4.5) as CaCO3, mg/l	310	
Bicarbonate (2320/4500), mg/l	310	
Carbon Dioxide, mg/l	78	
pH, mg/l	6.9	
Hydroxide, mg/l	<1.0	
Carbonate (2320/4500), mg/l	<1.0	
Dilution Factor	1	
Prep Date	01.09.01	
Analysis Date	01.09.01	
Batch ID	AEW003	
Prep Method	4500	
Analyst	BE	
Total Releasable Cyanide (SW7.3.3.2), mg HCN/kg		
	<25	
Dilution Factor	1	
Prep Date	01.09.01	
Analysis Date	01.09.01	
Batch ID	RSX001	
Prep Method	7332	
Analyst	BH	
Total Releasable Sulfide (SW7.3.4.2), mg H2S/kg		
	<150	
Dilution Factor	1	
Prep Date	01.09.01	
Analysis Date	01.09.01	
Batch ID	RSX001	
Prep Method	7342	
Analyst	BH	

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Sampled By: Client

Code: 163610110

Page 4

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
12705-1	012099-01	12-28-00/11:15
PARAMETER	12705-1	
RCRA Metals		
Arsenic, mg/l	0.028	
Barium, mg/l	0.137	
Calcium, mg/l	80	
Cadmium, mg/l	<0.005	
Chromium, mg/l	0.006	
Lead, mg/l	<0.005	
Magnesium, mg/l	21	
Potassium, mg/l	35	
Selenium, mg/l	0.018	
Silver, mg/l	<0.005	
Sodium, mg/l	1700	
Dilution Factor	1,100	
Prep Date	01.03.01	
Analysis Date	01.05.01	
Batch ID	PW455	
Prep Method	3010A	
Analyst	CH	
Mercury (7470), mg/l	0.0010	
Dilution Factor	1	
Prep Date	01.04.01	
Analysis Date	01.04.01	
Batch ID	HGW167	
Prep Method	7470A	
Analyst	JDE	

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Code: 163610110

Page 5

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
12705-1	012099-01	12-28-00/11:15
PARAMETER	12705-1	
Semivolatile Organic Compounds (8270)		
Benzoic acid, ug/l		<50
4-Chloro-3-methylphenol (p-Chloro-m-cresol), ug/l		<10
2-Chlorophenol, ug/l		<10
2,4-Dichlorophenol, ug/l		<10
2,6-Dichlorophenol, ug/l		<10
2,4-Dimethylphenol, ug/l		<10
4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol), ug/l		<50
2,4-Dinitrophenol, ug/l		<50
2-Methylphenol (o-Cresol), ug/l		<10
3-Methylphenol/4-Methylphenol (m&p-Cresol), ug/l		<10
2-Nitrophenol (o-Nitrophenol), ug/l		<10
4-Nitrophenol (p-Nitrophenol), ug/l		<50
Pentachlorophenol, ug/l		<50
Phenol, ug/l		<10
2,3,4,6-Tetrachlorophenol, ug/l		<10
2,4,5-Trichlorophenol, ug/l		<50
2,4,6-Trichlorophenol, ug/l		<10
Acenaphthene, ug/l		<10
Acenaphthylene, ug/l		<10
Acetophenone, ug/l		<10
4-Aminobiphenyl, ug/l		<10
Aniline, ug/l		<10
Anthracene, ug/l		<10
Benzidine, ug/l		<50
Benzo(a)anthracene, ug/l		<10

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Sampled By: Client

Code: 163610110

Page 6

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
12705-1	012099-01	12-28-00/11:15
PARAMETER	12705-1	
Benzo(b)fluoranthene, ug/l	<10	
Benzo(k)fluoranthene, ug/l	<10	
Benzo(g,h,i)perylene, ug/l	<10	
Benzo(a)pyrene, ug/l	<10	
Benzyl alcohol, ug/l	<10	
4-Bromophenylphenyl ether, ug/l	<10	
Butylbenzylphthalate, ug/l	<10	
Carbazole, ug/l	<10	
4-Chloroaniline (p-Chloroaniline), ug/l	<10	
bis(2-Chloroethoxy)methane, ug/l	<10	
bis(2-Chloroethyl)ether, ug/l	<10	
bis(2-Chloroisopropyl) ether, ug/l	<10	
1-Chloronaphthalene, ug/l	<10	
2-Chloronaphthalene, ug/l	<10	
4-Chlorophenylphenyl ether, ug/l	<10	
Chrysene, ug/l	<10	
Dibenz(a,j)acridine, ug/l	<10	
Dibenzo(a,h)anthracene, ug/l	<10	
Dibenzofuran, ug/l	<10	
Di-n-butylphthalate, ug/l	<10	
1,2-Dichlorobenzene (o-Dichlorobenzene), ug/l	<10	
1,3-Dichlorobenzene (m-Dichlorobenzene), ug/l	<10	
1,4-Dichlorobenzene (p-Dichlorobenzene), ug/l	<10	
3,3'-Dichlorobenzidine, ug/l	<50	
Diethylene Glycol Monobutyl Ether, ug/l	<10	
Diethylphthalate, ug/l	<10	

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SERVICES

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Code: 163610110

Page 7

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
12705-1	012099-01	12-28-00/11:15
PARAMETER	12705-1	
p- (Dimethylamino)azobenzene, ug/l	<10	
7,12-Dimethylbenz(a)anthracene, ug/l	<10	
alpha,alpha-Dimethylphenethylamine, ug/l	<10	
Dimethylphthalate, ug/l	<10	
2,4-Dinitrotoluene, ug/l	<10	
2,6-Dinitrotoluene, ug/l	<10	
Di-n-octylphthalate, ug/l	<10	
1,2-Diphenylhydrazine, ug/l	<10	
bis(2-Ethylhexyl)phthalate, ug/l	<10	
Ethyl methanesulfonate, ug/l	<10	
Fluoranthene, ug/l	<10	
Fluorene, ug/l	<10	
Hexachlorobenzene, ug/l	<10	
Hexachlorobutadiene, ug/l	<10	
Hexachlorocyclopentadiene, ug/l	<10	
Hexachloroethane, ug/l	<10	
Indeno(1,2,3-cd)pyrene, ug/l	<10	
Isophorone, ug/l	<10	
3-Methylcholanthrene, ug/l	<10	
Methyl methanesulfonate, ug/l	<10	
1-Methylnaphthalene, ug/l	<10	
2-Methylnaphthalene, ug/l	<10	
Naphthalene, ug/l	<10	
1-Naphthylamine, ug/l	<10	
2-Naphthylamine, ug/l	<10	
2-Nitroaniline (o-Nitroaniline), ug/l	<10	

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Page 8

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , LIQUID SAMPLES	DATE/ TIME SAMPLED
12705-1	012099-01	12-28-00/11:15
PARAMETER	12705-1	
3-Nitroaniline (m-Nitroaniline), ug/l	<10	
4-Nitroaniline (p-Nitroaniline), ug/l	<10	
Nitrobenzene, ug/l	<10	
N-Nitrosodi-n-butylamine, ug/l	<10	
N-Nitrosodimethylamine, ug/l	<10	
N-Nitrosodiphenylamine, ug/l	<10	
n-Nitrosodi-n-propylamine, ug/l	<10	
N-Nitrosopiperidine, ug/l	<10	
Pentachlorobenzene, ug/l	<10	
Pentachloronitrobenzene, ug/l	<10	
Phenacetin, ug/l	<10	
Phenanthrene, ug/l	<10	
2-Picoline, ug/l	<10	
Pronamide, ug/l	<10	
Pyrene, ug/l	<10	
Pyridine, ug/l	<10	
1,2,4,5-Tetrachlorobenzene, ug/l	<10	
1,2,4-Trichlorobenzene, ug/l	<10	
Surrogate - 2-Fluorobiphenyl	64 %	
Surrogate - 2-Fluorophenol	39 %	
Surrogate - Nitrobenzene - d5	60 %	
Surrogate - Phenol-d5	59 %	
Surrogate - Terphenyl-d14	76 %	
Surrogate - 2,4,6-Tribromophenol	82 %	
Dilution Factor	1	
Prep Date	01.02.01	
Analysis Date	01.05.01	
Batch ID	ALW126	
Prep Method	3520C	
Analyst	RW	

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Sampled By: Client
Code: 163610110

REPORT OF RESULTS

Page 9

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED
12705-2	Method Blank	
12705-3	Lab Control Standard % Recovery	
PARAMETER	12705-2	12705-3
Ignitability-flash point (1010), Degrees C	N/A	100 %
Dilution Factor	---	1
Prep Date	---	01.10.01
Analysis Date	---	01.10.01
Batch ID	---	FPX001
Prep Method	---	SW1010
Analyst	---	WG
Chloride (SM4500E), mg/l	<2.0	102 %
Dilution Factor	1	1
Prep Date	01.03.01	01.03.01
Analysis Date	01.03.01	01.03.01
Batch ID	CKW01A	CKW01A
Prep Method	4500E	4500E
Analyst	CR	CR
Sulfate as SO4 (375.4), mg/l	<5.0	91 %
Dilution Factor	1	1
Prep Date	01.09.01	01.09.01
Analysis Date	01.09.01	01.09.01
Batch ID	SEW003	SEW003
Prep Method	375.4	375.4
Analyst	BE	BE

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Page 10

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED
12705-2	Method Blank	
12705-3	Lab Control Standard % Recovery	
PARAMETER	12705-2	12705-3
Total Dissolved Solids (160.1), mg/l	<5.0	96 %
Dilution Factor	1	1
Prep Date	01.02.01	01.02.01
Analysis Date	01.04.01	01.04.01
Batch ID	TDW001	TDW001
Prep Method	160.1	160.1
Analyst	ST	ST
pH (150.1), units	N/A	99 %
Dilution Factor	---	1
Prep Date	---	12.30.00
Analysis Date	---	12.30.00
Batch ID	---	PHW269
Prep Method	---	150.1
Analyst	---	WG
Alkalinity Series (2320B/SM4500)		
Alkalinity (to pH 4.5) as CaCO ₃ , mg/l	<1.0	100 %
Bicarbonate (2320/4500), mg/l	<1.0	---
Carbon Dioxide, mg/l	<1.0	---
Hydroxide, mg/l	<1.0	---
Carbonate (2320/4500), mg/l	<1.0	---
Dilution Factor	1	1
Prep Date	01.09.01	01.09.01
Analysis Date	01.09.01	01.09.01
Batch ID	AEW003	AEW003
Prep Method	4500	4500
Analyst	BE	BE

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Page 11

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED
12705-2	Method Blank	
12705-3	Lab Control Standard % Recovery	
PARAMETER	12705-2	12705-3
Total Releasable Cyanide (SW7.3.3.2), mg HCN/kg	<25	110 %
Dilution Factor	1	1
Prep Date	01.09.01	01.09.01
Analysis Date	01.09.01	01.09.01
Batch ID	RSX001	RSX001
Prep Method	7332	7332
Analyst	BH	BH
Total Releasable Sulfide (SW7.3.4.2), mg H ₂ S/kg	<150	92 %
Dilution Factor	1	1
Prep Date	01.09.01	01.09.01
Analysis Date	01.09.01	01.09.01
Batch ID	RSX001	RSX001
Prep Method	7342	7342
Analyst	BH	BH

STL Pensacola

LOG NO: C0-12705
Received: 30 DEC 00
Reported: 10 JAN 01

Ms. Jacinta Tenorio
Pinnacle Laboratories
2709-D Pan American Freeway Northeast
Albuquerque, NM 87107

Project: 012099, GRCB-4th QTR WELL
Sampled By: Client
Code: 163610110
Page 12

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED
12705-2	Method Blank	
12705-3	Lab Control Standard % Recovery	
PARAMETER	12705-2	12705-3
RCRA Metals		
Arsenic, mg/l	<0.005	98 %
Barium, mg/l	<0.010	100 %
Calcium, mg/l	<0.50	103 %
Cadmium, mg/l	<0.005	102 %
Chromium, mg/l	<0.005	103 %
Lead, mg/l	<0.005	101 %
Magnesium, mg/l	<0.50	103 %
Potassium, mg/l	<1.00	96 %
Selenium, mg/l	<0.010	93 %
Silver, mg/l	<0.005	98 %
Sodium, mg/l	<1.0	96 %
Dilution Factor	1	1
Prep Date	01.03.01	01.03.01
Analysis Date	01.05.01	01.05.01
Batch ID	PW455	PW455
Prep Method	3010A	3010A
Analyst	CH	CH
Mercury (7470), mg/l	<0.00020	102 %
Dilution Factor	1	1
Prep Date	01.04.01	01.04.01
Analysis Date	01.04.01	01.04.01
Batch ID	HGW167	HGW167
Prep Method	7470A	7470A
Analyst	JDE	JDE

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Code: 163610110

Page 13

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED
12705-2	Method Blank	
12705-3	Lab Control Standard % Recovery	
PARAMETER	12705-2	12705-3
Semivolatile Organic Compounds (8270)		
Benzoic acid, ug/l	<50	---
4-Chloro-3-methylphenol (p-Chloro-m-cresol), ug/l	<10	80 %
2-Chlorophenol, ug/l	<10	75 %
2,4-Dichlorophenol, ug/l	<10	---
2,6-Dichlorophenol, ug/l	<10	---
2,4-Dimethylphenol, ug/l	<10	---
4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol), ug/l	<50	---
2,4-Dinitrophenol, ug/l	<50	---
2-Methylphenol (o-Cresol), ug/l	<10	---
3-Methylphenol/4-Methylphenol (m&p-Cresol), ug/l	<10	---
2-Nitrophenol (o-Nitrophenol), ug/l	<10	---
4-Nitrophenol (p-Nitrophenol), ug/l	<50	105 %
Pentachlorophenol, ug/l	<50	81 %
Phenol, ug/l	<10	77 %
2,3,4,6-Tetrachlorophenol, ug/l	<10	---
2,4,5-Trichlorophenol, ug/l	<50	---
2,4,6-Trichlorophenol, ug/l	<10	---
Acenaphthene, ug/l	<10	84 %
Acenaphthylene, ug/l	<10	---
Acetophenone, ug/l	<10	---
4-Aminobiphenyl, ug/l	<10	---
Aniline, ug/l	<10	---
Anthracene, ug/l	<10	---
Benzidine, ug/l	<50	---

SEVERN

TRENT

SERVICES

STL Pensacola

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Project: 012099, GRCB-4th QTR WELL

Sampled By: Client

Code: 163610110

Page 14

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED
12705-2	Method Blank	
12705-3	Lab Control Standard % Recovery	
PARAMETER	12705-2	12705-3
Benzo(a)anthracene, ug/l	<10	---
Benzo(b)fluoranthene, ug/l	<10	---
Benzo(k)fluoranthene, ug/l	<10	---
Benzo(g,h,i)perylene, ug/l	<10	---
Benzo(a)pyrene, ug/l	<10	---
Benzyl alcohol, ug/l	<10	---
4-Bromophenylphenyl ether, ug/l	<10	---
Butylbenzylphthalate, ug/l	<10	---
Carbazole, ug/l	<10	---
4-Chloroaniline (p-Chloroaniline), ug/l	<10	---
bis(2-Chloroethoxy)methane, ug/l	<10	---
bis(2-Chloroethyl)ether, ug/l	<10	---
bis(2-Chloroisopropyl) ether, ug/l	<10	---
1-Chloronaphthalene, ug/l	<10	---
2-Chloronaphthalene, ug/l	<10	---
4-Chlorophenylphenyl ether, ug/l	<10	---
Chrysene, ug/l	<10	---
Dibenz(a,j)acridine, ug/l	<10	---
Dibenzo(a,h)anthracene, ug/l	<10	---
Dibenzofuran, ug/l	<10	---
Di-n-butylphthalate, ug/l	<10	---
1,2-Dichlorobenzene (o-Dichlorobenzene), ug/l	<10	---
1,3-Dichlorobenzene (m-Dichlorobenzene), ug/l	<10	---
1,4-Dichlorobenzene (p-Dichlorobenzene), ug/l	<10	72 %
3,3'-Dichlorobenzidine, ug/l	<50	---

STL Pensacola

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Project: 012099, GRCB-4th QTR WELL

Sampled By: Client

Code: 163610110

Page 15

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED
12705-2	Method Blank	
12705-3	Lab Control Standard % Recovery	
PARAMETER	12705-2	12705-3
Diethylene Glycol Monobutyl Ether, ug/l	<10	---
Diethylphthalate, ug/l	<10	---
p-(Dimethylamino)azobenzene, ug/l	<10	---
7,12-Dimethylbenz(a)anthracene, ug/l	<10	---
alpha,alpha-Dimethylphenethylamine, ug/l	<10	---
Dimethylphthalate, ug/l	<10	---
2,4-Dinitrotoluene, ug/l	<10	90 %
2,6-Dinitrotoluene, ug/l	<10	---
Di-n-octylphthalate, ug/l	<10	---
1,2-Diphenylhydrazine, ug/l	<10	---
bis(2-Ethylhexyl)phthalate, ug/l	<10	---
Ethyl methanesulfonate, ug/l	<10	---
Fluoranthene, ug/l	<10	---
Fluorene, ug/l	<10	---
Hexachlorobenzene, ug/l	<10	---
Hexachlorobutadiene, ug/l	<10	---
Hexachlorocyclopentadiene, ug/l	<10	---
Hexachloroethane, ug/l	<10	---
Indeno(1,2,3-cd)pyrene, ug/l	<10	---
Isophorone, ug/l	<10	---
3-Methylcholanthrene, ug/l	<10	---
Methyl methanesulfonate, ug/l	<10	---
1-Methylnaphthalene, ug/l	<10	---
2-Methylnaphthalene, ug/l	<10	---
Naphthalene, ug/l	<10	---

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TRENT

SERVICES

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Code: 163610110

Page 16

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED
12705-2	Method Blank	
12705-3	Lab Control Standard % Recovery	
PARAMETER	12705-2	12705-3
1-Naphthylamine, ug/l	<10	---
2-Naphthylamine, ug/l	<10	---
2-Nitroaniline (o-Nitroaniline), ug/l	<10	---
3-Nitroaniline (m-Nitroaniline), ug/l	<10	---
4-Nitroaniline (p-Nitroaniline), ug/l	<10	---
Nitrobenzene, ug/l	<10	---
N-Nitrosodi-n-butylamine, ug/l	<10	---
N-Nitrosodimethylamine, ug/l	<10	---
N-Nitrosodiphenylamine, ug/l	<10	---
n-Nitrosodi-n-propylamine, ug/l	<10	80 %
N-Nitrosopiperidine, ug/l	<10	---
Pentachlorobenzene, ug/l	<10	---
Pentachloronitrobenzene, ug/l	<10	---
Phenacetin, ug/l	<10	---
Phenanthrene, ug/l	<10	---
2-Picoline, ug/l	<10	---
Pronamide, ug/l	<10	---
Pyrene, ug/l	<10	87 %
Pyridine, ug/l	<10	---
1,2,4,5-Tetrachlorobenzene, ug/l	<10	---
1,2,4-Trichlorobenzene, ug/l	<10	77 %
Surrogate - 2-Fluorobiphenyl	72 %	76 %
Surrogate - 2-Fluorophenol	23 %	52 %
Surrogate - Nitrobenzene - d5	64 %	69 %
Surrogate - Phenol-d5	46 %	70 %

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TRENT

SERVICES

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Code: 163610110

Page 17

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED
12705-2	Method Blank	
12705-3	Lab Control Standard % Recovery	
PARAMETER	12705-2	12705-3
Surrogate - Terphenyl-d14	101 %	87 %
Surrogate - 2,4,6-Tribromophenol	65 %	85 %
Dilution Factor	1	1
Prep Date	01.02.01	01.02.01
Analysis Date	01.05.01	01.05.01
Batch ID	ALW126	ALW126
Prep Method	3520C	3520C
Analyst	RW	RW

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SERVICES

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Sampled By: Client

Code: 163610110

Page 18

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED
12705-4	Matrix Spike % Recovery	
12705-5	Matrix Spike Duplicate % Recovery	
PARAMETER	12705-4	12705-5
Chloride (SM4500E), mg/l	107 %	109 %
Dilution Factor	1	1
Prep Date	01.03.01	01.03.01
Analysis Date	01.03.01	01.03.01
Batch ID	CKW01A	CKW01A
Prep Method	4500E	4500E
Analyst	CR	CR
Sulfate as SO4 (375.4), mg/l	78 %	69 %
Dilution Factor	1	1
Prep Date	01.09.01	01.09.01
Analysis Date	01.09.01	01.09.01
Batch ID	SEW003	SEW003
Prep Method	375.4	375.4
Analyst	BE	BE
Alkalinity Series (2320B/SM4500)		
Alkalinity (to pH 4.5) as CaCO3, mg/l	120 %	132 %
Dilution Factor	1	1
Prep Date	01.09.01	01.09.01
Analysis Date	01.09.01	01.09.01
Batch ID	AEW003	AEW003
Prep Method	4500	4500
Analyst	BE	BE

SEVERN

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Project: 012099, GRCB-4th QTR WELL

Sampled By: Client

Code: 163610110

Page 19

REPORT OF RESULTS

DATE/

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES TIME SAMPLED

12705-4 Matrix Spike % Recovery

12705-5 Matrix Spike Duplicate % Recovery

PARAMETER

12705-4

12705-5

RCRA Metals

Arsenic, mg/l	102 %	100 %
Barium, mg/l	102 %	100 %
Cadmium, mg/l	102 %	100 %
Chromium, mg/l	106 %	105 %
Lead, mg/l	102 %	101 %
Magnesium, mg/l	101 %	98 %
Potassium, mg/l	106 %	104 %
Selenium, mg/l	97 %	95 %
Silver, mg/l	101 %	100 %
Sodium, mg/l	101 %	101 %
Dilution Factor	1	1
Prep Date	01.03.01	01.03.01
Analysis Date	01.05.01	01.05.01
Batch ID	PW455	PW455
Prep Method	3010A	3010A
Analyst	CH	CH

Mercury (7470), mg/l

100 %

100 %

Dilution Factor

1

1

Prep Date

01.04.01

01.04.01

Analysis Date

01.04.01

01.04.01

Batch ID

HGW167

HGW167

Prep Method

7470A

7470A

Analyst

JDE

JDE

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STL Pensacola

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Pinnacle Laboratories
2709-D Pan American Freeway Northeast
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Project: 012099, GRCB-4th QTR WELL

Sampled By: Client

Code: 163610110

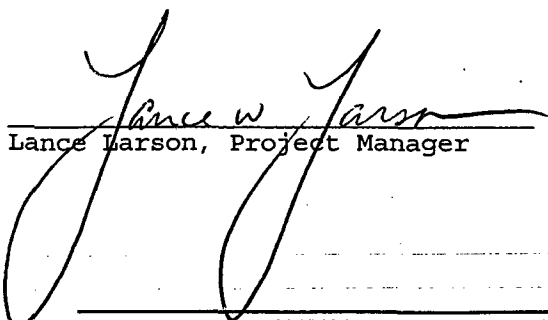
Page 20

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES	DATE/ TIME SAMPLED
12705-4	Matrix Spike % Recovery	
12705-5	Matrix Spike Duplicate % Recovery	

PARAMETER	12705-4	12705-5
Semivolatile Organic Compounds (8270)		
4-Chloro-3-methylphenol (p-Chloro-m-cresol), ug/l	63 %	80 %
2-Chlorophenol, ug/l	26 % M2	51 % M2
4-Nitrophenol (p-Nitrophenol), ug/l	101 %	129 %
Pentachlorophenol, ug/l	88 %	109 %
Phenol, ug/l	36 % M2	57 % M2
Acenaphthene, ug/l	78 %	87 %
1,4-Dichlorobenzene (p-Dichlorobenzene), ug/l	57 %	62 %
2,4-Dinitrotoluene, ug/l	94 %	107 %
n-Nitrosodi-n-propylamine, ug/l	75 %	77 %
Pyrene, ug/l	94 %	107 %
1,2,4-Trichlorobenzene, ug/l	61 %	70 %
Surrogate - 2-Fluorobiphenyl	71 %	71 %
Surrogate - 2-Fluorophenol	11 %	30 %
Surrogate - Nitrobenzene - d5	64 %	61 %
Surrogate - Phenol-d5	31 %	50 %
Surrogate - Terphenyl-d14	96 %	106 %
Surrogate - 2,4,6-Tribromophenol	71 %	87 %
Dilution Factor	1	1
Prep Date	01.02.01	01.02.01
Analysis Date	01.05.01	01.05.01
Batch ID	ALW126	ALW126
Prep Method	3520C	3520C
Analyst	RW	RW

These test results meet all the requirements of NELAC. All questions regarding this test report should be directed to the STL Project Manager who signed this test report.


Lance Larson, Project Manager

STL Pensacola PROJECT SAMPLE INSPECTION FORM

**SEVERN
TRENT
SERVICES**

Lab Order #: CO12705 Date Received: 12-30-00

- | | |
|--|--|
| <p>1. Was there a Chain of Custody? ☒ Yes No*</p> <p>2. Was Chain of Custody properly filled out and relinquished? ☒ Yes No*</p> <p>3. Were samples received cold? ☒ Yes No* N/A
(Criteria: 2° - 6°C: STL-SOP)</p> <p>4. Were all samples properly labeled and identified? ☒ Yes No*</p> <p>5. Did samples require splitting or compositing*? Yes* ☒ No
Req By: PM Client Other*</p> <p>6. Were samples received in proper containers for analysis requested? ☒ Yes No*</p> <p>7. Were all sample containers received intact? ☒ Yes No*</p> | <p>8. Were samples checked for preservative? ☒ Yes No* N/A
(Check pH of all H₂O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)*</p> <p>9. Is there sufficient volume for analysis requested? ☒ Yes No* N/A (Can)</p> <p>10. Were samples received within Holding Time? (REFER TO STL-SOP 1040) ☒ Yes No*</p> <p>11. Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control section. Yes* No ☒ N/A</p> <p>12. If sent, were matrix spike bottles returned? Yes No* ☒ N/A</p> <p>13. Was Project Manager notified of problems? (initials: <u> </u>) Yes No* ☒ N/A</p> |
|--|--|

Airbill Number(s): 12878168444041745

Shipped By: UPS

Cooler Number(s): CLIENT

Shipping Charges: N/A

Cooler Weight(s): 27 lbs

Cooler Temp(s) (°C): 2°
CK10
(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: JA Date: 12-30-00 Logged By: JE Date: 12-30-00

- + Note all Out-of-Control and/or questionable events on Comment Section of this form. For holding times, the analytical department will flag immediate hold time samples (pH, Dissolved O₂, Residual CL) as out of hold time, therefore, these samples will not be documented on this PSIF.
- + If Other, note who requested the splitting or compositing of samples on the Comment Section of this form. All volatile samples requested to be split or composited must be done in the Volatile Lab. Document: "Volatile sample values may be compromised due to sample splitting (compositing)".
- + All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (STL-SOP 938, section 2.2.9).
- * According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, STL makes it policy to record any headspace as out-of-control (STL-SOP 938, section 2.2.12).

ANALYSIS REQUEST

(505) 344-3777 Fax (505) 344-4413

Please see attached list for 8270
winner list.

CC12705

[illegible]

PROJECT INFORMATION		SAMPLE RECEIPT		SAMPLES SENT TO:		RELINQUISHED BY:		RELINQUISHED BY:	
PROJECT #:	012099	Total Number of Containers		PENSACOLA - STL-FL	X	Signature:	Time:	Signature:	Time:
PROJ. NAME:	GRCB	Chain of Custody Seals		ESL - OR		Printed Name:	Date:	Printed Name:	Date:
QC LEVEL:	STD IV	Received Intact?		STL - CT		Signature:	Time:	Signature:	Time:
QC REQUIRED:	MS MSD BLANK	Received Good Cond./Cold		ATEL - AZ		Printed Name:	Date:	Printed Name:	Date:
TAT:	STANDARD RUSH!!	LAB NUMBER:		ATEL - MARION		Signature:	Time:	Signature:	Time:
				ATEL - MELMORE		Printed Name:	Date:	Printed Name:	Date:
COMMENTS:				BARRINGER		Signature:	Time:	Signature:	Time:
DUE DATE:	1/16	RUSH SURCHARGE:		ENVIRO TEST LABS		Printed Name:	Date:	Printed Name:	Date:
CLIENT DISCOUNT:		SPECIAL CERTIFICATION		WCAS		Signature:	Time:	Signature:	Time:
REQUIRED: YES/NO				WOHL		Printed Name:	Date:	Printed Name:	Date:
						Signature:	Time:	Signature:	Time:
						Printed Name:	Date:	Printed Name:	Date:
						Signature:	Time:	Signature:	Time:
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						Printed Name:	Date:	Printed Name:	Date:
						Signature:			



CHAIN OF CUSTODY

PLI Accession #: 012099

DATE: _____ PAGE: ____ OF ____

PROJECT MANAGER: BARRY HOLMAN

COMPANY: GIANT Refining

ADDRESS: #50 CR 4990
Bloomfield, N.M. 87417

PHONE: 505-632-4168

FAX: 505-632-3911

BILL TO: S. Anne

COMPANY: _____

ADDRESS: _____

[illegible]

ANALYSIS REQUEST

[illegible]

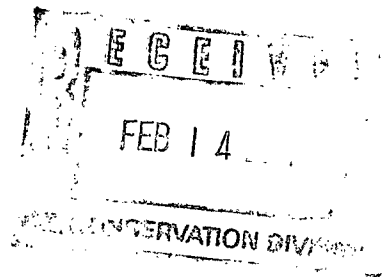
PROJECT INFORMATION						PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS							RELINQUISHED BY:				
PROJ. NO.: Y ^{TE} OTR Lw n Sample						(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK	(NORMAL) ☐		Signature: [Signature]		Time: 12:30 pm		Signature: _____		Time: _____		
PROJ. NAME: Y ^{TE} OTR Lw n Sample						CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER				Printed Name: BARBARA HAYMALE		Date: 12/28/00		Printed Name: _____		Date: _____	
P.O. NO.:						METHANOL PRESERVATION ☐				Company: _____				Company: _____			
SHIPPED VIA:						COMMENTS: FIXED FEE ☐				See reverse side (Force Majeure)				RECEIVED BY: (LAB)		2.	
SAMPLE RECEIPT																	
NO. CONTAINERS 11						Time: _____		Signature: [Signature]		Time: 10:15		Signature: _____		Time: _____		2.	
CUSTODY SEALS Y/N NA						Date: _____		Printed Name: _____		Date: _____		Printed Name: _____		Date: _____			
RECEIVED INTACT Y						Date: _____		Printed Name: _____		Date: _____		Printed Name: _____		Date: _____			
DATE OF RECEIPT 12/29/00						Date: _____		Printed Name: _____		Date: _____		Printed Name: _____		Date: _____		Pinnacle Laboratories Inc.	

STANLEY D. BARNETT, President, Barnett Enterprises, Inc., 6000 N.W. 78th Ave., Miami, Florida 33147-1900 • Tel.: (305) 551-1100 • Fax: (305) 551-1101 • E-mail: sbarnett@barnettenterprises.com

NIETDORF, W. WHITE, JR. AND J. J. CONNOR, Princeton

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.



February 12, 2001

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
1220 S. St. Francis Dr.
Santa Fe, New Mexico 87504

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs,

Attached is the January 2001 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery. The injection well experienced some down time during the month of January due to a valve problem located in the piping system.

If you require additional information, please do not hesitate to contact me at (505) 632-4168.

Sincerely,

Barry Holman
Environmental Manager
San Juan Refining Company - Giant Bloomfield

Enclosure

cc: John Stokes
Ron Weaver
Chad King
Craig Meldrum

GIANT REFINING COMPANY - BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE1/4 SE1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 2001	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
					MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	8,648,200	2,840,000	2,840,000	130	1053	802	935	214	133	149	103	23	95
FEB													
MAR													
APR													
MAY													
JUN													
JUL													
AUG													
SEP													
OCT													
NOV													
DEC													

*Totalizer down for gear replacement

CERTIFICATION: *Ray A. [Signature]* DATE: 2/12/01



January 10, 2001

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
1220 S. St. Francis Dr.
Santa Fe, New Mexico 87504

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs,

Attached is the December 2000 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery.

If you require additional information, please do not hesitate to contact me at (505) 632-4168.

Sincerely,

A handwritten signature in black ink, appearing to read "Barry Holman", with a stylized flourish at the end.

Barry Holman
Environmental Manager
Giant Refining Company - Bloomfield

Enclosure

cc: John Stokes
Ron Weaver
Chad King
Craig Meldrum

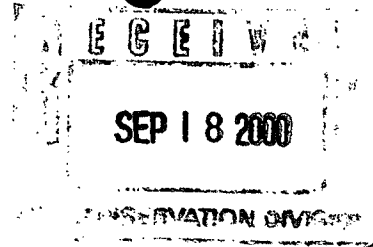
GIANT REFINING COMPANY - BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE1/4 SE1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 2000	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
					MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	8,665,000	3,248,000	4,000,100	48	1053	955	995	133	120	122	132	105	120
FEB	8,769,000	3,205,000	4,055,700	0	1070	959	979	126	114	96	130.8	103.6	116.9
MAR	8,807,000	3,467,000	3,838,400	168	1070	925.0	845	148	105	118.0	132.0	101	117
APR	9,467,800	3,285,000	3,285,000	0	1036	897	970	156	103	120	126	86	114
MAY	10,605,300	2,932,000	2,932,000	4	978	782	840	139	76	100	119.00	54	78
JUN	10,464,900	2,906,000	2,906,000	720	0	0	0	250	100	105	0	0	0
JUL	9,742,100	2,332,000	2,332,000	408	1067	937	998	220	220	220	152	0.4	115
AUG	9,170,100	2,332,000	2,332,000	264	1066	870	991	220	217	209	121	60	99
SEP				720	0	0	0	220	220	220	0	0	0
OCT	9,229,480	2,598,000	2,598,000	720	0	0	0	220	220	220	0	0	0
NOV	8,073,400	2,573,000	2,573,000	34	1069	892	1008	220	164	217	129	76	111
DEC	8,231,400	2,681,000	2,681,000	0	1061	866	956	220	146	158	121	53	93

*Totalizer down for gear replacement

CERTIFICATION: *Ray Ad* DATE: 1/10/01



September 14, 2000

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs,

Attached is the August 2000 wastewater effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery. The injection well was down for the month of June for repairs to the injection pump and to work on the PLC for the down hole pump.

If you require additional information, please do not hesitate to contact me at (505) 632-4168.

Sincerely,

A handwritten signature in cursive script, appearing to read "Barry Hofman".

Barry Hofman
Environmental Manager
Giant Refining Company - Bloomfield

Enclosure

cc: John Stokes
Ron Weaver
Chad King
Craig Meldrum

PHONE
505-632-8006
FAX
505-632-4034

III COUNTY
ROAD 4990
BLOOMFIELD
NEW MEXICO
87413

GIANT REFINING COMPANY - BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE1/4 SE1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 2000	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES			
					MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)	
JAN	8,865,000	3,248,000	4,000,100	48	1053	955	995	133	120	122	132	105	120	
FEB	8,769,000	3,205,000	4,055,700	0	1070	959	979	126	114	96	130.8	103.6	116.9	
MAR	8,807,000	3,467,000	3,838,400	168	1070	925.0	845	148	105	118.0	132.0	101	117	
APR	9,467,800	3,285,000	3,285,000	0	1036	897	970	156	103	120	126	86	114	
MAY	10,605,300	2,932,000	2,932,000	4	978	782	840	139	76	100	119.00	54	78	
JUN	10,464,900	2,906,000	2,906,000	720	0	0	0	250	100	105	0	0	0	
JUL	9,742,100	2,332,000	2,332,000	408	1067	937	998	220	220	220	152	0.4	115	
AUG	9,170,100	2,332,000	2,332,000	264	1066	870	991	220	217	209	121	60	99	
SEP														
OCT														
NOV														
DEC														

*Totalizer down for gear replacement

CERTIFICATION: *R Bay Area* DATE: 9/14/00



AUG 14 2000

August 9, 2000

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs,

Attached is the July 2000 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery.

If you require additional information, please do not hesitate to contact me at (505) 632-4168.

Sincerely,

A handwritten signature in cursive script, appearing to read "Barry Holman".

Barry Holman
Environmental Manager
Giant Refining Company - Bloomfield

Enclosure

cc: John Stokes
Ron Weaver
Chad King
Craig Meldrum

GIANT REFINING COMPANY - BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE1/4 SE1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 2000	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
					MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	8,665,000	3,248,000	4,000,100	48	1053	955	995	133	120	122	132	105	120
FEB	8,769,000	3,205,000	4,055,700	0	1070	959	979	126	114	96	130.8	103.6	116.9
MAR	8,807,000	3,467,000	3,838,400	168	1070	925.0	845	148	105	118.0	132.0	101	117
APR	9,467,800	3,285,000	3,285,000	0	1036	897	970	156	103	120	126	86	114
MAY	10,605,300	2,932,000	2,932,000	4	978	782	840	139	76	100	119.00	54	78
JUN	10,464,900	2,906,000	2,906,000	720	0	0	0	250	100	105	0	0	0
JUL	9,742,100	2,332,000	2,332,000	408	1067	937	998	220	220	220	152	0.4	115
AUG													
SEP													
OCT													
NOV													
DEC													

*Totalizer down for gear replacement

CERTIFICATION: Ray Ar DATE: 8-9-00



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

July 14, 1998

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the June, 1998 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery.

If you require additional information, please do not hesitate to contact me at (505) 632 8013.

Sincerely:

A handwritten signature in cursive script, appearing to read "Lynn Shelton".

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

Enclosure

cc: John Stokes
Ron Weaver
Chad King

GIANT REFINING COMPANY - BLOOMFIELD

P.O. BOX 159

BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT

DISCHARGE PLAN GW-130 EXP. DATE 11/4/98

NE1/4 SE1/4 SECTION 27, T29N, R11W

NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 1998	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
						MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	10,000,000	4,441,900	3,744,600	5,449,651	72	1009	935.2	981.02	169.8	98	149.69	155.8	120.3	135.16
FEB	8,736,000	3,558,900	4,318,400	5,378,688	0	1047	951.1	994.54	150.4	135.6	137.99	190.3	106.3	133.34
MAR	8,908,000	4,332,500	4,187,300	5,026,464	0	1006	899.7	988.72	177.6	126.6	148.9	131.5	96.2	112.76
APR	17,627,000	4,467,700	4,395,000	5,451,408	0	1008	953.5	988.00	220.00	146.7	178.34	137.3	111.6	126.19
MAY	22,564,000	4,233,800	3,861,700	4,672,656	4	1000	866.6	929.92	203.5	112.3	159.26	134.00	55.7	105.24
JUN	13,890,000	2,181,900	1,991,000	2,478,187	8	869.6	813.8	807.4	135.5	79.5	115.4	83.4	0.2	58.01
JUL														
AUG														
SEP														
OCT														
NOV														
DEC														

CERTIFICATION: *[Signature]*

DATE: 7/14/98



JUL 20 2000

July 14, 2000

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs,

Attached is the June 2000 wastewater effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery. The injection well was down for the month of June for repairs to the injection pump and to work on the PLC for the down hole pump.

If you require additional information, please do not hesitate to contact me at (505) 632-4168.

Sincerely,

A handwritten signature in cursive script, appearing to read "Barry Holman", written in black ink.

Barry Holman
Environmental Manager
Giant Refining Company - Bloomfield

Enclosure

cc: John Stokes
Ron Weaver
Chad King
Craig Meldrum

PHONE
505-632-8006
FAX
505-632-4034

111 COUNTY
ROAD 4990
BLOOMFIELD
NEW MEXICO
87413

GIANT REFINING COMPANY - BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

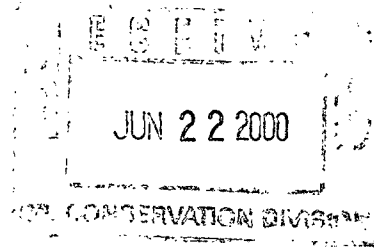
MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE 1/4 SE 1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 2000	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
					MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	8,665,000	3,248,000	4,000,100	48	1053	955	995	133	120	122	132	105	120
FEB	8,769,000	3,205,000	4,055,700	0	1070	959	979	126	114	96	130.8	103.6	116.9
MAR	8,807,000	3,467,000	3,838,400	168	1070	925.0	845	148	105	118.0	132.0	101	117
APR	9,467,800	3,285,000	3,285,000	0	1036	897	970	156	103	120	126	86	114
MAY	10,605,300	2,932,000	2,932,000	4	978	782	840	139	76	100	119.00	54	78
JUN	10,464,900	2,906,000	2,906,000	720	0	0	0	250	100	105	0	0	0
JUL													
AUG													
SEP													
OCT													
NOV													
DEC													

*Totalizer down for gear replacement

CERTIFICATION: _____

DATE: _____



June 16, 2000

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs,

Attached is the May 2000 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery.

If you require additional information, please do not hesitate to contact me at (505) 632-4168.

Sincerely,

A handwritten signature in black ink, appearing to read "Barry Holman".

Barry Holman
Environmental Manager
Giant Refining Company - Bloomfield

Enclosure

cc: John Stokes
Ron Weaver
Chad King
Craig Meldrum

GIANT REFINING COMPANY - BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

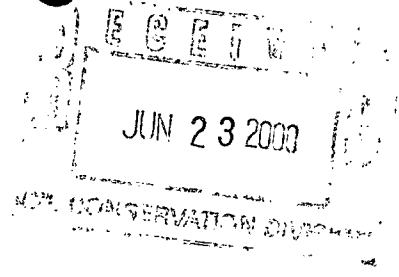
MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE1/4 SE1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 2000	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES			
					MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)	
JAN	8,665,000	3,248,000	4,000,100	48	1053	955	995	133	120	122	132	105		120
FEB	8,769,000	3,205,000	4,055,700	0	1070	959	979	126	114	96	130.8	103.6		116.9
MAR	8,807,000	3,467,000	3,838,400	168	1070	925.0	845	148	105	118.0	132.0	101		117
APR	9,467,800	3,285,000	3,285,000	0	1036	897	970	156	103	120	126	86		114
MAY	10,605,300	2,932,000	2,932,000	4	978	782	840	139	76	100	119.00	54		78
JUN														
JUL														
AUG														
SEP														
OCT														
NOV														
DEC														

*Totalizer down for gear replacement

CERTIFICATION: Bay Area

DATE: 6-16-00



May 2, 2000

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs,

Attached is the April 2000 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery.

If you require additional information, please do not hesitate to contact me at (505) 632-4168.

Sincerely,

A handwritten signature in cursive script, appearing to read "Barry Holman".

Barry Holman
Environmental Manager
Giant Refining Company - Bloomfield

Enclosure

cc: John Stokes
Ron Weaver
Chad King
Craig Meldrum

PHONE
505-632-8006
FAX
505-632-4034

111 COUNTY
ROAD 4990
BLOOMFIELD
NEW MEXICO
87413

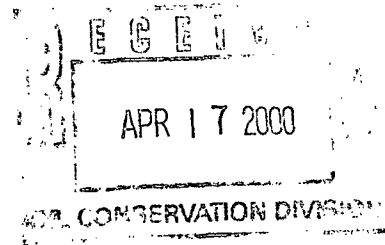
GIANT REFINING COMPANY - BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE1/4 SE1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 2000	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
					MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	8,665,000	3,248,000	4,000,100	48	1053	955	995	133	120	122	132	105	120
FEB	8,769,000	3,205,000	4,055,700	0	1070	959	979	126	114	96	130.8	103.6	116.9
MAR	8,807,000	3,467,000	3,838,400	168	1070	925.0	845	148	105	118.0	132.0	101	117
APR	9,467,800	3,285,000	3,285,000	0	1036	897	970	156	103	120	126	86	114
MAY													
JUN													
JUL													
AUG													
SEP													
OCT													
NOV													
DEC													

*Totalizer down for gear replacement

CERTIFICATION:  DATE: 5-2-00



April 14, 2000

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs,

Attached is the March 2000 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery.

If you require additional information, please do not hesitate to contact me at (505) 632-4168.

Sincerely,

A handwritten signature in cursive script, appearing to read "Barry Holman".

Barry Holman
Environmental Manager
Giant Refining Company - Bloomfield

Enclosure

cc: John Stokes
Ron Weaver
Chad King
Craig Meldrum

PHONE
505-632-8006
FAX
505-632-4034

111 COUNTY
ROAD 4990
BLOOMFIELD
NEW MEXICO
87413

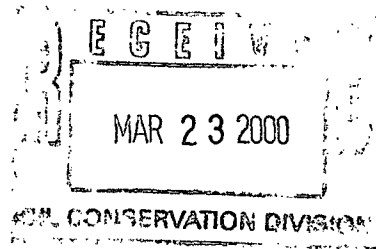
GIANT REFINING COMPANY - BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE1/4 SE1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 2000	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
					MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	8,665,000	3,248,000	4,000,100	48	1053	955	995	133	120	122	132	105	120
FEB	8,769,000	3,205,000	4,055,700	0	1070	959	979	126	114	96	130.8	103.6	116.9
MAR	8,807,000	3,467,000	3,838,400	168	1070	925.0	845	148	105	118.0	132.0	101	117
APR													
MAY													
JUN													
JUL													
AUG													
SEP													
OCT													
NOV													
DEC													

*Totalizer down for gear replacement

CERTIFICATION: Bay Area DATE: 4/14/00



March 21, 2000

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs,

Attached is the February 2000 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery.

If you require additional information, please do not hesitate to contact me at (505) 632-4168.

Sincerely,

A handwritten signature in cursive script that reads "Barry Holman".

Barry Holman
Environmental Manager
Giant Refining Company - Bloomfield

Enclosure

cc: John Stokes
Ron Weaver
Chad King
Craig Meldrum

PHONE
505-632-8006
FAX
505-632-4034

111 COUNTY
ROAD 4990
BLOOMFIELD
NEW MEXICO
87413

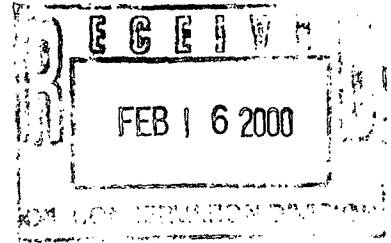
GIANT REFINING COMPANY - BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE1/4 SE1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 2000	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES			
					MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)	
JAN	8,665,000	3,248,000	4,000,100	48	1053	955	995	133	120	122	132	105	120	
FEB	8,769,000	3,205,000	4,055,700	0	1070	959	979	126	114	96	130.8	103.6	116.9	
MAR														
APR														
MAY														
JUN														
JUL														
AUG														
SEP														
OCT														
NOV														
DEC														

*Totalizer down for gear replacement

CERTIFICATION: Bay Adm DATE: 3/21/00



February 11, 2000

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: Monthly Water Effluent Report

Dear Sirs,

Attached is the January 2000 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery.

If you require additional information, please do not hesitate to contact me at (505) 632-4168.

Sincerely,

A handwritten signature in cursive script that reads "Cindy Hurtado".

Cindy Hurtado
Environmental Assistant
Giant Refining Company - Bloomfield

Enclosure

cc: John Stokes
Ron Weaver
Chad King
Craig Meldrum

GIANT REFINING COMPANY - BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE 1/4 SE 1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 2000	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
					MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	8,665,000	3,248,000	4,000,100	48	1053	955	995	133	120	122	132	105	120
FEB													
MAR													
APR													
MAY													
JUN													
JUL													
AUG													
SEP													
OCT													
NOV													
DEC													

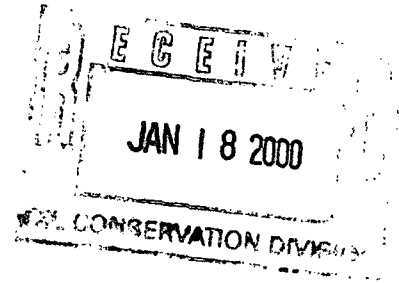
*Totalizer down for gear replacement

CERTIFICATION:

Candy Huerto

DATE:

2-11-02



January 11, 2000

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached are the September, October, November, and December waste water effluent (GW-001) and injection well (GW-130) reports for Giant Refining Company's Bloomfield Refinery.

If you require additional information, please do not hesitate to contact me at (505) 632 4168.

Sincerely:

Cindy Hurtado
Environmental Assistant
Giant Refining Company - Bloomfield

Enclosure

cc: John Stokes
Ron Weaver
Chad King
Craig Meldrum

PHONE
505-632-8006
FAX
505-632-4034

111 COUNTY
ROAD 4990
BLOOMFIELD
NEW MEXICO
87413

GIANT REFINING COMPANY - BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE1/4 SE1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 1999	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNUAL PRESSURE			ON-LINE FLOW RATES		
					MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	11,925,000	3,701,000	3,648,700	36	1078	847.1	988.85	144.3	113.9	125.54	136.5	0	118.69
FEB	12,559,000	4,452,000	1,606,300*	24	1084	723.8	989.56	198.1	105.7	140.54	140.4	0	116.7
MAR	14,450,000	4,370,000	4,168,800	108	1081	983.6	1039.73	210.4	128.5	139.9	143.2	0	133.48
APR	13,990,000	4,230,000	3,097,300	116	1069	349.6	980.94	220	119.8	144.58	129.6	58.5	109.91
MAY	13,679,000	6,425,000	2,568,000	240	1037	815.8	970.13	169.9	118.6	123.5	139.00	46.1	116.28
JUN	13,657,000	3,420,000	2,691,900	144	1026	780.6	937.6	166.9	119	129.83	131.5	0	103.64
JUL	14,275,000	3,822,000	4,169,900	48	1056	913.2	1009.53	121.5	118.4	120.4	142.4	0	121.72
AUG	14,658,000	3,932,000	4,659,300	0	1068	889.6	1009.98	121.3	98.5	112.4	145.3	86.7	126.96
SEP	11,624,000	3,027,000	3,159,700	60	1014	928.4	983.3	123.3	117.1	120.5	130.2	109.1	123.7
OCT	12,030,000	2,881,000	3,659,900	108	1006	851	978	145	115	128	134	68	121
NOV	10,937,000	1,963,000	4,474,000	0	1065	862	1041	155	96	123	136	64	127
DEC	10,456,000	3,254,000	3,911,100	48	1060	956	1011	171	86	126	134	101	121

*Totalizer down for gear replacement

CERTIFICATION:

Andy Huu-fado

DATE:

01-11-98

GIANT REFINING COMPANY - BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE1/4 SE1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 1999	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
					MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	11,925,000	3,701,000	3,648,700	36	1078	847.1	988.85	144.3	113.9	125.54	136.5	0	118.69
FEB	12,559,000	4,452,000	1,606,300*	24	1084	723.8	989.56	198.1	105.7	140.54	140.4	0	116.7
MAR	14,450,000	4,370,000	4,168,800	108	1081	983.6	1039.73	210.4	128.5	139.9	143.2	0	133.48
APR	13,990,000	4,230,000	3,097,300	116	1069	349.6	980.94	220	119.8	144.58	129.6	58.5	109.91
MAY	13,679,000	6,425,000	2,568,000	240	1037	815.8	970.13	169.9	118.6	123.5	139.00	46.1	116.28
JUN	13,657,000	3,420,000	2,691,900	144	1026	780.6	937.6	166.9	119	129.83	131.5	0	103.64
JUL	14,275,000	3,822,000	4,169,900	48	1056	913.2	1009.53	121.5	118.4	120.4	142.4	0	121.72
AUG	14,658,000	3,932,000	4,659,300	0	1068	889.6	1009.98	121.3	98.5	112.4	145.3	86.7	126.96
SEP	11,624,000	3,027,000	3,159,700	60	1014	928.4	983.3	123.3	117.1	120.5	130.2	109.1	123.7
OCT	12,030,000	2,881,000	3,659,900	108	1006	851	978	145	115	128	134	68	121
NOV	10,937,000	1,963,000	4,474,000	0	1065	862	1041	155	96	123	136	64	127
DEC													

*Totalizer down for gear replacement

CERTIFICATION:

Andy Hurtado

DATE:

01-11-00

GIANT REFINING COMPANY - BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE1/4 SE1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 1999	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
					MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	11,925,000	3,701,000	3,648,700	36	1078	847.1	988.85	144.3	113.9	125.54	136.5	0	118.69
FEB	12,559,000	4,452,000	1,606,300*	24	1084	723.8	989.56	198.1	105.7	140.54	140.4	0	116.7
MAR	14,450,000	4,370,000	4,168,800	108	1081	983.6	1039.73	210.4	128.5	139.9	143.2	0	133.48
APR	13,990,000	4,230,000	3,097,300	116	1069	349.6	980.94	220	119.8	144.58	129.6	58.5	109.91
MAY	13,679,000	6,425,000	2,568,000	240	1037	815.8	970.13	169.9	118.6	123.5	139.00	46.1	116.28
JUN	13,657,000	3,420,000	2,691,900	144	1026	780.6	937.6	166.9	119	129.83	131.5	0	103.64
JUL	14,275,000	3,822,000	4,169,900	48	1056	913.2	1009.53	121.5	118.4	120.4	142.4	0	121.72
AUG	14,658,000	3,932,000	4,659,300	0	1068	889.6	1009.98	121.3	98.5	112.4	145.3	86.7	126.96
SEP	11,624,000	3,027,000	3,159,700	60	1014	928.4	983.3	123.3	117.1	120.5	130.2	109.1	123.7
OCT	12,030,000	2,881,000	3,659,900	108	1006	851	978	145	115	128	134	68	121
NOV													
DEC													

*Totalizer down for gear replacement

CERTIFICATION:

Cindy Huatacho

DATE:

11-11-98

GIANT REFINING COMPANY - BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE 1/4 SE 1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 1999	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
					MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	11,925,000	3,701,000	3,648,700	36	1078	847.1	988.85	144.3	113.9	125.54	136.5	0	118.69
FEB	12,569,000	4,452,000	1,606,300*	24	1084	723.8	989.56	198.1	105.7	140.54	140.4	0	116.7
MAR	14,450,000	4,370,000	4,168,800	108	1081	983.6	1039.73	210.4	128.5	139.9	143.2	0	133.48
APR	13,990,000	4,230,000	3,097,300	116	1069	349.6	980.94	220	119.8	144.58	129.6	58.5	109.91
MAY	13,679,000	6,425,000	2,568,000	240	1037	815.8	970.13	169.9	118.6	123.5	139.00	46.1	116.28
JUN	13,657,000	3,420,000	2,691,900	144	1026	780.6	937.6	166.9	119	129.83	131.5	0	103.64
JUL	14,275,000	3,822,000	4,169,900	48	1056	913.2	1009.53	121.5	118.4	120.4	142.4	0	121.72
AUG	14,658,000	3,932,000	4,659,300	0	1068	889.6	1009.98	121.3	98.5	112.4	145.3	86.7	126.96
SEP	11,624,000	3,027,000	3,159,700	60	1014	928.4	983.3	123.3	117.1	120.5	130.2	109.1	123.7
OCT													
NOV													
DEC													

*Totalizer down for gear replacement

CERTIFICATION:

Cindy Huizado

DATE:

01-11-00

GIANT
REFINING COMPANY

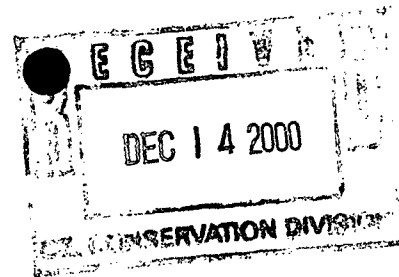
111 COUNTY
ROAD 4990
BLOOMFIELD
NEW MEXICO
87413

87505X5472 57

|||||
Mr. Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe NM 87505

|||||





December 11, 2000

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

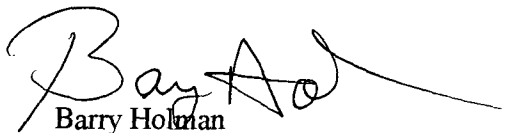
Re: **Monthly Water Effluent Report**

Dear Sirs,

Attached is the November 2000 wastewater effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery. The injection well was down for September and October for repairs to the injection pump and to work on the PLC for the down hole pump.

If you require additional information, please do not hesitate to contact me at (505) 632-4168.

Sincerely,


Barry Holman
Environmental Manager
Giant Refining Company - Bloomfield

Enclosure

cc: John Stokes
Ron Weaver
Chad King
Craig Meldrum

GIANT REFINING COMPANY - BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE1/4 SE1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 2000	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
					MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	8,665,000	3,248,000	4,000,100	48	1053	955	995	133	120	122	132	105	120
FEB	8,769,000	3,205,000	4,055,700	0	1070	959	979	126	114	96	130.8	103.6	116.9
MAR	8,807,000	3,467,000	3,838,400	168	1070	925.0	845	148	105	118.0	132.0	101	117
APR	9,467,800	3,285,000	3,285,000	0	1036	897	970	156	103	120	126	86	114
MAY	10,605,300	2,932,000	2,932,000	4	978	782	840	139	76	100	119.00	54	78
JUN	10,464,900	2,906,000	2,906,000	720	0	0	0	250	100	105	0	0	0
JUL	9,742,100	2,332,000	2,332,000	408	1067	937	998	220	220	220	152	0.4	115
AUG	9,170,100	2,332,000	2,332,000	264	1066	870	991	220	217	209	121	60	99
SEP	8,535,100	2,271,000	2,271,000	720	0	0	0	220	150	180	0	0	0
OCT	9,229,480	2,598,000	2,598,000	720	0	0	0	220	150	180	0	0	0
NOV	8,073,400	2,573,000	2,573,000	34	1069	892	1008	220	164	217	129	76	111
DEC													

*Totalizer down for gear replacement

CERTIFICATION: Bay Area DATE: 12/11/00

RECEIVED

OCT 12 1999

CONSERVATION LABORATORY



111 Road 4990
Bloomfield, New Mexico 87413

505
632.8006

October 6, 1999

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the August, 1999 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery.

If you require additional information, please do not hesitate to 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

GW-130

TLS/tls

Enclosure

cc: John Stokes
Ron Weaver
Chad King
Craig Meldrum

1996-1999

GIANT REFINING COMPANY - BLOOMFIELD

P.O. BOX 159

BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT

DISCHARGE PLAN GW-130 EXP. DATE 11/4/98

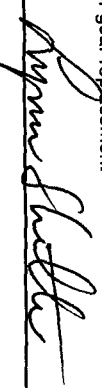
NE 1/4 SE 1/4 SECTION 27, T29N, R11W

NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 1999	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE				ANNULAR PRESSURE				ON-LINE FLOW RATES		
						MAX (PSIA)	MIN (PSIA)	AVG (PSIA)		MAX (PSIA)	MIN (PSIA)	AVG (PSIA)		MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	11,925,000	3,701,000	3,648,700	5,041,951	36	1078	847.1	988.85		144.3	113.9	125.54		136.5	0	118.69
FEB	12,559,000	4,452,000	1,606,300*	4,516,689	24	1084	723.8	989.56		198.1	105.7	140.54		140.4	0	116.7
MAR	14,450,000	4,370,000	4,168,800	5,093,597	108	1081	983.6	1039.73		210.4	128.5	139.9		143.2	0	133.48
APR	13,990,000	4,230,000	3,097,300	3,983,138	116	1069	349.6	980.94		220	119.8	144.58		129.6	58.5	109.91
MAY	13,679,000	6,425,000	2,568,000	3,516,307	240	1037	815.8	970.13		169.9	118.6	123.5		139.00	46.1	116.28
JUN	13,657,000	3,420,000	2,691,900	3,581,798	144	1026	780.6	937.6		166.9	119	129.83		131.5	0	103.64
JUL	14,275,000	3,822,000	4,169,900	5,083,027	48	1056	913.2	1009.53		121.5	118.4	120.4		142.4	0	121.72
AUG	14,658,000	3,932,000	4,659,300	5,667,494	0	1068	889.6	1009.98		121.3	98.5	112.4		145.3	86.7	126.96
SEP																
OCT																
NOV																
DEC																

*Totalizer down for gear replacement

CERTIFICATION:



DATE:

10/6/99



111 Road 4990
Bloomfield, New Mexico 87413

505
632.8006

August 23, 1999

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

RECEIVED
AUG 26 1999

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the July, 1999 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery.

If you require additional information, please do not hesitate to contact me at (505) 632 8013.

Sincerely:

A handwritten signature in black ink, appearing to read "Lynn Shelton".

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

Enclosure

cc: John Stokes
Ron Weaver
Chad King
Craig Meldrum

GIANT REFINING COMPANY - BLOOMFIELD

P.O. BOX 159

BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT

DISCHARGE PLAN GW-130 EXP. DATE 11/4/98

NE 1/4 SE 1/4 SECTION 27, T29N, R11W

NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 1999	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
						MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	11,925,000	3,701,000	3,648,700	5,041,951	36	1078	847.1	988.85	144.3	113.9	125.54	136.5	0	118.69
FEB	12,559,000	4,452,000	1,606,300*	4,516,689	24	1084	723.8	989.56	198.1	105.7	140.54	140.4	0	116.7
MAR	14,450,000	4,370,000	4,168,800	5,093,597	108	1081	983.6	1039.73	210.4	128.5	139.9	143.2	0	133.48
APR	13,990,000	4,230,000	3,097,300	3,983,138	116	1069	349.6	980.94	220	119.8	144.58	129.6	58.5	109.91
MAY	13,679,000	6,425,000	2,568,000	3,516,307	240	1037	815.8	970.13	169.9	118.6	123.5	139.00	46.1	116.28
JUN	13,657,000	3,420,000	2,691,900	3,581,796	144	1026	780.6	937.6	166.9	119	129.83	131.5	0	103.64
JUL	14,275,000	3,822,000	4,169,900	5,083,027	48	1056	913.2	1009.53	121.5	118.4	120.4	142.4	0	121.72
AUG														
SEP														
OCT														
NOV														
DEC														

*Totalizer down for gear replacement

CERTIFICATION:

DATE:

[Signature] 8/20/99

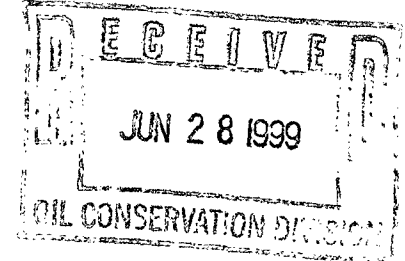


111 Road 4990
Bloomfield, New Mexico 87413

505
632.8006

June 21, 1999

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505



Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the May, 1999 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery.

If you require additional information, please do not hesitate to contact me at (505) 632 8013.

Sincerely:

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

Enclosure

cc: John Stokes
Ron Weaver
Chad King
Craig Meldrum

GIANT REFINING COMPANY - BLOOMFIELD

P.O. BOX 159

BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT

DISCHARGE PLAN GW-130 EXP. DATE 11/4/98

NE1/4 SE1/4 SECTION 27, T29N, R11W

NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 1999	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES			
						MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)	
JAN	11,925,000	3,701,000	3,648,700	5,041,951	36	1078	847.1	988.85	144.3	113.9	125.54	136.5	0	118.69	
FEB	12,559,000	4,452,000	1,606,300*	4,516,689	24	1084	723.8	989.56	198.1	105.7	140.54	140.4	0	116.7	
MAR	14,450,000	4,370,000	4,168,800	5,093,597	108	1081	983.6	1039.73	210.4	128.5	139.9	143.2	0	133.48	
APR	13,990,000	4,230,000	3,097,300	3,983,138	116	1069	349.6	980.94	220	119.8	144.58	129.6	58.5	109.91	
MAY	13,679,000	6,425,000	2,568,000	3,516,307	240	1037	815.8	970.13	169.9	118.6	123.5	139.00	46.1	116.28	
JUN															
JUL															
AUG															
SEP															
OCT															
NOV															
DEC															

*Totalizer down for gear replacement

CERTIFICATION: 

DATE: 6/21/99



#89 County Road 4990
Bloomfield, New Mexico 87413

P.O. Box 159
Bloomfield, New Mexico 87413

(505) 632-2446
(505) 632-8550 Fax

99
January 26, 1998

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: Monthly Water Effluent Report

Dear Sirs:

Attached is the December, 1998 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery.

If you require additional information, please do not hesitate to contact me at (505) 632 8013.

Sincerely:

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

Enclosure

cc: John Stokes
Ron Weaver
Chad King
Craig Meldrum

GIANT REFINING COMPANY - BLOOMFIELD

P.O. BOX 159

BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT

DISCHARGE PLAN GW-130 EXP. DATE 11/4/98

NE 1/4 SE 1/4 SECTION 27, T29N, R11W

NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 1998	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
						MAX	MIN	AVG	MAX	MIN	AVG	MAX	MIN	AVG
						(PSIA)	(PSIA)	(PSIA)	(PSIA)	(PSIA)	(PSIA)	(GPM)	(GPM)	(GPM)
JAN	10,000,000	4,441,900	3,744,600	5,449,651	72	1009	935.2	981.02	169.8	98	149.69	155.8	120.3	135.16
FEB	8,736,000	3,558,900	4,318,400	5,378,688	0	1047	951.1	994.54	150.4	135.6	137.99	190.3	106.3	133.34
MAR	8,908,000	4,332,500	4,187,300	5,026,464	0	1006	899.7	988.72	177.6	126.6	148.9	131.5	96.2	112.76
APR	17,627,000	4,467,700	4,395,000	5,451,408	0	1008	953.5	988.00	220.00	146.7	178.34	137.3	111.6	126.19
MAY	22,564,000	4,233,800	3,861,700	4,672,656	4	1000	866.6	929.92	203.5	112.3	159.26	134.00	55.7	105.24
JUN	13,890,000	2,181,900	1,991,000	2,478,187	8	869.6	813.8	807.4	135.5	79.5	115.4	83.4	0.2	58.01
JUL	13,777,000	3,771,500	549,300*	2,825,100	14	881.8	811.8	841.31	135	128.1	131.61	71.5	0	64.5
AUG	13,597,000	4,180,500	4,388,000	5,351,304	2	1044.9	843.4	979.15	145.8	130.3	140.35	144.5	71.3	120.2
SEP	11,662,000	1,565,600	2,018,700	2,837,808	0	1026	798.4	828.38	140	131.7	135.94	138.9	50.3	65.69
OCT	14,250,000	2,089,600	877,400	1,186,272	600*	1036	1003	1023	138.5	128.8	133.88	141.7	131.8	137.3
NOV	13,812,000	**	0	0	720*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DEC	14,128,000	376,200**	3,001,300	4,251,442	240	1033	897.1	962.65	220	114.4	164.97	147.3	120.3	140.59

*Injection well was down for replacement of 3-way valve and piping modifications.

**Waiting clarification of monthly summary from operations.

CERTIFICATION:

Supervisor

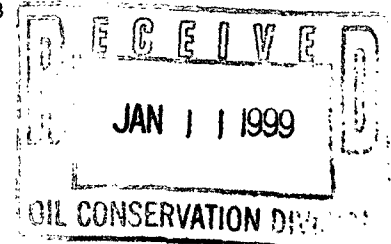
DATE:

1/26/99



50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413

505
632-8013



December 23, 1998

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the October and November, 1998 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery.

If you require additional information, please do not hesitate to 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

cc: John Stokes
Ron Weaver
Chad King
Craig Meldrum

GIANT REFINING COMPANY - BLOOMFIELD

P.O. BOX 159

BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT

DISCHARGE PLAN GW-130 EXP. DATE 11/4/98

NE1/4 SE1/4 SECTION 27, T29N, R11W

NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 1998	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)			INJECTION PRESSURE (PSIA)			ANNULAR PRESSURE (PSIA)			ON-LINE FLOW RATES (GPM)		
								MAX	MIN	AVG	MAX	MIN	AVG	MAX	MIN	AVG
JAN	10,000,000	4,441,900	3,744,600	5,449,651	72	1009	935.2	1009	935.2	981.02	169.8	98	149.69	155.8	120.3	135.16
FEB	8,736,000	3,558,900	4,318,400	5,378,688	0	1047	951.1	1047	951.1	994.54	150.4	135.6	137.99	190.3	106.3	133.34
MAR	8,908,000	4,332,500	4,187,300	5,026,464	0	1006	899.7	1006	899.7	988.72	177.6	126.6	148.9	131.5	96.2	112.76
APR	17,627,000	4,467,700	4,395,000	5,451,408	0	1008	953.5	1008	953.5	988.00	220.00	146.7	178.34	137.3	111.6	126.19
MAY	22,564,000	4,233,800	3,861,700	4,672,656	4	1000	866.6	1000	866.6	929.92	203.5	112.3	159.26	134.00	55.7	105.24
JUN	13,890,000	2,181,900	1,991,000	2,478,187	8	869.6	813.8	869.6	813.8	807.4	135.5	79.5	115.4	83.4	0.2	58.01
JUL	13,777,000	3,771,500	549,300*	2,825,100	14	881.8	811.8	881.8	811.8	841.31	135	128.1	131.61	71.5	0	64.5
AUG	13,597,000	4,180,500	4,388,000	5,351,304	2	1044.9	843.4	1044.9	843.4	979.15	145.8	130.3	140.35	144.5	71.3	120.2
SEP	11,662,000	1,565,600	2,018,700	2,837,808	0	1026	798.4	1026	798.4	828.38	140	131.7	135.94	138.9	50.3	65.69
OCT	14,250,000	2,089,600	877,400	1,186,272	600*	1036	1003	1036	1003	1023	138.5	128.8	133.88	141.7	131.8	137.3
NOV	13,812,000	**	0	0	720*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DEC																

*Injection well was down for replacement of 3-way valve and piping modifications.

**Waiting clarification of monthly summary from operations.

CERTIFICATION:

Lynn Shelton

DATE:

12/23/98



#89 County Road 4990
Bloomfield, New Mexico 87413

P.O. Box 159
Bloomfield, New Mexico 87413

(505) 632-2446
(505) 632-8550 Fax

October 22, 1998

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the September, 1998 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery. The most recent quarterly analysis for the process wastewater injection is included with this report.

If you require additional information, please do not hesitate to contact me at (505) 632 8013.

Sincerely:

A handwritten signature in cursive script, appearing to read "Lynn Shelton".

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

Enclosure

cc: John Stokes
Ron Weaver
Chad King

GIANT REFINING COMPANY - BLOOMFIELD

P.O. BOX 159

BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT

DISCHARGE PLAN GW-130 EXP. DATE 11/4/98

NE 1/4 SE 1/4 SECTION 27, T29N, R11W

NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 1998	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)			INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
								MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	10,000,000	4,441,900	3,744,600	5,449,651	72	1009	935.2	1009	935.2	981.02	169.8	98	149.69	155.8	120.3	135.16
FEB	8,736,000	3,558,900	4,318,400	5,378,688	0	1047	951.1	1047	951.1	994.54	150.4	135.6	137.99	190.3	106.3	133.34
MAR	8,908,000	4,332,500	4,187,300	5,026,464	0	1006	899.7	1006	899.7	988.72	177.6	126.6	148.9	131.5	96.2	112.76
APR	17,627,000	4,467,700	4,395,000	5,451,408	0	1008	953.5	1008	953.5	988.00	220.00	146.7	178.34	137.3	111.6	126.19
MAY	22,564,000	4,233,800	3,861,700	4,672,656	4	1000	866.6	1000	866.6	929.92	203.5	112.3	159.26	134.00	55.7	105.24
JUN	13,890,000	2,181,900	1,991,000	2,478,187	8	869.6	813.8	869.6	813.8	807.4	135.5	79.5	115.4	83.4	0.2	58.01
JUL	13,777,000	3,774,500	549,300*	2,825,100	14	881.8	811.8	881.8	811.8	841.31	135	128.1	131.61	71.5	0	64.5
AUG	13,597,000	4,180,500	4,388,000	5,351,304	2	1044.9	843.4	1044.9	843.4	979.15	145.8	130.3	140.35	144.5	71.3	120.2
SEP	11,662,000	1,565,600	2,018,700	2,837,808	0	1026	798.4	1026	798.4	828.38	140	131.7	135.94	138.9	50.3	65.69
OCT																
NOV																
DEC																

*Totalizer was down most of the month.

CERTIFICATION: *Sydney Shultz*

DATE: 10/26/98



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

September 16, 1998

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the August, 1998 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery.

If you require additional information, please do not hesitate to 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

cc: John Stokes
Ron Weaver
Chad King

GIANT REFINING COMPANY - BLOOMFIELD

P.O. BOX 159

BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT

DISCHARGE PLAN GW-130 EXP. DATE 11/4/98

NE1/4 SE1/4 SECTION 27, T29N, R11W

NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 1998	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
						MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	10,000,000	4,441,900	3,744,600	5,449,651	72	1009	935.2	981.02	169.8	98	149.69	155.8	120.3	135.16
FEB	8,736,000	3,558,900	4,318,400	5,378,688	0	1047	951.1	994.54	150.4	135.6	137.99	190.3	106.3	133.34
MAR	8,908,000	4,332,500	4,187,300	5,026,464	0	1006	899.7	988.72	177.6	126.6	148.9	131.5	96.2	112.76
APR	17,627,000	4,467,700	4,395,000	5,451,408	0	1008	953.5	988.00	220.00	146.7	178.34	137.3	111.6	126.19
MAY	22,564,000	4,233,800	3,861,700	4,672,656	4	1000	866.6	929.92	203.5	112.3	159.26	134.00	55.7	105.24
JUN	13,890,000	2,181,900	1,991,000	2,478,187	8	869.6	813.8	807.4	135.5	79.5	115.4	83.4	0.2	58.01
JUL	13,777,000	3,771,500	549,300*	2,825,100	14	881.8	811.8	841.31	135	128.1	131.61	71.5	0	64.5
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SEP														
OCT														
NOV														
DEC														

*Totalizer was down most of the month.

CERTIFICATION: *Symon Sheth*

DATE: 9/16/98



50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413

505
632-8013

August 27, 1998

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the July, 1998 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery.

If you require additional information, please do not hesitate to contact me at (505) 632 8013.

Sincerely:

A handwritten signature in black ink, appearing to read "Lynn Shelton", written over a horizontal line.

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

Enclosure

cc: John Stokes
Ron Weaver
Chad King

GIANT REFINING COMPANY - BLOOMFIELD

P.O. BOX 159

BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT

DISCHARGE PLAN GW-130 EXP. DATE 11/4/98

NE1/4 SE1/4 SECTION 27, T29N, R11W

NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 1998	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
					MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	10,000,000	4,441,900	3,744,600	5,449,651	1009	935.2	981.02	169.8	98	149.69	155.8	120.3	135.16
FEB	8,736,000	3,558,900	4,318,400	5,378,688	1047	951.1	994.54	150.4	135.6	137.99	190.3	106.3	133.34
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APR	17,627,000	4,467,700	4,395,000	5,451,408	1008	953.5	988.00	220.00	146.7	178.34	137.3	111.6	126.19
MAY	22,564,000	4,233,800	3,861,700	4,672,656	1000	866.6	929.92	203.5	112.3	159.26	134.00	55.7	105.24
JUN	13,890,000	2,181,900	1,991,000	2,478,187	869.6	813.8	807.4	135.5	79.5	115.4	83.4	0.2	58.01
JUL	13,777,000	3,771,500	549,300*	2,825,100	881.8	811.8	841.31	135	128.1	131.61	71.5	0	64.5
AUG													
SEP													
OCT													
NOV													
DEC													

*Totalizer was down most of the month.

CERTIFICATION: *Supra Shetty*

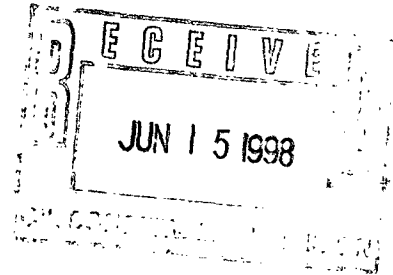
DATE: *8/27/98*



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

June 12, 1998

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505



Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the May, 1998 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery.

If you require additional information, please do not hesitate to contact me at (505) 632 8013.

Sincerely,

A handwritten signature in cursive script that reads "Lynn Shelton". The signature is fluid and stylized, with a prominent loop at the end.

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

Enclosure

cc: John Stokes
Ron Weaver
Chad King

GIANT REFINING COMPANY - BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE 1/4 SE 1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
						MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
1998														
JAN	10,000,000	4,441,900	3,744,600	5,449,651	72	1009	935.2	981.02	169.8	98	149.69	155.8	120.3	135.16
FEB	8,736,000	3,558,900	4,318,400	5,378,688	0	1047	951.1	994.54	150.4	135.6	137.99	190.3	106.3	133.34
MAR	8,908,000	4,332,500	4,187,300	5,026,464	0	1006	899.7	988.72	177.6	126.6	148.9	131.5	96.2	112.76
APR	17,627,000	4,467,700	4,395,000	5,451,408	0	1008	963.5	988.00	220.00	146.7	178.34	137.3	111.6	126.19
MAY	22,564,000	4,233,800	3,861,700	4,672,656	4	1000	866.6	929.92	203.5	112.3	159.26	134.00	55.7	105.24
JUN														
JUL														
AUG														
SEP														
OCT														
NOV														
DEC														

CERTIFICATION: _____

DATE: _____

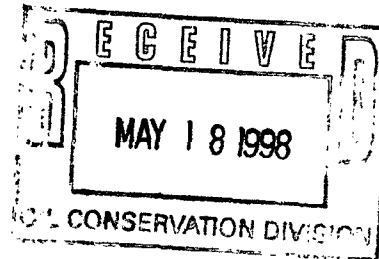


50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413
505
632-8013

May 14, 1998

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410



Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the April, 1998 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery. Also included are copies of the quarterly sample analyses for the injection well.

If you require additional information, please do not hesitate to contact me at (505) 632 8013.

Sincerely:

A handwritten signature in cursive script, appearing to read "Lynn Shelton".

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

Enclosure

cc: John Stokes
Ron Weaver
Chad King

GIANT REFINING COMPANY - BLOOMFIELD

P.O. BOX 159

BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT

DISCHARGE PLAN GW-130 EXP. DATE 11/4/98

NE1/4 SE1/4 SECTION 27, T29N, R11W

NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 1998	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE				ANNULAR PRESSURE			ON-LINE FLOW RATES		
						MAX (PSIA)	MIN (PSIA)	AVG (PSIA)		MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	10,000,000	4,441,900	3,744,600	5,449,651	72	1009	935.2	981.02		169.8	98	149.69	155.8	120.3	135.16
FEB	8,736,000	3,568,900	4,318,400	5,378,688	0	1047	951.1	994.54		150.4	135.6	137.99	190.3	106.3	133.34
MAR	8,908,000	4,332,500	4,187,300	5,026,464	0	1006	899.7	988.72		177.6	126.6	148.9	131.5	96.2	112.76
APR	17,627,000	4,467,700	4,395,000	5,451,408	0	1008	953.5	988		220	146.7	178.34	137.3	111.6	126.19
MAY															
JUN															
JUL															
AUG															
SEP															
OCT															
NOV															
DEC															

CERTIFICATION:

[Signature]

DATE:

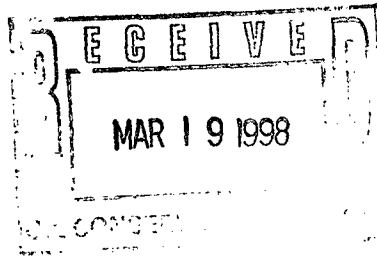
5/14/98

TLS 5/98



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

March 17, 1998



Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the February, 1998 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery. Also included are copies of the quarterly sample analyses for the injection well.

If you require additional information, please do not hesitate to 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

cc: John Stokes
Ron Weaver
Chad King

GIANT REFINING COMPANY - BLOOMFIELD

P.O. BOX 159

BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT

DISCHARGE PLAN GW-130 EXP. DATE 11/4/98

NE1/4 SE1/4 SECTION 27, T29N, R11W

NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 1998	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
						MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	10,000,000	4,441,900	3,744,600	5,449,651	72	1009	935.2	981.02	169.8	98	149.69	155.8	120.3	135.16
FEB	8,736,000	3,558,900	4,318,400	5,378,688	0	1047	951.1	994.54	150.4	135.6	137.99	190.3	106.3	133.34
MAR														
APR														
MAY														
JUN														
JUL														
AUG														
SEP														
OCT														
NOV														
DEC														

CERTIFICATION 

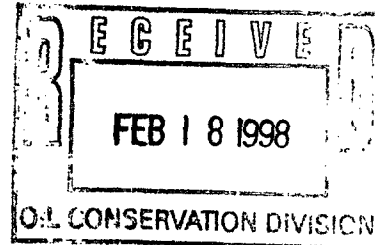
DATE: 3/17/98



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

February 13, 1998

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505



Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the January, 1998 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery.

If you require additional information, please do not hesitate to contact me at (505) 632 8013.

Sincerely:

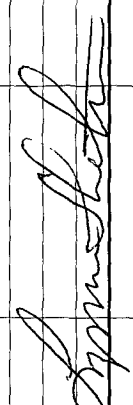
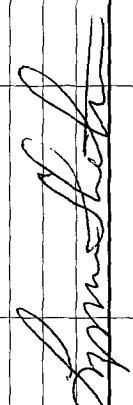
A handwritten signature in cursive script that reads "Lynn Shelton".

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

Enclosure

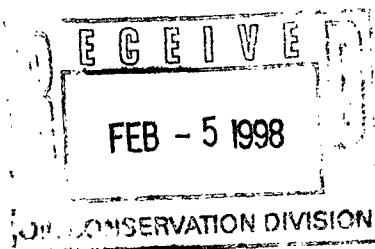
cc: John Stokes
Ron Weaver
Chad King

GIANT REFINING COMPANY - BLOOMFIELD											
P.O. BOX 159 BLOOMFIELD, NEW MEXICO 87413											
MONTHLY INJECTION WELL REPORT DISCHARGE PLAN GW-130 EXP. DATE 11/4/98 NE1/4 SE1/4 SECTION 27, T29N, R11W NMPM, SAN JUAN COUNTY, NEW MEXICO											
PERIOD	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE		
1998						MAX	MIN	AVG	MAX	MIN	
						(PSIA)	(PSIA)	(PSIA)	(PSIA)	(PSIA)	
JAN	10,000,000	4,441,900	3,744,600	5,449,651	72	1009	935.2	981.02	169.8	98	
FEB											
MAR											
APR											
MAY											
JUN											
JUL											
AUG											
SEP											
OCT											
NOV											
DEC											
 DATE: 2/13/98											
CERTIFICATION: 											
TLS 2/98											



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

January 30, 1998



Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the December, 1997 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery.

If you require additional information, please do not hesitate to contact me at (505) 632 8013.

Sincerely,

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

Enclosure

cc: John Stokes
Ron Weaver
Chad King

GIANT REFINING COMPANY - BLOOMFIELD

P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE 1/4 SE 1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 1997	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	ANNUAL PRESSURE MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	ON-LINE FLOW RATES MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	9,024,000	3,632,100	2,137,100	2,299,809	480	972.7	795.8	949.9	187.5	134.9	162.4	152	87.5	145.19
FEB	9,798,000	3,980,900	4,770,100	6,436,195	0	996.4	795.8	980.9	201.6	104.3	153.1	149.6	127.1	144.18
MAR	10,883,000	4,513,900	4,634,300	5,556,432	100	1035	763.0	988.73	500	98.1	167.0	150.5	55.1	143.8
APR	6,907,000	3,680,300	3,686,500	4,585,680	120	1012	763	986.16	500	174.1	182.6	136.8	103.2	127.38
MAY	11,797,000	3,595,900	4,970,600	6,119,251	0	1023	943.2	972.62	179.3	142.2	174.29	147.1	118.4	137.08
JUN	12,635,000	4,046,200	4,496,900	6,616,987	0	999.3	956.1	980.44	175.5	141.8	162.26	154	142.7	148.23
JUL	12,210,000	4,784,000	5,621,500	6,662,966	0	1010	976.3	975.27	165.8	161.9	164.17	160.9	138.7	149.26
AUG	13,540,000	3,831,700	4,984,700	6,171,600	4	1059	942.6	967.37	168.9	163.9	167.37	161.9	117.8	139
SEP	11,859,000	4,617,400	3,987,800	5,177,520	0	1018	946.5	988.11	171	167.4	168.85	141.6	99.2	119.85
OCT	10,070,000	4,515,500	3,860,500	4,854,175	156	1044	914.5	994.65	179.4	169.1	163.47	147.6	117	137.59
NOV	11,074,000	4,751,400	3,929,300	4,822,659	154	1084	835.5	984.76	220	155.8	175.12	158.6	90	142.01
DEC	10,164,000	4,297,900	4,756,200	6,042,655	5	1014	944.9	987.54	171.4	155.8	160.56	147.4	118.3	136.28

CERTIFICATION: 

DATE: 1/30/98

TLS1/98



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

December 11, 1997

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the November, 1997 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery.

If you require additional information, please do not hesitate to 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

cc: John Stokes
Ron Weaver
Chad King



50 Road 4990

P.O. Box 159
Bloomfield, New Mexico 87413

505
632-8013

July 28, 1997

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the June, 1997 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery.

If you require additional information, please do not hesitate to contact me at (505) 632 8013.

Sincerely,

A handwritten signature in cursive script, appearing to read "Lynn Shelton".

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

Enclosure

cc: John Stokes
Ron Weaver
Chad King

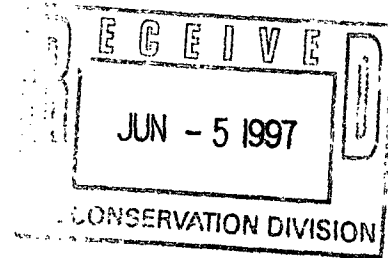


50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413
505
632-8013

May 31, 1997

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410



Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the April, 1997 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery.

If you require additional information, please do not hesitate to 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

cc: John Stokes
Ron Weaver
Chad King



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

February 7, 1997

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the January, 1997 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery. The injection well was down until January 20 due to a major overhaul of the injection pump.

If you require additional information, please do not hesitate to 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

RECEIVED

FEB 12 1997

Environment Bureau
Oil Conservation Division

TLS/tls

Enclosure

cc: John Stokes
Ron Weaver
Chad King



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

January 22, 1997

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the December, 1996 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery. The injection well was down almost the entire month due to a major overhaul of the injection pump.

If you require additional information, please do not hesitate to contact me at (505) 632 8013.

Sincerely:

A handwritten signature in cursive script, appearing to read "Lynn Shelton".

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

Enclosure

cc: John Stokes
Ron Weaver
Chad King

4 CORDELL
REC 10
37 10 2 10 8 52



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

December 30, 1996

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the November, 1996 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery. The gears on the totalizer continue to be unreliable.

Analytical data from the 4th quarter injection well sampling is attached.

If you require additional information, please do not hesitate to contact me at (505) 632 8013.

Sincerely:

A handwritten signature in cursive script, appearing to read "Lynn Shelton", written in dark ink.

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

Enclosure

cc: John Stokes
Ron Weaver
Chad King

GIANT REFINING COMPANY - BLOOMFIELD

P.O. BOX 159

BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT

DISCHARGE PLAN GW-130 EXP. DATE 11/4/98

NE1/4 SE1/4 SECTION 27, T29N, R11W

NMIPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 1996	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
						MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	10,943,000	5,296,800	2,784,200	2,349,216	528	961.4	866	886.11	21.5	-0.1	1.15	142.6	69	108.76
FEB	9,951,000	3,975,700	3,908,900	3,357,330	0	946.8	889.4	915.27	195.1	-0.2	106.94	132.5	110.2	116.77
MAR	9,755,000	2,970,900	4,329,400	4,980,917	192	1014	938.0	975.7	215.3	9.5	97.0	166.0	138.8	150.39
APR	10,960,000	3,546,200	4,464,100	5,301,850	8	1166	901.3	954.84	220	74.1	149.06	160.1	102.1	126.96
MAY	11,265,000	3,518,900	*	4,535,554	48	1142	879.1	951.99	219.6	77.5	155.68	148.9	86.3	108.61
JUN	11,250,000	3,471,100	*	5,089,759	52	1083	923.6	951.89	222	65.8	142.73	153.5	0.3	126.99
JUL	13,237,000	Must Recalculate	440,000*	396,806	696	951.9	948.2	949.87	189.6	42.1	99.85	150.7	101.1	137.78
AUG	12,586,400	3,816,200	1,393,200	1,767,211	540	1012	944	983.39	220	86.2	148.07	149	138	144.38
SEP	13,321,000	4,083,400	***	6,464,622	19	1070	976.9	1013.5	179.5	50.1	106.9	159.8	0	153.7
OCT	12,113,000	4,207,200	3,418,100	6,512,472	48	1100	714.3	1048.6	175	56.6	127.81	162.9	0	155.95
NOV	9,926,000	4,427,200	****	3,899,160	120	1008	877.1	966.2	181	53.2	133.2	138.2	0.3	108.31
DEC														

*** Totalizer rebuilt in September. Subsequently stripped gears. Will be purchasing a remote counter. New equipment installed,

**** Totalizer rebuilt again in November.

CERTIFICATION: *Dym Shultz*

DATE: 12/30/96

TLS 12/96

TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TRACE METAL CONCENTRATION

Client: Giant Refining Company
Project: Bloomfield
Sample ID: 4th Quarter Injection Well
Laboratory ID: 0396G02333
Sample Matrix: water

Date Reported: 11/14/96
Date Sampled: 10/24/96
Date Received: 10/24/96
Date Analyzed: 10/12/96

Parameter	Result	Detection Limit	Regulatory Level	Units
Arsenic.....	<0.005	0.005	5	mg/L
Barium.....	0.17	0.01	100	mg/L
Cadmium.....	<0.004	0.004	1	mg/L
Chromium.....	<0.01	0.01	5	mg/L
Lead.....	<0.10	0.05	5	mg/L
Mercury.....	<0.001	0.001	0.2	mg/L
Selenium.....	0.011	0.005	1	mg/L
Silver.....	<0.01	0.01	5	mg/L

ND- Analyte not detected at stated detection level.

References: Method 1311: Toxicity Characteristic Leaching Procedure,
SW-846, Rev. 0, July 1992.

Method 3010A: Acid Digestion of Aqueous Samples and Extracts for Total
Metals, SW-846, Rev. 1, July 1992.

Comments:

Reported By: 

Reviewed: 

Quality Control / Quality Assurance**Spike Analysis / Blank Analysis****TOXICITY CHARACTERISTIC LEACHING PROCEDURE**

Client: Giant Refining Company
Project: Bloomfield
Sample Matrix: water

Date Reported: 11/13/96
Date Analyzed: 11/12/96
Date Received: 10/24/96

Spike Analysis

Parameter	Spike Result (mg/L)	Sample Result (mg/L)	Spike Added (mg/L)	Percent Recovery
Arsenic	0.03	0.03	0.03	100%
Barium	2.00	2.00	1.85	92%
Cadmium	0.002	0.002	0.002	86%
Chromium	0.50	0.50	0.49	99%
Lead	0.03	0.03	0.03	106%
Mercury	0.005	0.005	0.005	97%
Selenium	0.025	0.025	0.022	88%
Silver	0.50	0.50	0.47	95%

Method Blank Analysis

Parameter	Result	Detection Limit	Units
Arsenic	ND	0.005	mg/L
Barium	ND	0.01	mg/L
Cadmium	ND	0.004	mg/L
Chromium	ND	0.01	mg/L
Lead	ND	0.005	mg/L
Mercury	ND	0.001	mg/L
Selenium	ND	0.005	mg/L
Silver	ND	0.01	mg/L

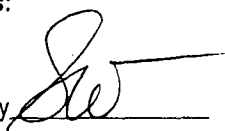
References:

Method 1311: Toxicity Characteristic Leaching Procedure,
SW-846, Rev. 0, July 1992.

Method 3010A: Acid Digestion of Aqueous Samples and Extracts for Total
Metals, SW-846, Rev. 1, July 1992.

Comments:

Reported by



Reviewed by



Quality Control / Quality Assurance**Known Analysis****TOXICITY CHARACTERISTIC LEACHING PROCEDURE**

Client: **Giant Refining Company**
Project: **Bloomfield**
Sample Matrix: **water**

Date Reported: **11/14/96**
Date Analyzed: **11/12/96**
Date Received: **10/24/96**

Known Analysis

Parameter	Found Result	Known Result	Percent Recovery	Units
Arsenic	0.009	0.010	90%	mg/L
Barium	0.98	1.00	98%	mg/L
Cadmium	0.0039	0.004	98%	mg/L
Chromium	1.03	1.00	103%	mg/L
Lead	0.04	0.04	110%	mg/L
Mercury	0.004	0.004	100%	mg/L
Selenium	0.010	0.010	100%	mg/L
Silver	0.94	1.00	94%	mg/L

References:

Method 1311: Toxicity Characteristic Leaching Procedure,
SW-846, Rev. 0, July 1992.

Method 3010A: Acid Digestion of Aqueous Samples and Extracts for Total
Metals, SW-846, Rev. 1, July 1992.

Reported by



Reviewed by



EPA METHOD 8240
VOLATILE ORGANIC COMPOUNDS

Client: **GIANT REFINING COMPANY**
Sample ID: 4th Qtr. Injection Well
Project ID: Bloomfield, NM
Lab ID: B969765 0396G02333
Matrix: Water

Date Reported: 11/07/96
Date Sampled: 10/24/96
Date Received: 10/29/96
Date Extracted: NA
Date Analyzed: 11/04/96

Parameter	Result	PQL	Units
1,1,1-Trichloroethane	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
2-Butanone (MEK)	ND	20	ug/L
2-Hexanone	ND	5.0	ug/L
4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L
Acetone	ND	20	ug/L
Benzene	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Carbon Disulfide	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
m,p-Xylene	ND	5.0	ug/L
Methylene chloride	ND	20	ug/L
o-Xylene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L

EPA METHOD 8240
VOLATILE ORGANIC COMPOUNDS

Client: GIANT REFINING COMPANY
Sample ID: 4th Qtr. Injection Well
Project ID: Bloomfield, NM
Lab ID: B969765 0396G02333
Matrix: Water

Date Reported: 11/07/96
Date Sampled: 10/24/96
Date Received: 10/29/96
Date Extracted: NA
Date Analyzed: 11/04/96

Parameter	Result	PQL	Units
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Continued

trans-1,2-Dichloroethene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L
Vinyl Chloride	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

QUALITY CONTROL - Surrogate Recovery

%

QC Limits

1,2-Dichloroethane-d4	100	76 - 114
Bromofluorobenzene	100	86 - 115
Toluene-d8	99	88 - 110

ND - Not Detected at Practical Quantitation Level (PQL)

Reference: Method 8260, Gas Chromatography/Mass Spectrometry for Volatile Organics, Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, Rev. 1, November 1992.

Analyst

RRD

Reviewed

CDB

EPA METHOD 8240
VOLATILE ORGANIC COMPOUNDS

Client: **GIANT REFINING COMPANY**
Sample ID: Trip Blank
Project ID: Bloomfield, NM
Lab ID: B969766 0396G02333
Matrix: Water

Date Reported: 11/07/96
Date Sampled: 10/24/96
Date Received: 10/29/96
Date Extracted: NA
Date Analyzed: 11/04/96

Parameter	Result	PQL	Units
1,1,1-Trichloroethane	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
2-Butanone (MEK)	ND	20	ug/L
2-Hexanone	ND	5.0	ug/L
4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L
Acetone	ND	20	ug/L
Benzene	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Carbon Disulfide	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
m,p-Xylene	ND	5.0	ug/L
Methylene chloride	ND	20	ug/L
o-Xylene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L

EPA METHOD 8240
VOLATILE ORGANIC COMPOUNDS

Client: GIANT REFINING COMPANY

Sample ID: Trip Blank

Project ID: Bloomfield, NM

Lab ID: B969766

0396G02333

Matrix: Water

Date Reported: 11/07/96

Date Sampled: 10/24/96

Date Received: 10/29/96

Date Extracted: NA

Date Analyzed: 11/04/96

Parameter	Result	PQL	Units
Continued			
trans-1,2-Dichloroethene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L
Vinyl Chloride	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

QUALITY CONTROL - Surrogate Recovery

%

QC Limits

1,2-Dichloroethane-d4	96	76 - 114
Bromofluorobenzene	102	86 - 115
Toluene-d8	99	88 - 110

ND - Not Detected at Practical Quantitation Level (PQL)

Reference: Method 8260, Gas Chromatography/Mass Spectrometry for Volatile Organics, Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, Rev. 1, November 1992.

Analyst

PRD

Reviewed

CBB

**LAB QA/QC
EPA METHOD 8240
INSTRUMENT BLANK**

Date Analyzed: 11/04/96
Lab ID: IBW96309
Matrix: Water

Parameter	Result	PQL	Units
1,4-Dichlorobenzene	ND	5.0	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,2-Dibromoethane (EDB)	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
m,p-Xylene	ND	5.0	ug/L
Methylene chloride	ND	20	ug/L
o-Xylene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
trans-1,2-Dichloroethene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	mg/L
Vinyl Chloride	ND	5.0	ug/L
2-Butanone (MEK)	ND	20	ug/L
Carbon Disulfide	ND	5.0	ug/L

Continued

LAB QA/QC
EPA METHOD 8240
INSTRUMENT BLANKDate Analyzed: 11/04/96
Lab ID: IBW96309
Matrix: Water

Parameter	Result	PQL	Units
Continued			
Xylenes (total)	ND	5.0	ug/L
2-Hexanone	ND	5.0	ug/L
4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L
Acetone	ND	20	ug/L

QUALITY CONTROL - Surrogate Recovery	%	QC Limits
Bromofluorobenzene	99	86 - 115
1,2-Dichloroethane-d4	99	76 - 114
Toluene-d8	100	88 - 110

ND - Not Detected at Practical Quantitation Level (PQL)

Analyst RRDReviewed CS

LAB QA/QC
EPA METHOD 8240
LAB CONTROL SAMPLEDate Analyzed: 11/04/96
Lab ID: LCW96309A
Matrix: Water

Parameter	Spike Added (mg/L)	Sample Result (mg/L)	LCS Result (mg/L)	LCS Recovery %	QC Limits Rec.
1,1,2-Trichloroethane	0.02	0	0.022	110	70 -130
1,2-Dibromoethane (EDB)	0.02	0	0.021	105	70 -130
1,2-Dichloroethane	0.02	0	0.02	100	70 -130
1,2-Dichloropropane	0.02	0	0.022	110	70 -130
1,4-Dichlorobenzene	0.02	0	0.025	125	70 -130
Benzene	0.02	0	0.022	110	70 -130
Bromoform	0.02	0	0.023	115	70 -130
Carbon Tetrachloride	0.02	0	0.022	110	70 -130
cis-1,3-Dichloropropene	0.02	0	0.02	100	70 -130
Tetrachloroethene (PCE)	0.02	0	0.021	105	70 -130
Trichloroethene (TCE)	0.02	0	0.019	95	70 -130
Vinyl Chloride	0.02	0	0.016	80	70 -130

QUALITY CONTROL - Surrogate Recovery

%

QC Limits

1,2-Dichloroethane-d4	99	76 -114
Bromofluorobenzene	101	86 -115
Toluene-d8	99	88 -110

Spike Recovery: 0 out of 12 outside QC limits.
Surrogates: Surrogate Recoveries within QC Limits.Analyst RPDReviewed CTB

Client: **Giant Refining Company - Bloomfield**
Project: None Given
Sample ID: 4th Quarter Injection Well
Laboratory ID: 0396G02333
Sample Matrix: Water
Condition: Cool/Intact

Date Reported: 11/14/96
Date Sampled: 10/24/96
Time Sampled: 3:00 PM
Date Received: 10/24/96

Parameter	Analytical Result	Units		Units
Lab pH.....	7.6	s.u.		
Lab Conductivity @ 25° C.....	7,590	umhos/cm		
Total Dissolved Solids @ 180°C.....	4,620	mg/L		
Total Dissolved Solids (Calc).....	4,720	mg/L		
Total Alkalinity as CaCO ₃	290	mg/L		
Total Hardness as CaCO ₃	580	mg/L		
Bicarbonate as HCO ₃	360	mg/L	5.85	meq/L
Carbonate as CO ₃	<1.00	mg/L	<0.01	meq/L
Hydroxide as OH.....	<1.00	mg/L	<0.01	meq/L
Chloride.....	1,920	mg/L	54.2	meq/L
Sulfate.....	967	mg/L	20.1	meq/L
Calcium.....	177	mg/L	8.82	meq/L
Magnesium.....	33.8	mg/L	2.78	meq/L
Potassium.....	21.5	mg/L	0.55	meq/L
Sodium.....	1,423	mg/L	61.9	meq/L
Cations.....			74.0	meq/L
Anions.....			80.2	meq/L
Cation/Anion Difference.....			3.97	%

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 18th ed., 1992.

Comments:

Reported by WM

Reviewed by AB



50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413

505
632-8013

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OCT 13 1996 8 52

November 13, 1996

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

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NOV 21 1996

Environmental Bureau
Oil Conservation Division

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the October, 1996 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery. The gears on the totalizer continue to be unreliable and will be replaced again. The manufacturer is sending additional bushings to help alleviate the vibration wear.

The 3rd Quarter Injection Well analytical data is enclosed.

If you require additional information, please do not hesitate to contact me at (505) 632 8013.

Sincerely:

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

Enclosure

cc: John Stokes
Ron Weaver
Chad King

GIANT REFINING COMPANY - BLOOMFIELD

P.O. BOX 159

BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT

DISCHARGE PLAN GW-130 EXP. DATE 11/4/98

NE1/4 SE1/4 SECTION 27, T29N, R11W

NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 1996	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
						MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	10,943,000	5,296,800	2,784,200	2,349,216	528	961.4	866	886.11	21.5	-0.1	1.15	142.6	69	108.76
FEB	9,951,000	3,975,700	3,908,900	3,357,330	0	946.8	889.4	915.27	195.1	-0.2	106.94	132.5	110.2	116.77
MAR	9,755,000	2,970,900	4,329,400	4,980,917	192	1014	938.0	975.7	215.3	9.5	97.0	156.0	138.8	150.39
APR	10,960,000	3,546,200	4,464,100	5,301,850	8	1166	901.3	954.84	220	74.1	149.06	160.1	102.1	126.96
MAY	11,265,000	3,518,900	*	4,535,554	48	1142	879.1	951.99	219.6	77.5	155.68	148.9	86.3	108.61
JUN	11,250,000	3,471,100	*	5,089,759	52	1083	923.6	951.89	222	65.8	142.73	153.5	0.3	126.99
JUL	13,237,000	Must Recalculate	440,000*	396,806	696	951.9	948.2	949.87	189.6	42.1	99.85	150.7	101.1	137.78
AUG	12,586,400	3,816,200	1,393,200	1,767,211	540	1012	944	983.39	220	86.2	148.07	149	138	144.38
SEP	13,321,000	4,083,400	***	6,464,622	19	1070	976.9	1013.5	179.5	50.1	106.9	159.8	0	153.7
OCT	12,113,000	4,207,200	3,418,100	6,512,472	48	1100	714.3	1048.6	175	56.6	127.81	162.9	0	155.95
NOV														
DEC														

*** Totalizer rebuilt in September. Subsequently stripped gears. Will be purchasing a remote counter. New equipment installed.

CERTIFICATION 

DATE: 11/13/96

TLS 11/96

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NOV 21 1996

Environmental Bureau
Oil Conservation Division

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NOV 21 1996

Client: **Giant Refining Company**
 Project: **Bloomfield**
 Sample ID: **3rd Qtr Inj Well**
 Laboratory ID: **0396W01829**
 Sample Matrix: **Water**
 Condition: **Cool/Intact**

Environmental Bureau
 Oil Conservation Division

Date Reported: **10/01/96**
 Date Sampled: **09/13/96**
 Time Sampled: **11:20 AM**
 Date Received: **09/13/96**

Parameter	Analytical Result	Units		Units
Lab pH.....	7.8	s.u.		
Lab Conductivity @ 25° C.....	6,190	umhos/cm		
Total Dissolved Solids @ 180°C.....	3,910	mg/L		
Total Alkalinity as CaCO ₃	228	mg/L		
Total Hardness as CaCO ₃	510	mg/L		
Bicarbonate as HCO ₃	278	mg/L	4.55	meq/L
Carbonate as CO ₃	<1.00	mg/L	<0.01	meq/L
Hydroxide as OH.....	<1.00	mg/L	<0.01	meq/L
Chloride.....	1,590	mg/L	45.0	meq/L
Sulfate.....	881	mg/L	18.3	meq/L
Calcium.....	151	mg/L	7.53	meq/L
Magnesium.....	31.3	mg/L	2.58	meq/L
Potassium.....	0.78	mg/L	0.51	meq/L
Sodium.....	1,150	mg/L	50.1	meq/L
Cations.....			60.7	meq/L
Anions.....			67.9	meq/L
Cation/Anion Difference.....			5.56	%

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
 "Standard Methods For The Examination Of Water And Waste Water", 18th ed., 1992.

Comments:

Reported by WM

Reviewed by GB

Client: **Giant Refining Company**
Project: **Bloomfield**
Sample ID: **3rd Qtr Inj Well**
Laboratory ID: **0396W01829**
Sample Matrix: **Water**
Condition: **Cool/Intact**

RECEIVED**NOV 21 1996**Environmental Bureau
Oil Conservation Division

Date Reported: **10/01/96**
Date Sampled: **09/13/96**
Time Sampled: **11:20 AM**
Date Received: **09/13/96**

Parameter	Dissolved	
	Analytical	Result
		Units

Trace Metals

Arsenic.....	0.025	mg/L
Barium.....	0.34	mg/L
Cadmium.....	<0.001	mg/L
Chromium.....	<0.01	mg/L
Lead.....	<0.005	mg/L
Mercury.....	<0.001	mg/L
Selenium.....	0.015	mg/L
Silver.....	<0.01	mg/L

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 18th ed., 1992.

Comments:Reported by LMReviewed by JB

Quality Control / Quality Assurance**Trace Metals Spike Analysis****Total Metals**Client: **Giant Refining Company**Project: **Bloomfield**Lab ID: **0396W01829**Matrix: **Water**Condition: **Cool / Intact****RECEIVED****NOV 21 1996**Environmental Bureau
Oil Conservation DivisionDate Reported: **10/01/96**Date Sampled: **09/13/96**Date Received: **09/13/96****Spike Analysis**

Parameter	Spiked Sample Result	Sample Result	Spike Added	Percent Recovery
Arsenic	0.028	<0.005	0.030	93%
Barium	0.48	0.03	0.50	96%
Cadmium	0.002	<0.001	0.003	92%
Chromium	0.46	<0.01	0.50	92%
Lead	0.030	0.008	0.025	90%
Mercury	0.005	<0.001	0.005	100%
Selenium	NA	NA	NA	NA
Silver	0.45	<0.01	0.50	90%

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983
"Standard Methods For The Examination Of Water And Waste Water", 18th ed., 1992.

Comments: Quality control run concurrently with the above sample lab numbers.
NA = Not Applicable, sample too high in Se for adequate spike recovery.

Reported by: WMReviewed by: JB

Quality Control / Quality Assurance**Trace Metals Spike Analysis****Total Metals****Client:** Giant Refining Company**Project:** Bloomfield**Lab ID:** 0396W01829**Matrix:** Water**Condition:** Cool / Intact

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NOV 21 1996

Date Reported: 10/01/96**Date Sampled:** 09/13/96**Date Received:** 09/13/96Environmental Bureau
Oil Conservation Division**Known Analysis**

Parameter	Found Result	Known Result	Units	Percent Recovery
Arsenic	0.009	0.010	mg/L	90%
Barium	1.09	1.00	mg/L	109%
Cadmium	0.004	0.004	mg/L	100%
Chromium	1.05	1.00	mg/L	105%
Lead	0.039	0.040	mg/L	98%
Mercury	0.004	0.004	mg/L	100%
Selenium	0.010	0.010	mg/L	100%
Silver	0.49	0.50	mg/L	98%

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983
"Standard Methods For The Examination Of Water And Waste Water", 18th ed., 1992.**Comments:** Quality control run concurrently with the above sample lab numbers.Reported by: WmReviewed by: JB

Quality Control / Quality Assurance**Trace Metals Blank Analysis****Total Metals****Client:** Giant Refining Company**Project:** Bloomfield**Lab ID:** 0396W01829**Matrix:** Water**Condition:** Cool / Intact

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Date Reported: 10/01/96**Date Sampled:** 09/13/96**Date Received:** 09/13/96Environmental Bureau
Oil Conservation Division**Blank Analysis**

Parameter	Found	Detection
	Result	Limit mg/L
Arsenic	ND	0.005
Barium	ND	0.01
Cadmium	ND	0.001
Chromium	ND	0.01
Lead	ND	0.005
Mercury	ND	0.001
Selenium	ND	0.005
Silver	ND	0.01

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983
"Standard Methods For The Examination Of Water And Waste Water", 18th ed., 1992.**Comments:** Quality control run concurrently with the above sample lab numbers.
ND = None Detected.Reported by: WMReviewed by: JB

CASE NARRATIVE

Client: GIANT REFINING COMPANY
Project: Bloomfield, NM Received on: 09/17/96
Set ID: 0596H08314 # samples: 1

Suites: 8240 Standard

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Environmental Bureau
Oil Conservation Division

Samples were received for analysis at Inter-Mountain Laboratories (IML), Bozeman, Montana. Enclosed are the results of these analyses.

Limits of detection for each instrument/analysis are determined by sample matrix effects, instrument performance under standard conditions, and dilution requirements to maintain chromatography output within calibration ranges. Quantitations have been calculated on an as received basis.



Charles Ballek
IML-Bozeman

EPA METHOD 8240
VOLATILE ORGANIC COMPOUNDS

Client: GIANT REFINING COMPANY
Sample ID: 3rd Quarter Injection Well
Project ID: Bloomfield, NM
Lab ID: B968314 0396G01829
Matrix: Water

Date Reported: 10/14/96
Date Sampled: 09/13/96
Date Received: 09/17/96
Date Extracted: NA
Date Analyzed: 09/25/96

Parameter	Result	PQL	Units
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Continued

trans-1,2-Dichloroethene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L
Vinyl Chloride	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

QUALITY CONTROL - Surrogate Recovery	%	QC Limits
1,2-Dichloroethane-d4	96	76 - 114
Bromofluorobenzene	112	86 - 115
Toluene-d8	104	88 - 110

ND - Not Detected at Practical Quantitation Level (PQL)

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Oil Conservation Division

Reference: Method 8260, Gas Chromatography/Mass Spectrometry for Volatile Organics, Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, Rev. 1, November 1992.

Analyst P.O.Reviewed CEB

EPA METHOD 8240
VOLATILE ORGANIC COMPOUNDS

Client: GIANT REFINING COMPANY

Sample ID: 3rd Quarter Injection Well

Project ID: Bloomfield, NM

Lab ID: B968314

Matrix: Water

0396G01829

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Environmental Bureau
Oil Conservation Division

Date Reported: 10/14/96

Date Sampled: 09/13/96

Date Received: 09/17/96

Date Extracted: NA

Date Analyzed: 09/25/96

Parameter	Result	PQL	Units
1,1,1-Trichloroethane	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
2-Butanone (MEK)	ND	20	ug/L
2-Hexanone	ND	5.0	ug/L
4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L
Acetone	ND	20	ug/L
Benzene	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Carbon Disulfide	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
m,p-Xylene	ND	5.0	ug/L
Methylene chloride	ND	20	ug/L
o-Xylene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L

EPA METHOD 8240
VOLATILE ORGANIC COMPOUNDS

Client: GIANT REFINING COMPANY

Sample ID: Trip Blank

Project ID: Bloomfield, NM

Lab ID: B968315

0396G01829

Matrix: Water

Date Reported: 10/14/96

Date Sampled: 09/13/96

Date Received: 09/17/96

Date Extracted: NA

Date Analyzed: 09/26/96

Parameter	Result	PQL	Units
1,1,1-Trichloroethane	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
2-Butanone (MEK)	ND	20	ug/L
2-Hexanone	ND	5.0	ug/L
4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L
Acetone	ND	20	ug/L
Benzene	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Carbon Disulfide	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
m,p-Xylene	ND	5.0	ug/L
Methylene chloride	ND	20	ug/L
o-Xylene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L

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Oil Conservation Division



Inter-Mountain
Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Client/Project Name		Project Location		Chain of Custody Tape No.		ANALYSES / PARAMETERS													
Sampler: (Signature)		Date		Time		Lab Number		Matrix		No. of Containers		VOLATILES BTEX		TOTAL METALS		INORGANIC CHEMISTRY		Remarks	
Giant Reef - BLM (LD)		9/13/96		11:20				H ₂ O		4		X		X		X		SEE ATTACHED LIST	
Sample No./ Identification		Date		Time		Lab Number		Matrix		No. of Containers		VOLATILES BTEX		TOTAL METALS		INORGANIC CHEMISTRY		Remarks	
3rd RE JUST WELL		9/13/96		11:20				H ₂ O		4		X		X		X			
NOUR-E		8/30/96		1500				H ₂ O		2									
TREL BLANK																			
#1801EE		9/13/96		800						1		TCLP		collected from skeleton - only needs TCLP metals					
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time		Received by laboratory: (Signature)		Date		Time			
Mam Stoffe		9/13/96		11:30		Anna Schreiner												9/13/96 1340	
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time		Received by laboratory: (Signature)		Date		Time			
Relinquished by: (Signature)		Date		Time		Received by: (Signature)		Date		Time		Received by laboratory: (Signature)		Date		Time			

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Environmental Bureau
Oil Conservation Division

Inter-Mountain Laboratories, Inc.

1633 Terra Avenue
Sheridan, Wyoming 82801
Telephone (307) 672-8945

1701 Phillips Circle
Gillette, Wyoming 82718
Telephone (307) 682-8945

2506 West Main Street
Farmingington, NM 87401
Telephone (505) 326-4737

1160 Research Dr.
Bozeman, Montana 59715
Telephone (406) 586-8450

11183 SH 30
College Station, TX 77845
Telephone (409) 776-8945

3304 Longmire Drive
College Station, TX 77845
Telephone (409) 774-4999

38850

LAB QA/QC
EPA METHOD 8240
MATRIX SPIKEDate Analyzed: 09/26/96
Lab ID: 0596H08218 SK1
Matrix: Water

Parameter	Spike Added (ug/L)	Sample Result (ug/L)	Spike Result (ug/L)	MS Recovery %	QC Limits Rec.
1,1-Dichloroethene	20	0	27	135	75 -145
Benzene	20	0	24	120	71 -120
Chlorobenzene	20	0	25	125	76 -127
Toluene	20	0	16	80	71 -127
Trichloroethene (TCE)	20	0	23	115	75 -130

QUALITY CONTROL - Surrogate Recovery	%	QC Limits
1,2-Dichloroethane-d4	84	76 -114
Bromofluorobenzene	101	86 -115
Toluene-d8	70 #	88 -110

Note: Spike Recoveries are calculated using zero for Sample result
if Sample result was less than PQL (Practical Quantitation Level).

Spike Recovery: 0 out of 5 outside QC limits.

- Surrogate Recovery not within control limits.

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Environmental Bureau
Oil Conservation DivisionAnalyst E.D.Reviewed CEB

LAB QA/QC
EPA METHOD 8240
LAB CONTROL SAMPLE

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Environmental Bureau
Oil Conservation DivisionDate Analyzed: 09/25/96
Lab ID: LCW96269A
Matrix: Water

Parameter	Spike Added (mg/L)	Sample Result (mg/L)	LCS Result (mg/L)	LCS Recovery %	QC Limits Rec.
1,1,2-Trichloroethane	0.02	0	0.016	80	80 -120
1,2-Dibromoethane (EDB)	0.02	0	0.016	80	80 -120
1,2-Dichloroethane	0.02	0	0.022	110	80 -120
1,2-Dichloropropane	0.02	0	0.017	85	80 -120
1,4-Dichlorobenzene	0.02	0	0.022	110	80 -120
Benzene	0.02	0	0.022	110	80 -120
Bromoform	0.02	0	0.022	110	80 -120
Carbon Tetrachloride	0.02	0	0.023	115	80 -120
cis-1,3-Dichloropropene	0.02	0	0.016	80	80 -120
Tetrachloroethene (PCE)	0.02	0	0.016	80	80 -120
Trichloroethene (TCE)	0.02	0	0.023	115	80 -120
Vinyl Chloride	0.02	0	0.022	110	80 -120

QUALITY CONTROL - Surrogate Recovery

%

QC Limits

1,2-Dichloroethane-d4	98	76 -114
Bromofluorobenzene	110	86 -115
Toluene-d8	77 #	88 -110

Spike Recovery: 0 out of 12 outside QC limits.
Surrogates: Surrogate Recovery affected by Matrix Effect.Analyst E. D.Reviewed CEB

LAB QA/QC
EPA METHOD 8240
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Date Analyzed: 09/26/96
Lab ID: IBW96270B
Matrix:Environmental Bureau
Oil Conservation Division

Parameter	Result	PQL	Units
Continued			
Xylenes (total)	ND	5.0	ug/L
2-Hexanone	ND	5.0	ug/L
4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L
Acetone	ND	20	ug/L

QUALITY CONTROL - Surrogate Recovery	%	QC Limits
Bromofluorobenzene	115	86 - 115
1,2-Dichloroethane-d4	90	76 - 114
Toluene-d8	77 #	88 - 110

- Surrogate Recovery not within control limits.

Analyst E. D.Reviewed CAB

LAB QA/QC
EPA METHOD 8240
INSTRUMENT BLANK

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NOV 21 1996

Date Analyzed: 09/26/96
Lab ID: IBW96270B
Matrix:Environmental Bureau
Oil Conservation Division

Parameter	Result	PQL	Units
1,4-Dichlorobenzene	ND	5.0	ug/L
1,1,1-Trichloroethane	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,2-Dibromoethane (EDB)	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
Benzene	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	mg/L
Chlorobenzene	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
m,p-Xylene	ND	5.0	ug/L
Methylene chloride	ND	20	ug/L
o-Xylene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
trans-1,2-Dichloroethene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L
Vinyl Chloride	ND	5.0	ug/L
2-Butanone (MEK)	ND	20	ug/L
Carbon Disulfide	ND	5.0	ug/L

Continued

LAB QA/QC
EPA METHOD 8240
METHOD BLANK

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NOV 21 1996

Date Analyzed: 09/25/96
Lab ID: MBW96269Z
Matrix: WaterEnvironmental Bureau
Oil Conservation Division

Parameter	Result	PQL	Units
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Continued

Vinyl Chloride	ND	5.0	ug/L
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QUALITY CONTROL - Surrogate Recovery	%	QC Limits
1,2-Dichloroethane-d4	93	76 - 114
Bromofluorobenzene	114	86 - 115
Toluene-d8	105	88 - 110

ND - Not Detected at Practical Quantitation Level (PQL)

Analyst E.O.Reviewed CS

LAB QA/QC
EPA METHOD 8240
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NOV 21 1996

Date Analyzed: 09/25/96
Lab ID: MBW96269Z
Matrix: WaterEnvironmental Bureau
Oil Conservation Division

Parameter	Result	PQL	Units
1,1,1-Trichloroethane	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
2-Butanone (MEK)	ND	20	ug/L
2-Hexanone	ND	5.0	ug/L
4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L
Acetone	ND	20	ug/L
Benzene	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Carbon Disulfide	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
m,p-Xylene	ND	5.0	ug/L
Methylene chloride	ND	20	ug/L
o-Xylene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
trans-1,2-Dichloroethene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L

Continued

EPA METHOD 8240
VOLATILE ORGANIC COMPOUNDS

Client: GIANT REFINING COMPANY

Sample ID: Trip Blank

Project ID: Bloomfield, NM

Lab ID: B968315

0396G01829

Matrix: Water

Date Reported: 10/14/96

Date Sampled: 09/13/96

Date Received: 09/17/96

Date Extracted: NA

Date Analyzed: 09/26/96

Parameter	Result	PQL	Units
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Continued

trans-1,2-Dichloroethene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L
Vinyl Chloride	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

QUALITY CONTROL - Surrogate Recovery

%

QC Limits

1,2-Dichloroethane-d4	85	76 - 114
Bromofluorobenzene	167 #	86 - 115
Toluene-d8	114 #	88 - 110

ND - Not Detected at Practical Quantitation Level (PQL)

- Surrogate Recovery not within control limits.

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Oil Conservation Division

Reference: Method 8260, Gas Chromatography/Mass Spectrometry for Volatile Organics, Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, Rev. 1, November 1992.

Analyst E.O.Reviewed CEB



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OCT 16 1996

50 Road 4990

P.O. Box 159
Bloomfield, New Mexico 87413

505
632-8013

October 9, 1996

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OCT 16 1996

Environmental Bureau
Oil Conservation Division

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the September, 1996 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery. The high pressure shut off was tested, with OCD personnel in attendance, successfully. The gears on the totalizer continue to be unreliable and will be replaced with a remote counter assembly.

If you require additional information, please do not hesitate to contact me at (505) 632 8013.

Sincerely:

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

Enclosure

cc: John Stokes
Ron Weaver
Chad King

GIANT REFINING COMPANY - BLOOMFIELD

P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT

DISCHARGE PLAN GW-130 EXP. DATE 11/4/98

NE1/4 SE1/4 SECTION 27, T29N, R11W

NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 1996	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
						MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	10,943,000	5,296,800	2,784,200	2,349,216	528	961.4	866	886.11	21.5	-0.1	1.15	142.6	69	108.76
FEB	9,951,000	3,975,700	3,908,900	3,357,330	0	946.8	889.4	915.27	195.1	-0.2	106.94	132.5	110.2	116.77
MAR	9,755,000	2,970,900	4,329,400	4,980,917	192	1014	938.0	975.7	215.3	9.5	97.0	156.0	138.8	150.39
APR	10,960,000	3,546,200	4,464,100	5,301,850	8	1166	901.3	954.84	220	74.1	149.06	160.1	102.1	126.96
MAY	11,265,000	3,518,900	*	4,535,554	48	1142	879.1	951.99	219.6	77.5	155.68	148.9	86.3	108.61
JUN	11,250,000	3,471,100	*	5,089,759	52	1083	923.6	951.89	222	65.8	142.73	153.5	0.3	126.99
JUL	13,237,000	Must Recalculate	440,000*	396,806	696	951.9	948.2	949.87	189.6	42.1	99.85	150.7	101.1	137.78
AUG	12,586,400	3,816,200	1,393,200	1,767,211	540	1012	944	983.39	220	86.2	148.07	149	138	144.38
SEP	13,321,000	4,083,400	***	6,464,622	19	1070	976.9	1013.5	179.5	50.1	106.9	159.8	0	153.7
OCT														
NOV														
DEC														

*** Totalizer rebuilt in September. Subsequently stripped gears. Will be purchasing a remote counter.

CERTIFICATION: *[Signature]*

DATE: 10/9/96

TLS 10/96

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OCT 16 1996
Environmental Bureau
Oil Conservation Division



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

September 11, 1996

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the August, 1996 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery. The injection well was put into service on August 23, 1996 following an inspection by OCD Aztec personnel. An additional test of the newly installed high pressure limit switch will be performed on or before September 23, 1996.

If you require additional information, please do not hesitate to 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

cc: John Stokes
Ron Weaver
Chad King

GIANT REFINING COMPANY - BLOOMFIELD

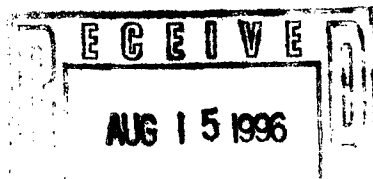
P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE 1/4 SE 1/4 SECTION 27, T29N, R11W
NMMP, SAN JUAN COUNTY, NEW MEXICO

PERIOD 1996	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
						MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	10,943,000	5,296,800	2,784,200	2,349,216	528	961.4	866	886.11	21.5	-0.1	1.15	142.6	69	108.76
FEB	9,951,000	3,975,700	3,908,900	3,357,330	0	946.8	889.4	915.27	195.1	-0.2	106.94	132.5	110.2	116.77
MAR	9,755,000	2,970,900	4,329,400	4,980,917	192	1014	938.0	975.7	215.3	9.5	97.0	156.0	138.8	150.39
APR	10,960,000	3,546,200	4,464,100	5,301,850	8	1166	901.3	954.84	220	74.1	149.06	160.1	102.1	126.96
MAY	11,265,000	3,518,900	*	4,535,554	48	1142	879.1	951.99	219.6	77.5	155.68	148.9	86.3	108.61
JUN	11,250,000	3,471,100	*	5,089,759	52	1083	923.6	951.89	222	65.8	142.73	153.5	0.3	126.99
JUL	13,237,000	Must Recalculate	440,000*	396,806	696	951.9	948.2	949.87	189.6	42.1	99.85	150.7	101.1	137.78
AUG	12,586,400	3,816,200	1,393,200	1,767,211	540	1012	944	983.39	220	86.2	148.07	149	138	144.38
SEP														
OCT														
NOV														
DEC														

CERTIFICATION: 

DATE: 9/11/96



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

August 12, 1996

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the July, 1996 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery. The injection well has been shut in since July 2, 1996. Improvements should be finished by August 16, 1996. Giant will request permission to restart the injection pump on or shortly after that date.

Please find attached a copy of the analytical data from the second quarter Injection Well Sampling.

If you require additional information, please do not hesitate to contact me at (505) 632 8013.

Sincerely:

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

GW-130

1995-1996

TLS/tls

Enclosure

cc: John Stokes
Ron Weaver
Chad King

GIANT REFINING COMPANY - BLOOMFIELD

P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE 1/4 SE 1/4 SECTION 27, T29N, R11W
NMJM, SAN JUAN COUNTY, NEW MEXICO

PERIOD	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE (PSIA)			ANNULAR PRESSURE (PSIA)			ON-LINE FLOW RATES (GPM)		
1996						MAX	MIN	AVG	MAX	MIN	AVG	MAX	MIN	AVG
JAN	10,943,000	5,296,800	2,784,200	2,349,216	528	961.4	866	886.11	21.5	-0.1	1.15	142.6	69	108.76
FEB	9,951,000	3,975,700	3,908,900	3,357,330	0	946.8	889.4	915.27	195.1	-0.2	106.94	132.5	110.2	116.77
MAR	9,755,000	2,970,900	4,329,400	4,980,917	192	1014	938.0	975.7	215.3	9.5	97.0	156.0	138.8	150.39
APR	10,960,000	3,546,200	4,464,100	5,301,850	8	1166	901.3	954.84	220	74.1	149.06	160.1	102.1	126.96
MAY	11,265,000	3,518,900	*	4,535,554	48	1142	879.1	951.99	219.6	77.5	155.68	148.9	86.3	108.61
JUN	11,250,000	3,471,100	*	5,089,759	52	1083	923.6	951.89	222	65.8	142.73	153.5	0.3	126.99
JUL	13,237,000	Must Recalculate	440,000*	396,806	696	951.9	948.2	949.87	189.6	42.1	99.85	150.7	101.1	137.78
AUG														
SEP														
OCT														
NOV														
DEC														

CERTIFICATION:

[Signature]

DATE:

8/12/98

July 19, 1996

Mr. Lynn Shelton
Giant Refinery / Bloomfield
P. O. Box 159
Bloomfield, NM 87413

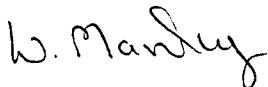
Dear Mr. Shelton:

Enclosed are the analytical results for the water samples submitted to Inter-Mountain Laboratories - Farmington, New Mexico, on June 26, 1996. The samples were analyzed for Quarterly Injection Well parameters, as specified on the attachment to the accompanying Chain of Custody document. Please note, we did miss the holding time for the alkalinity and its calculations, bicarbonate, carbonate, and hydroxide. You have not been charged for this analysis.

Tests were performed in accordance with 40 CFR 136, "Guidelines Establishing Test Procedures for Analysis, " as amended.

Please call me if you have any questions or comments concerning the analyses.

Sincerely,



Wanda Manley
Water Lab Supervisor
IML - Farmington

Enclosure: Analytical Report

Client: **Giant Refining Company / Bloomfield**
Project: **None Given**
Sample ID: **QTR INJ Well**
Laboratory ID: **0396W01190**
Sample Matrix: **Water**
Condition: **Cool/Intact**

Date Reported: **07/19/96**
Date Sampled: **06/26/96**
Time Sampled: **11:00 AM**
Date Received: **06/26/96**

Parameter	Analytical Result	Units		Units
Lab pH.....	7.4	S.U.		
Lab Conductivity @ 25° C.....	8560	umhos/cm		
Total Dissolved Solids @ 180°C.....	5,260	mg/L		
Total Dissolved Solids (Calc).....	5,045	mg/L		
Total Alkalinity as CaCO ₃	209	mg/L		
Total Hardness as CaCO ₃	751	mg/L		
Bicarbonate as HCO ₃	255	mg/L	4.18	meq/L
Carbonate as CO ₃	<1.00	mg/L	<1.00	meq/L
Hydroxide.....	<1.00	mg/L	<1.00	meq/L
Chloride.....	2,180	mg/L	61.5	meq/L
Sulfate.....	1,020	mg/L	21.2	meq/L
Calcium.....	223	mg/L	11.1	meq/L
Magnesium.....	47.4	mg/L	3.90	meq/L
Potassium.....	28.5	mg/L	0.73	meq/L
Sodium.....	1,430	mg/L	62.0	meq/L
Cations.....			77.7	meq/L
Anions.....			86.8	meq/L
Cation/Anion Difference.....			5.54	%

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 18th ed., 1992.

Comments: Sample slightly out of balance, possibly due to organic content.
Alkalinity analyzed out of holding time.

Reported by WM

Reviewed by JB

Client: **Giant Refining Company / Bloomfield**
Project: **None Given**
Sample ID: **QTR INJ Well**
Laboratory ID: **0396W01190**
Sample Matrix: **Water**
Condition: **Cool/Intact**

Date Reported: **07/19/96**
Date Sampled: **06/26/96**
Time Sampled: **11:00 AM**
Date Received: **06/26/96**

Parameter	Total Analytical Result	Units
Arsenic.....	0.030	mg/L
Barium.....	0.24	mg/L
Cadmium.....	<0.001	mg/L
Chromium.....	<0.01	mg/L
Lead.....	<0.005	mg/L
Mercury.....	<0.001	mg/L
Selenium.....	0.016	mg/L
Silver.....	<0.01	mg/L

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 18th ed., 1992.

Comments:

Reported by WM

Reviewed by JB

Quality Control / Quality Assurance**Known Analysis****Total Metals**

Client: Giant Refinery / Bloomfield
Project: None Given
Lab ID: 0396W01190
Matrix: Water
Condition: Cool / Intact

Date Reported: 07/19/96
Date Sampled: 06/26/96
Date Received: 06/26/96

Known Analysis

Parameter	Found Result	Known Result	Units	Percent Recovery
Arsenic	0.010	0.010	mg/L	100%
Barium	1.00	1.00	mg/L	100%
Cadmium	0.004	0.004	mg/L	100%
Chromium	1.00	1.00	mg/L	100%
Lead	0.037	0.040	mg/L	93%
Mercury	0.004	0.004	mg/L	93%
Selenium	0.010	0.010	mg/L	100%
Silver	0.97	1.00	mg/L	97%

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 18th ed., 1992.

Comments: Quality control run concurrently with the above sample lab numbers.

Reported by: LM

Reviewed by: AB

Quality Control / Quality Assurance**Spike Analysis****Total Metals**

Client: Giant Refinery / Bloomfield
Project: None Given
Lab ID: 0396W01190
Matrix: Water
Condition: Cool / Intact

Date Reported: 07/19/96
Date Sampled: 06/26/96
Date Received: 06/26/96

Spike Analysis

Parameter	Spiked Sample Result	Sample Result	Spike Added	Percent Recovery
Arsenic	0.030	<0.005	0.030	97%
Barium	0.44	0.02	1.00	88%
Cadmium	0.003	<0.001	0.003	101%
Chromium	0.43	<0.01	1.00	86%
Lead	0.026	<0.005	0.025	103%
Mercury	0.005	0.001	0.005	114%
Selenium	0.026	<0.005	0.025	104%
Silver	0.43	<0.01	1.00	86%

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 18th ed., 1992.
Comments: Quality control run concurrently with the above sample lab numbers.

Reported by: WMReviewed by: SP

CASE NARRATIVE

Client: GIANT REFINING COMPANY
Project: None Given Received on: 06/28/96
Set ID: 0596H05171 # samples: 1

Suites: 8240 Standard

The sample was received for analysis at Inter-Mountain Laboratories (IML), Bozeman, Montana. Enclosed are the results of these analyses.

Limits of detection for each instrument/analysis are determined by sample matrix effects, instrument performance under standard conditions, and dilution requirements to maintain chromatography output within calibration ranges. Quantitations have been calculated on an as received basis.



Wynn Sudtelgte
IML-Bozeman

EPA METHOD 8240
VOLATILE ORGANIC COMPOUNDSClient: **GIANT REFINING COMPANY**

Sample ID: QTR INJ Well - Bloomfield

Project ID: None Given

Lab ID: B965171 0396W01190

Matrix: Water

Date Reported: 07/25/96

Date Sampled: 06/26/96

Date Received: 06/28/96

Date Extracted: NA

Date Analyzed: 07/11/96

Parameter	Result	PQL	Units
1,1,1-Trichloroethane	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
2-Butanone (MEK)	ND	20	ug/L
2-Hexanone	ND	5.0	ug/L
4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L
Acetone	92	20	ug/L
Benzene	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Carbon Disulfide	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
m,p-Xylene	ND	5.0	ug/L
Methylene chloride	ND	20	ug/L
o-Xylene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L

EPA METHOD 8240
VOLATILE ORGANIC COMPOUNDS

Client: GIANT REFINING COMPANY

Sample ID: QTR INJ Well - Bloomfield

Project ID: None Given

Lab ID: B965171 0396W01190

Matrix: Water

Date Reported: 07/25/96

Date Sampled: 06/26/96

Date Received: 06/28/96

Date Extracted: NA

Date Analyzed: 07/11/96

Parameter	Result	PQL	Units
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Continued

trans-1,2-Dichloroethene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L
Vinyl Chloride	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

QUALITY CONTROL - Surrogate Recovery

%

QC Limits

1,2-Dichloroethane-d4	107	76 - 114
Bromofluorobenzene	94	86 - 115
Toluene-d8	93	88 - 110

ND - Not Detected at Practical Quantitation Level (PQL)

Reference: Method 8260, Gas Chromatography/Mass Spectrometry for Volatile Organics, Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, Rev. 1, November 1992.

Analyst DM / USReviewed US

EPA METHOD 8240
VOLATILE ORGANIC COMPOUNDS

Client: GIANT REFINING COMPANY

Sample ID: Trip Blank

Project ID: None Given

Lab ID: B965172

0396W01190

Matrix: Water

Date Reported: 07/25/96

Date Sampled: 06/26/96

Date Received: 06/28/96

Date Extracted: NA

Date Analyzed: 07/09/96

Parameter	Result	PQL	Units
1,1,1-Trichloroethane	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
2-Butanone (MEK)	ND	20	ug/L
2-Hexanone	ND	5.0	ug/L
4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L
Acetone	ND	20	ug/L
Benzene	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Carbon Disulfide	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
m,p-Xylene	ND	5.0	ug/L
Methylene chloride	ND	20	ug/L
o-Xylene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L

EPA METHOD 8240
VOLATILE ORGANIC COMPOUNDS

Client: GIANT REFINING COMPANY

Sample ID: Trip Blank

Project ID: None Given

Lab ID: B965172

0396W01190

Matrix: Water

Date Reported: 07/25/96

Date Sampled: 06/26/96

Date Received: 06/28/96

Date Extracted: NA

Date Analyzed: 07/09/96

Parameter	Result	PQL	Units
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Continued

trans-1,2-Dichloroethene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L
Vinyl Chloride	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

QUALITY CONTROL - Surrogate Recovery

%

QC Limits

1,2-Dichloroethane-d4	94	76 - 114
Bromofluorobenzene	86	86 - 115
Toluene-d8	99	88 - 110

ND - Not Detected at Practical Quantitation Level (PQL)

Reference: Method 8260, Gas Chromatography/Mass Spectrometry for Volatile Organics, Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, Rev. 1, November 1992.

Analyst

sm / us

Reviewed

us

QUALITY ASSURANCE / QUALITY CONTROL

**LAB QA/QC
EPA METHOD 8240
METHOD BLANK**

Date Analyzed: 07/10/96
Lab ID: MBW0Q191C
Matrix: Water

Parameter	Result	PQL	Units
1,1,1-Trichloroethane	ND	5.0	ug/L
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L
1,1,2-Trichloroethane	ND	5.0	ug/L
1,1-Dichloroethane	ND	5.0	ug/L
1,1-Dichloroethene	ND	5.0	ug/L
1,2-Dichloroethane	ND	5.0	ug/L
1,2-Dichloropropane	ND	5.0	ug/L
2-Butanone (MEK)	ND	20	ug/L
2-Hexanone	ND	5.0	ug/L
4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L
Acetone	ND	20	ug/L
Benzene	ND	5.0	ug/L
Bromodichloromethane	ND	5.0	ug/L
Bromoform	ND	5.0	ug/L
Bromomethane	ND	5.0	ug/L
Carbon Disulfide	ND	5.0	ug/L
Carbon Tetrachloride	ND	5.0	ug/L
Chlorobenzene	ND	5.0	ug/L
Chloroethane	ND	5.0	ug/L
Chloroform	ND	5.0	ug/L
Chloromethane	ND	5.0	ug/L
cis-1,3-Dichloropropene	ND	5.0	ug/L
Dibromochloromethane	ND	5.0	ug/L
Ethylbenzene	ND	5.0	ug/L
m,p-Xylene	ND	5.0	ug/L
Methylene chloride	ND	20	ug/L
o-Xylene	ND	5.0	ug/L
Styrene	ND	5.0	ug/L
Tetrachloroethene (PCE)	ND	5.0	ug/L
Toluene	ND	5.0	ug/L
trans-1,2-Dichloroethene	ND	5.0	ug/L
trans-1,3-Dichloropropene	ND	5.0	ug/L
Trichloroethene (TCE)	ND	5.0	ug/L

Continued

LAB QA/QC
EPA METHOD 8240
METHOD BLANKDate Analyzed: 07/10/96
Lab ID: MBW0Q191C
Matrix: Water

Parameter	Result	PQL	Units
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Continued

Vinyl Chloride	ND	5.0	ug/L
Xylenes (total)	ND	5.0	ug/L

QUALITY CONTROL - Surrogate Recovery	%	QC Limits
1,2-Dichloroethane-d4	108	76 - 114
Bromofluorobenzene	95	86 - 115
Toluene-d8	96	88 - 110

ND - Not Detected at Practical Quantitation Level (PQL)

Analyst

sm / us

Reviewed

us

LAB QA/QC
EPA METHOD 8240
LAB CONTROL SAMPLEDate Analyzed: 07/10/96
Lab ID: LCW00191C
Matrix: Water

Parameter	Spike Added (mg/L)	Sample Result (mg/L)	LCS Result (mg/L)	LCS % Recovery	QC Limits Rec.
1,1,2-Trichloroethane	0.02	0	0.023	115	80 -120
1,2-Dibromoethane (EDB)	0.02	0	0.024	120	80 -120
1,2-Dichloroethane	0.02	0	0.021	105	80 -120
1,2-Dichloropropane	0.02	0	0.021	105	80 -120
1,4-Dichlorobenzene	0.02	0	0.015	75 *	80 -120
Benzene	0.02	0	0.019	95	80 -120
Bromoform	0.02	0	0.022	110	80 -120
Carbon Tetrachloride	0.02	0	0.021	105	80 -120
cis-1,3-Dichloropropene	0.02	0	0.022	110	80 -120
Tetrachloroethene (PCE)	0.02	0	0.021	105	80 -120
Trichloroethene (TCE)	0.02	0	0.019	95	80 -120
Vinyl Chloride	0.02	0	0.018	90	80 -120

QUALITY CONTROL - Surrogate Recovery

	%	QC Limits
1,2-Dichloroethane-d4	103	76 -114
Bromofluorobenzene	92	86 -115
Toluene-d8	90	88 -110

Spike Recovery: 1 out of 12 outside QC limits.

Surrogates: Surrogate Recoveries within QC Limits.

Analyst Dm / usReviewed us

Quality Control / Quality Assurance**Known Analysis****BTEX**Client: **Giant Refining Co.**
Project: **Bloomfield**Date Reported: 07/03/96
Date Analyzed: 07/01/96**Known Analysis**

Parameter	Found Concentration (ppb)	Known Concentration (ppb)	Percent Recovery	Acceptance Limits
Benzene	5.9	6.0	98%	70-130%
Toluene	7.0	6.0	116%	70-130%
Ethylbenzene	6.9	6.0	114%	70-130%
m+p-Xylene	14.6	12.0	122%	70-130%
o-Xylene	7.1	6.0	118%	70-130%

Quality Control:	<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>
	Bromofluorobenzene	85.4%	75-125%

Reference: Method 5030, Purge and Trap: Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Reported by dtReviewed by JB

4/9/96

OCD Injection Well WDI1 (GW031)

pH	150.1	NA
Calcium	200.7	NA
Potassium	200.7	NA
Magnesium	200.7	NA
Sodium	200.7	NA
Bicarbonate	310.1	NA
Carbonate	310.1	NA
Chloride	325.1	NA
Sulfate	375.1	NA
TDS	160.2	NA
Specific Conductance	120.1	NA

Heavy Metals

Arsenic	7060/7040	NA
Barium	6010 EPA	NA
Cadmium	6010 EPA	NA
Chromium	6010 EPA	NA
Lead	6010 EPA	NA
Mercury	7060/7040	NA
Selenium	6010 EPA	NA
Silver	6010 EPA	NA

Aromatic & Halogenated Volatile Hydrocarbons	8240	NA
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Suite Price: \$260.00

If metals are total, add \$10 digestion fee per sample.



CHAIN OF CUSTODY RECORD

[illegible]

OIL CONSERVATION DIVISION
RECEIVED

1996 JUL 17 AM 8 52



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

July 12, 1996

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

RECEIVED

JUL 18 1996

Environmental Bureau
Oil Conservation Division

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the June, 1996 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery. The totalizer meter is being rebuilt in order to provide reliable flow volume data. The volume figure from the totalizer should be included with next months report.

If you require additional information, please do not hesitate to contact me at (505) 632 8013.

Sincerely,

A handwritten signature in black ink, appearing to read "Lynn Shelton", written in a cursive style.

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

Enclosure

cc: John Stokes
Ron Weaver
Chad King

RECEIVED

JUL 18 1996

Environmental Bureau
Oil Conservation Division

GIANT REFINING COMPANY - BLOOMFIELD

P.O. BOX 159

BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT

DISCHARGE PLAN GW-130 EXP. DATE 11/4/98

NE1/4 SE1/4 SECTION 27, T29N, R11W

NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 1996	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
						MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	10,943,000	5,296,800	2,784,200	2,349,216	528	961.4	866	886.11	21.5	-0.1	1.15	142.6	69	108.76
FEB	9,951,000	3,975,700	3,908,900	3,357,330	0	946.8	889.4	915.27	195.1	-0.2	106.94	132.5	110.2	116.77
MAR	9,755,000	2,970,900	4,329,400	4,980,917	192	1014	938.0	975.7	215.3	9.5	97.0	156.0	138.8	150.39
APR	10,960,000	3,546,200	4,464,100	5,301,850	8	1166	901.3	954.84	220	74.1	149.06	160.1	102.1	126.96
MAY	11,265,000	3,518,900	*	4,535,554	48	1142	879.1	951.99	219.6	77.5	155.68	148.9	86.3	108.61
JUN	11,250,000	3,471,100	*	5,089,759	52	1083	923.6	951.89	222	65.8	142.73	153.5	0.3	126.99
JUL														
AUG														
SEP														
OCT														
NOV														
DEC														

CERTIFICATION: *[Signature]*

DATE: 7/12/96

U. S. CONSERVATION DIVISION
RECEIVED

1996 JUN 24 PM 8 52



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

June 20, 1996

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the May, 1996 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery. The injection well has operated very well since the sand fracture during the month of March. A permit modification has been applied for to raise the allowable surface injection pressure.

If you require additional information, please do not hesitate to 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

cc: John Stokes
Ron Weaver
Chad King

GIANT REFINING COMPANY - BLOOMFIELD

P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT

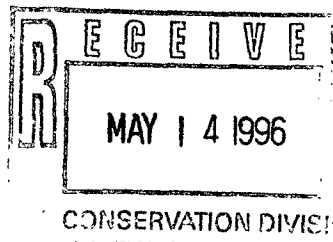
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE1/4 SE1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 1996	AMOUNT OF WATER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
						MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	10,943,000	5,296,800	2,784,200	2,349,216	528	961.4	866	886.11	21.5	-0.1	1.15	142.6	69	108.76
FEB	9,951,000	3,975,700	3,908,900	3,357,330	0	946.8	889.4	915.27	195.1	-0.2	106.94	132.5	110.2	116.77
MAR	9,755,000	2,970,900	4,329,400	4,980,917	192	1014	938.0	975.7	215.3	9.5	97.0	156.0	138.8	150.39
APR	10,960,000	3,546,200	4,464,100	5,301,850	8	1166	901.3	954.84	220	74.1	149.06	160.1	102.1	126.96
MAY	11,265,000	3,518,900	*	4,535,554	48	1142	879.1	951.99	219.6	77.5	155.68	148.9	86.3	108.61
JUN														
JUL														
AUG														
SEP														
OCT														
NOV														
DEC														

CERTIFICATION: *Sydney Sheehan*

DATE:

6/20/96



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

May 9, 1996

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the April, 1996 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery. The injection well has operated very well since the sand fracture during the month of March. A permit modification has been applied for to raise the allowable surface injection pressure.

Analytical data from the 1st quarter sampling is included with this report. Giant expects to perform the 2nd quarter sampling in late May.

If you require additional information, please do not hesitate to contact me at (505) 632 8013.

Sincerely,

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

Enclosure

cc: John Stokes
Ron Weaver
Chad King

GIANT REFINING COMPANY - BLOOMFIELD

P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE1/4 SE1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 1996	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
						MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	10,943,000	5,296,800	2,784,200	2,349,216	528	961.4	866	886.11	21.5	-0.1	1.15	142.6	69	108.76
FEB	9,951,000	3,975,700	3,908,900	3,357,330	0	946.8	889.4	915.27	195.1	-0.2	106.94	132.5	110.2	116.77
MAR	9,755,000	2,970,900	4,329,400	4,980,917	192	1014	938.0	975.7	215.3	9.5	97.0	156.0	138.8	150.39
APR	10,960,000	3,546,200	4,464,100	5,301,850	8	1166	901.3	954.84	220	74.1	149.06	160.1	102.1	126.96
MAY														
JUN														
JUL														
AUG														
SEP														
OCT														
NOV														
DEC														

CERTIFICATION:

[Signature]

DATE:

5/9/96

OIL CONSERVATION DIVISION
RECEIVED

'96 APR 15 AM 8 52



50 Road 4990

P.O. Box 159
Bloomfield, New Mexico 87413

505
632-8013

April 11, 1996

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

RECEIVED

APR 16 1996

Environmental Bureau
Oil Conservation Division

Re: Monthly Water Effluent Report

Dear Sirs:

Attached is the March, 1996 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery. The injection well was sand fractured during the month of March.

Quarterly sampling was performed on the wastewater being injected as required by Giant's Discharge Permit (GW-001). Giant has not received the analytical data, but will submit it with the April report.

If you require additional information, please do not hesitate to contact me at (505) 632 8013.

Sincerely:

A handwritten signature in cursive script, appearing to read "Lynn Shelton".

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

Enclosure

cc: John Stokes
Ron Weaver
Chad King

GIANT REFINING COMPANY - BLOOMFIELD

P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE 1/4 SE 1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD FROM RIVER 1996	AMOUNT OF WATER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
						MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	10,943,000	5,296,800.00	2,784,200	2,349,216	528	961.4	866	886.11	21.5	-0.1	1.15	142.6	69	108.76
FEB	9,951,000	3,975,700	3,908,900	3,357,330	0	946.8	889.4	915.27	195.1	-0.2	106.94	132.5	110.2	116.77
MAR	9,755,000	2,970,900	4,329,400	4,980,917	192	1014	938.0	975.7	215.3	9.5	97.0	156.0	138.8	150.39
APR														
MAY														
JUN														
JUL														
AUG														
SEP														
OCT														
NOV														
DEC														

CERTIFICATION: *[Signature]*

DATE: 4/11/96

RECEIVED
APR 16 1996
Environmental Bureau
Oil Conservation Division



April 17, 1996

Lynn Shelton
Giant Refining Company
PO Box 159
Bloomfield, NM 87413

Dear Mr. Shelton:

Enclosed are the results for the analyses of aqueous samples received on March 27, 1996. The samples were from the NOWP-E site and the WD - 1 injection well. NOWP - E was a monthly monitoring sample and was analyzed for Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX). The other was analyzed for general water quality, dissolved RCRA metals, and Volatile Organic Compounds (aromatic and halogenated).

BTEX analysis was performed on the samples according to EPA Method 602, using a Hewlett-Packard 5890 gas chromatograph equipped with an OI Analytical purge and trap (model 4560) and a photoionization detector. Detectable levels of btx analytes were found in the sample.

Water parameters were determined for the sample according to the appropriate methodologies as outlined in Standard Methods for the Examination of Water and Wastewater, 18th edition, 1992.

Metal concentrations were determined with a Varian Spectra AA 250 Plus, using flame or furnace as appropriate.

Volatiles were subcontracted and were run according to EPA Method 8240, Volatile Organics by GC/MS.

Quality control reports appear at the end of the analytical package and can be identified by title. Should you have any questions regarding the analysis, feel free to call.

Sincerely,

A handwritten signature in dark ink, appearing to read "Denise A. Bohemier", is written over a horizontal line.

Denise A. Bohemier
Lab Director

Volatile Organics
EPA Method 8240**Giant Refining Company**

Project ID: WD1
Sample ID: 1st Quarter
Lab ID: 3016
Sample Matrix: Water
Preservative: Cool, HCl
Condition: Intact

Report Date: 04/16/96
Date Sampled: 03/27/96
Date Received: 03/27/96
Date Analyzed: 04/10/96

Target Analyte	Concentration (µg/L)
Acrolein	<100
Acrylonitrile	<100
Benzene	148
Bromoform	<5.0
Bromomethane	<10.0
Carbon Tetrachloride	<5.0
Chlorobenzene	<5.0
Chlorodibromomethane	<5.0
Chloroethane	<10.0
2-Chloroethyl Vinyl Ether	<10.0
Chloroform	<5.0
Chloromethane	<10.0
Dichlorobromomethane	<5.0
Dichlorodifluoromethane	<10.0
1,1-Dichloroethane	<5.0
1,2-Dichloroethane	<5.0
trans-1,2-Dichloroethene	<5.0
cis-1,2-Dichloroethene	<5.0
1,2-Dichloropropane	<5.0

Reference: Method 8240, Volatile Organics By GC/MS; Test Methods
for Evaluating Solid Wastes, SW-846, United States
Environmental Protection Agency, Final Update I, July, 1992.

Volatile Organics Continued
EPA Method 8240

Giant Refining Company

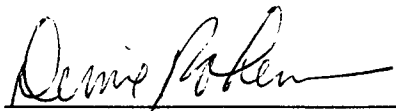
Project ID: WD1
Sample ID: 1st Quarter
Lab ID: 3016
Sample Matrix: Water

Report Date: 04/16/96
Date Sampled: 03/27/96
Date Received: 03/27/96
Date Analyzed: 04/10/96

Target Analyte	Concentration (µg/L)
cis-1,3-Dichloropropene	<5.0
trans-1,3-Dichloropropene	<5.0
Ethylbenzene	446
Methylene Chloride	<5.0
1,1,2,2-Tetrachloroethane	<5.0
Tetrachloroethane	<5.0
Toluene	2010
1,1,1-Trichloroethane	<5.0
1,1,2-Trichloroethane	<5.0
Trichloroethane	<5.0
Trichlorofluoromethane	<10.0
Vinyl Chloride	<10.0
Acetone	<100
2-Butanone (MEK)	<100
Styrene	<5.0
Total Xylenes	2360
Vinyl Acetate	<50.0
2-Hexanone	<50.0
4-Methyl-2-Pentanone	<50.0
Carbon Disulfide	<5.0
1,2-Dichlorobenzene	<5.0
1,3-Dichlorobenzene	<5.0
1,4-Dichlorobenzene	<5.0

Quality Control:

<u>Surrogate</u>	<u>% Recovery</u>	<u>Acceptance Limits</u>
1,2-Dichloroethane	101	76-114%
Toluene-d8	97	88-110%
Bromoflourobenezene	101	86-115%


Review

**General Water Quality
Giant Refining Company**

Project ID: WD1
Sample ID: 1st Quarter
Laboratory ID: 3016
Sample Matrix: Water

Date Reported: 04/16/96
Date Sampled: 03/27/96
Time Sampled: 14:30
Date Received: 03/27/96

Parameter	Analytical Result	Units
General		
Lab pH.....	8.0	s.u.
Lab Conductivity @ 25° C.....	6,370	µmhos/cm
Total Dissolved Solids @ 180°C.....	3,930	mg/L
Total Dissolved Solids (Calc).....	3,890	mg/L
Anions		
Total Alkalinity as CaCO ₃	252	mg/L
Bicarbonate Alkalinity as CaCO ₃	252	mg/L
Carbonate Alkalinity as CaCO ₃	NA	mg/L
Hydroxide Alkalinity as CaCO ₃	NA	mg/L
Chloride.....	1,520	mg/L
Sulfate.....	757	mg/L
Nitrate + Nitrite - N.....	NA	
Nitrate - N.....	NA	
Nitrite - N.....	NA	
Cations		
Total Hardness as CaCO ₃	388	mg/L
Calcium.....	115	mg/L
Magnesium.....	24.8	mg/L
Potassium.....	20	mg/L
Sodium.....	1,300	mg/L

Data Validation

Acceptance Level

Cation/Anion Difference.....	0.78	+/- 5 %
TDS (180):TDS (calculated).....	1.0	1.0 - 1.2

Reference

U.S.E.P.A. 600/4-79-020, Methods for Chemical Analysis of Water and Wastes, 1983.
Standard Methods For The Examination Of Water And Wastewater, 18th ed., 1992.


Review

Dissolved Metals Analysis

Giant Refining Company

Project ID: WD1
Sample ID: 1st Quarter
Laboratory ID: 3016
Sample Matrix: Water

Date Reported: 04/16/96
Date Sampled: 03/27/96
Time Sampled: 14:30
Date Received: 03/27/96

Parameter	Analytical Result (mg/L)	Detection Limit (mg/L)
-----------	-----------------------------	---------------------------

Trace Metals

Arsenic.....	0.076	0.001
Barium.....	<0.500	0.250
Cadmium.....	0.005	0.001
Chromium.....	0.006	0.001
Lead.....	0.091	0.001
Mercury.....	<0.001	0.001
Selenium.....	0.061	0.003
Silver.....	0.010	0.001

Reference: U.S.E.P.A. 600/4-79-020, Methods for Chemical Analysis of Water and Wastes, 1983.
Standard Methods For The Examination Of Water And Wastewater, 18th ed., 1992.

Comments:


Review



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

March 18, 1996

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the January and February, 1996 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery.

If you require additional information, please do not hesitate to 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

cc: John Stokes
Ron Weaver
Chad King

GIANT REFINING COMPANY - BLOOMFIELD

P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE1/4 SE1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 1996	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
						MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	10,943,000	5,296,800	2784200	2349216	528	961.4	866	886.11	21.5	-0.1	1.15	142.6	69	108.76
FEB														
MAR														
APR														
MAY														
JUN														
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AUG														
SEP														
OCT														
NOV														
DEC														

CERTIFICATION: *Sheldon*

DATE: 2-20-96

GIANT REFINING COMPANY - BLOOMFIELD

P.O. BOX 159

BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT

DISCHARGE PLAN GW-130 EXP. DATE 11/4/98

NE1/4 SE1/4 SECTION 27, T29N, R11W

NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 1996	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
						MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	10,943,000	5,296,800*	2,784,200	2,349,216	528	961.4	866	886.11	21.5	-0.1	1.15	142.6	69	108.76
FEB	9,951,000	3,975,700	3,908,900	3,357,330**	0	946.8	889.4	915.27	195.1	-0.2	106.94	132.5	110.2	116.77
MAR														
APR														
MAY														
JUN														
JUL														
AUG														
SEP														
OCT														
NOV														
DEC														

* A substantial leak was found in the boiler blowdown.

** It appears that the totalizer is reading 10% high. Giant will recalibrate to give more accurate figures.

CERTIFICATION: *Lynn Shetter*

DATE: 3-18-96



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

February 5, 1996

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the December, 1995 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery. The well was operated 24 of 31 days in December.

If you require additional information, please do not hesitate to contact me at (505) 632 8013.

Sincerely,

A handwritten signature in cursive script, appearing to read "Lynn Shelton".

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

Enclosure

cc: John Stokes
Ron Weaver
Chad King

GIANT REFINING COMPANY - BLOOMFIELD

P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE 1/4 SE 1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD FROM RIVER 1995	AMOUNT OF WATER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
						MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	11,597,000	3,794,400												
FEB	9,384,000	3,427,200	2,291,200	2,844,000	72	809	643	706	220	12	100	111	57	79
MAR	10,659,000	3,178,300	4,383,100	5,498,880	28	949	763	870	220	37	100	151	98	128
APR	9,977,000	3,371,300	289,400	316,800	669	902	712	807	70	64	67	136	85	110
MAY	12,691,000	2,578,000	3,619,800	4,269,240	213	891	800	870	20	7	14	144	124	134
JUN	11,802,000	2,418,100	3,707,300	4,172,760	201	918	839	869	8	0	4	150	127	134
JUL	12,631,000	3,354,900	3,959,000	4,885,200	36	916	812	860	2	0	1	132	97	115
AUG	11,836,800	3,650,600	633,100	794,880	600	842	712	807	1	0	1	103	88	92
SEP	11,746,600	2,314,000	0	0	720	0	0	0	0	0	0	0	0	0
OCT	12,773,800	4,017,600	0	0	744	0	0	0	0	0	0	0	0	0
NOV	12,062,800	5,572,800	1,271,600	1,746,000	420	838	457	735	24	1	7	153	85	97
DEC	10,569,000	5,758,560	2,478,000	3,628,800	168	919	732	811	36.3	1.4	16	129	98.4	105

CERTIFICATION: 

DATE: 2-5-96

DEC 20 1995



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

December 15, 1995

Mr. Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

RECEIVED

DEC 22 1995

Environmental Bureau
Oil Conservation Division

Mr. Denny Foust
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: Monthly Water Effluent Report

Dear Sirs:

Attached is the November, 1995 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery. Injection of wastewater began on November 14, 1995 and operated intermittently as various idiosyncracies of the system were worked out.

If you require additional information, please do not hesitate to contact me at (505) 632 8013.

Sincerely:

A handwritten signature in cursive script, appearing to read "Lynn Shelton".

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

Enclosure

cc: John Stokes
Ron Weaver
Chad King

GIANT REFINING COMPANY - BLOOMFIELD

P.O. BOX 159

BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT

DISCHARGE PLAN GW-130 EXP. DATE 11/4/98

NE1/4 SE1/4 SECTION 27, T29N, R11W

NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD 1995	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
						MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	11,597,000	3,794,400												
FEB	9,384,000	3,427,200	2,291,200	2,844,000	72	809	643	706	220	12	100	111	57	79
MAR	10,659,000	3,178,300	4,383,100	5,498,880	28	949	763	870	220	37	100	151	98	128
APR	9,977,000	3,371,300	289,400	316,800	669	902	712	807	70	64	67	136	85	110
MAY	12,691,000	2,578,000	3,619,800	4,269,240	213	891	800	870	20	7	14	144	124	134
JUN	11,802,000	2,418,100	3,707,300	4,172,760	201	918	839	869	8	0	4	150	127	134
JUL	12,631,000	3,354,900	3,959,000	4,885,200	36	916	812	860	2	0	1	132	97	115
AUG	11,836,800	3,650,600	633,100	794,880	600	842	712	807	1	0	1	103	88	92
SEP	11,746,600	2,314,000	0	0	720	0	0	0	0	0	0	0	0	0
OCT	12,773,800	4,017,600	0	0	744	0	0	0	0	0	0	0	0	0
NOV	12,062,800	5,572,800	1,271,600	1,746,000	420	838	457	735	24	1	7	153	85	97
DEC														

CERTIFICATION: *Lynne Shelton* DATE: 12-15-95



OIL CONSERVATION DIVISION
RECEIVED

'95 NOV 20 AM 8 52

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

November 16, 1995

Mr. Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

RECEIVED
NOV 21 1995

Mr. Denny Foust
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Environmental Bureau
Oil Conservation Division

Re: Monthly Water Effluent Report

Dear Sirs:

Attached is the October, 1995 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery. Although the injection well has not been utilized during the month of October, Giant anticipates a November 21, 1995 startup. Sampling was not performed during the month of October because of no flow, but sampling will be performed as soon as injection starts.

If you require additional information, please do not hesitate to contact me at (505) 632 8013.

Sincerely:

Lynn Shelton
Environmental Manager

TLS/tls

Enclosure

cc: John Stokes
Ron Weaver
Chad King

GIANT REFINING COMPANY - BLOOMFIELD

P.O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130 EXP. DATE 11/4/98
NE 1/4 SE 1/4 SECTION 27, T29N, R11W
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD FROM RIVER 1995	AMOUNT OF WATER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNUAL PRESSURE			ON-LINE FLOW RATES		
						MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
JAN	11,597,000	3,794,400												
FEB	9,384,000	3,427,200	2,291,200	2,844,000	72	809	643	706	220	12	100	111	57	79
MAR	10,659,000	3,178,300	4,383,100	5,498,880	28	949	763	870	220	37	100	151	98	128
APR	9,977,000	3,371,300	289,400	316,800	669	902	712	807	70	64	67	136	85	110
MAY	12,691,000	2,578,000	3,619,800	4,269,240	213	891	800	870	20	7	14	144	124	134
JUN	11,802,000	2,418,100	3,707,300	4,172,760	201	918	839	869	8	0	4	150	127	134
JUL	12,631,000	3,354,900	3,959,000	4,885,200	36	916	812	860	2	0	1	132	97	115
AUG	11,836,800	3,650,600	633,100	794,880	600	842	712	807	1	0	1	103	88	92
SEP	11,746,600	2,314,000	0	0	720	0	0	0	0	0	0	0	0	0
OCT	12,773,800	4,017,600*	0	0	744	0	0	0	0	0	0	0	0	0
NOV														
DEC														

CERTIFICATION: *Stephen D. Hester*

DATE: 11-16-95

* This is a conservatively high number due to equipment malfunction. The net increase is also due, in part, to water washing activities.

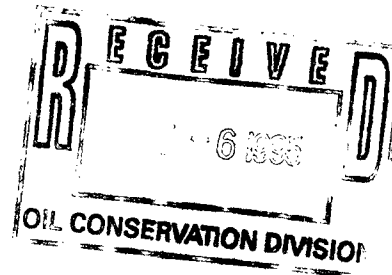
TLS 11/95



Bloomfield Refining
Company

A Gary Energy Corporation Subsidiary

October 3, 1995



Mr. Roger Anderson
Environmental Bureau
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Mr. Denny Foust
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

RE: Monthly Water Effluent Report

Dear Sirs:

Please find attached our September 1995 waste water effluent (GW-001) and injection well (GW-130) report. The injection well was down during the month because of excess algae in the ponds. Sampling was not completed during the month because of no flow but will be done as soon as the well is back on line.

Please call this office if you need any additional information.

Sincerely,

Chris Hawley
Environmental Manager

CH/ar

Enclosure

cc: Dave Roderick
Ron Weaver
Chad King
John Goodrich

BLOOMFIELD REFINING COMPANY
P. O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130, EXP. DATE: 11/4/1998
NE/4 SE/4, SECTION 27, T29N, R11W,
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE:			ANNULAR PRESSURE			ON-LINE FLOW RATES		
						MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
1995														
JAN	11,597,000	3,794,400												
FEB	9,384,000	3,427,200	2,291,200	2,844,000	72	809	643	706	220	12	100	111	57	79
MAR	10,659,000	3,178,300	4,383,100	5,498,880	28	949	763	870	220	37	100	151	98	128
APR	9,977,000	3,371,300	289,400	316,800	669	902	712	807	70	64	67	136	85	110
MAY	12,691,000	2,578,000	3,619,800	4,269,240	213	891	800	870	20	7	14	144	124	134
JUN	11,802,000	2,418,100	3,707,300	4,172,760	201	918	839	869	8	0	4	150	127	134
JUL	12,631,000	3,354,900	3,959,000	4,885,200	36	916	812	860	2	0	1	132	97	115
AUG	11,836,800	3,560,600	633,100	794,880	600	842	712	807	1	0	1	103	88	92
SEP	11,746,600	2,314,000	0	0	720	0	0	0	0	0	0	0	0	0
OCT														
NOV														
DEC														
TOTAL	102,324,400	27,996,800	18,882,900	22,781,760										

CERTIFICATION: Carbonyl DATE: 10-3-95

NOTES:

1. DOWNTIME IS NOT INCLUDED IN OPERATING DATA. FOR EXAMPLE, THE AVERAGE FLOW RATE FOR FEBRUARY IS BASED ON 25 DAYS.
2. MAXIMUM FLOW RATE DURING A SHORT TEST ON MARCH 7, 1995 WAS 151 GPM AT 949 PSI.



Bloomfield Refining
Company

A Gary Energy Corporation Subsidiary

OIL CONSERVATION DIVISION
RECEIVED

'95 SEP 7 AM 8 52

September 1, 1995

Mr. Roger Anderson
Environmental Bureau
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Mr. Denny Foust
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

RE: Monthly Water Effluent Report

Dear Sirs:

Please find attached our August 1995 waste water effluent (GW-001) and injection well (GW-130) report. The injection well was down most of the month because of problems with the transfer pump. The annual mechanical integrity test was successfully completed on August 17, 1995 with Ernest Cardona of the OCD witnessing the test.

Please call me if you need any additional information.

Sincerely,

Chris Hawley
Environmental Manager

CH/ar

Enclosure

cc: Joe Warr
Dave Roderick
Ron Weaver
Chad King
John Goodrich

BLOOMFIELD REFINING COMPANY
P. O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130, EXP. DATE: 11/4/1998
NE/4 SE/4, SECTION 27, T29N, R11W,
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE:			ANNULAR PRESSURE			ON-LINE FLOW RATES		
						MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
1995														
JAN	11,597,000	3,794,400												
FEB	9,384,000	3,427,200	2,291,200	2,844,000	72	809	643	706	220	12	100	111	57	79
MAR	10,659,000	3,178,300	4,383,100	5,498,880	28	949	763	870	220	37	100	151	98	128
APR	9,977,000	3,371,300	289,400	316,800	669	902	712	807	70	64	67	136	85	110
MAY	12,691,000	2,578,000	3,619,800	4,269,240	213	891	800	870	20	7	14	144	124	134
JUN	11,802,000	2,418,100	3,707,300	4,172,760	201	918	839	869	8	0	4	150	127	134
JUL	12,631,000	3,354,900	3,959,000	4,885,200	36	916	812	860	2	0	1	132	97	115
AUG	11,836,800	3,560,600	633,100	794,880	600	842	712	807	1	0	1	103	88	92
SEP														
OCT														
NOV														
DEC														
TOTAL	90,577,800	25,682,800	18,882,900	22,781,760										

CERTIFICATION: GMB Harvey

DATE: 9/1/95

NOTES:

1. DOWNTIME IS NOT INCLUDED IN OPERATING DATA. FOR EXAMPLE, THE AVERAGE FLOW RATE FOR FEBRUARY IS BASED ON 25 DAYS.
2. MAXIMUM FLOW RATE DURING A SHORT TEST ON MARCH 7, 1995 WAS 151 GPM AT 949 PSI.



Bloomfield Refining
Company

A Gary Energy Corporation Subsidiary

OIL CONSERVATION DIVISION
RECEIVED

'95 AUG 9 AM 8 52

August 4, 1995

Mr. Roger Anderson
Environmental Bureau
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Mr. Denny Foust
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

RE: Monthly Water Effluent Report

Dear Sirs:

Please find attached our July 1995 waste water effluent (GW-001) and injection well (GW-130) reports. When first starting up the well, the annular pressure was too high. We bled off some of the fluid and the pressure has lined out too low. This will be corrected as soon as possible by adding corrosion inhibitor solution to the annular space.

Please call me if you need any additional information.

Sincerely,

Chris Hawley
Environmental Manager

CH/jm

Enclosure

cc: Dave Roderick
Ron Weaver
Chad King
John Goodrich

BLOOMFIELD REFINING COMPANY
P. O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130, EXP. DATE: 11/4/1998
NE/4 SE/4, SECTION 27, T29N, R11W,
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
						MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
1995														
JAN	11,597,000	3,794,400												
FEB	9,384,000	3,427,200	2,291,200	2,844,000	72	809	643	706	220	12	100	111	57	79
MAR	10,659,000	3,178,300	4,383,100	5,498,880	28	949	763	870	220	37	100	151	98	128
APR	9,977,000	3,371,300	289,400	316,800	669	902	712	807	70	64	67	136	85	110
MAY	12,691,000	2,578,000	3,619,800	4,269,240	213	891	800	870	20	7	14	144	124	134
JUN	11,802,000	2,418,100	3,707,300	4,172,760	201	918	839	869	8	0	4	150	127	134
JUL	12,631,000	3,354,900	3,959,000	4,885,200	36	916	812	860	2	0	1	132	97	115
AUG														
SEP														
OCT														
NOV														
DEC														
TOTAL	78,741,000	22,122,200	18,249,800	21,986,880										

CERTIFICATION: Carla H. H. H. H.

DATE: 8/4/95

NOTES:

1. DOWNTIME IS NOT INCLUDED IN OPERATING DATA. FOR EXAMPLE, THE AVERAGE FLOW RATE FOR FEBRUARY IS BASED ON 25 DAYS.
2. MAXIMUM FLOW RATE DURING A SHORT TEST ON MARCH 7, 1995 WAS 151 GPM AT 949 PSI.



Bloomfield Refining
Company

A Gary Energy Corporation Subsidiary

OIL CONSERVATION DIVISION
RECEIVED

'95 JUL 17 AM 8 52

July 11, 1995

Mr. Roger Anderson
Environmental Bureau
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Mr. Denny Foust
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

RE: Monthly Water Effluent Report

Dear Sirs:

Please find attached our June 1995 waste water effluent (GW-001) and injection well (GW-130) reports, with the analytical data for the second quarter.

Please call me if you need any additional information.

Sincerely,

Chris Hawley
Environmental Manager

CH/jm

Enclosure

cc: Joe Warr
Dave Roderick
Ron Weaver
Chad King
John Goodrich

BLOOMFIELD REFINING COMPANY
P. O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130, EXP. DATE: 11/4/1998
NE/4 SE/4, SECTION 27, T29N, R11W,
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
						MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
1995														
JAN	11,597,000	3,794,400												
FEB	9,384,000	3,427,200	2,291,200	2,844,000	72	809	643	706	220	12	100	111	57	79
MAR	10,659,000	3,178,300	4,383,100	5,498,880	28	949	763	870	220	37	100	151	98	128
APR	9,977,000	3,371,300	289,400	316,800	669	902	712	807	70	64	67	136	85	110
MAY	12,691,000	2,578,000	3,619,800	4,269,240	213	891	800	870	20	7	14	144	124	134
JUN	11,802,000	2,418,100	3,707,300	4,172,760	201	918	839	869	8	0	4	150	127	134
JUL														
AUG														
SEP														
OCT														
NOV														
DEC														
TOTAL	66,110,000	18,767,300	14,290,800	17,101,680										

CERTIFICATION: C. H. Hartman DATE: 7-11-95

NOTES:

1. DOWNTIME IS NOT INCLUDED IN OPERATING DATA. FOR EXAMPLE, THE AVERAGE FLOW RATE FOR FEBRUARY IS BASED ON 25 DAYS.
2. MAXIMUM FLOW-RATE DURING A SHORT TEST ON MARCH 7, 1995 WAS 151 GPM AT 949 PSI.

Client: **Bloomfield Refining Co.**
 Project: Bloomfield, NM
 Sample ID: GW-130 Inj.
 Laboratory ID: W00571
 Sample Matrix: Water
 Condition: Cool/Intact

Date Reported: 06/22/95
 Date Sampled: 05/22/95
 Time Sampled: 1300
 Date Received: 05/22/95

Parameter	Analytical			
	Result	Units	Units	
Lab pH.....	8.5	s.u.		
Lab Conductivity @ 25° C.....	27,000	umhos/cm		
Total Dissolved Solids @ 180°C.....	11,500	mg/L		
Total Dissolved Solids (Calc).....	11,300	mg/L		
Sodium Absorption Ratio (SAR).....	42.9	ratio		
Total Hardness as CaCO ₃	1,340	mg/L		
Total Alkalinity as CaCO ₃	306	mg/L		
Bicarbonate as HCO ₃	349	mg/L	5.72	meq/L
Carbonate as CO ₃	12	mg/L	0.40	meq/L
Hydroxide as OH.....	0	mg/L	0.00	meq/L
Chloride.....	5,370	mg/L	151.37	meq/L
Sulfate.....	1,620	mg/L	33.83	meq/L
Calcium.....	375	mg/L	18.69	meq/L
Magnesium.....	99	mg/L	8.11	meq/L
Potassium.....	69	mg/L	1.77	meq/L
Sodium.....	3,610	mg/L	157.10	meq/L
Cations.....			185.67	meq/L
Anions.....			191.34	meq/L
Cation/Anion Difference.....			1.50	%

FIELD pH = 8.3

FIELD CONDUCTIVITY = 10,000⁺⁺⁺

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
 "Standard Methods For The Examination Of Water And Waste Water", 18th ed., 1992.

Reported by Y.M. Klute

Reviewed by mh

Client: **Bloomfield Refining Co.**
Project: Bloomfield, NM
Sample ID: GW-130 Inj.
Laboratory ID: W00571
Sample Matrix: Water
Condition: Cool/Intact

Date Reported: 06/22/95
Date Sampled: 05/22/95
Time Sampled: 1300
Date Received: 05/22/95

Parameter	Dissolved	
	Analytical	Result
		Units
Arsenic.....	0.023	mg/L
Barium.....	<0.5	mg/L
Cadmium.....	0.003	mg/L
Chromium.....	<0.02	mg/L
Lead.....	0.063	mg/L
Mercury.....	<0.001	mg/L
Selenium.....	0.006	mg/L
Silver.....	<0.01	mg/L

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 18th ed., 1992.

Reported by: M. Klute

Reviewed by: mh

Quality Control / Quality Assurance**Known Analysis
Dissolved Metals**

Client: Bloomfield Refining Co.
Project: Bloomfield NM
Laboratory ID: W00571
Sample Matrix: Water

Date Reported: 06/22/95
Date Sampled: 05/22/95
Date Received: 05/22/95

Known Analysis

Parameter	Found Result	Known Result	Units	Percent Recovery
Arsenic	0.010	0.010	mg/L	100%
Barium	1.02	1.00	mg/L	102%
Cadmium	0.004	0.004	mg/L	100%
Chromium	0.98	1.00	mg/L	98%
Lead	1.06	1.00	mg/L	106%
Mercury	0.002	0.002	mg/L	100%
Selenium	0.010	0.010	mg/L	100%
Silver	1.01	1.00	mg/L	101%

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 18th ed., 1992.

Comments: Quality control run concurrently with the above sample lab numbers.

Reported by: M. Klute

Reviewed by: mh

Quality Control / Quality Assurance**Spike Analysis
Dissolved Metals**

Client: Bloomfield Refining Co.
Project: Bloomfield NM
Laboratory ID: W00571
Sample Matrix: Water

Date Reported: 06/22/95
Date Sampled: 05/22/95
Date Received: 05/22/95

Spike Analysis

Parameter	Spiked Sample Result	Sample Result	Spike Added	Percent Recovery
Arsenic	0.046	0.00	0.100	91%
Barium	0.55	0.06	0.50	98%
Cadmium	0.002	0.00	0.005	95%
Chromium	0.47	0.00	0.50	94%
Lead	0.51	0.00	0.50	102%
Mercury	0.004	0.00	0.00	90%
Selenium	0.049	0.003	0.100	95%
Silver	0.44	0.00	0.50	87%

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 18th ed., 1992.

Comments: Quality control run concurrently with the above sample lab numbers.

Reported by: M. Klute

Reviewed by: mh

VOLATILE AROMATIC HYDROCARBONS

Bloomfield Refining Co.

Project ID: Bloomfield NM
Sample ID: GW-130 Inj.
Lab ID: W00571
Sample Matrix: Water
Condition: Cool/Intact

Report Date: 06/06/95
Date Sampled: 05/22/95
Date Received: 05/22/95
Date Extracted: NA
Date Analyzed: 06/05/95

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	ND	1.0
Toluene	11.8	1.0
Ethylbenzene	ND	1.0
m,p-Xylenes	1.6	1.0
o-Xylene	ND	1.0

ND - Analyte not detected at the stated detection limit.

Quality Control:	<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>
	Bromofluorobenzene	114.2	75 -125%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Anna Schaefer

Analyst

mk

Review

**Inorganics Laboratory**11183 SH 30 College Station, Texas 77845
Phone (409) 776-8945 FAX (409) 774-4705**Organics Laboratory**3304 Longmire Drive College Station, Texas 77845
Phone (409) 774-4999 Fax (409) 696-0692**EPA Method 624
PURGEABLES**

Client: **BLOOMFIELD REFINING CO.**
Project: Bloomfield, NM
Sample ID: GW-130 Inj
Laboratory ID: W571/0695G00868
Sample Matrix: Water
Preservative: Cool, HCl
Condition: Intact, pH<2

Report Date: 06/02/95
Date Sampled: 05/22/95
Date Received: 05/24/95
Date Extracted: 05/24/95
Date Analyzed: 05/24/95
Time Analyzed: 11:48 PM

Analyte	Concentration (mg/L)	Detection Limit (mg/L)
Benzene	ND	0.005
Bromoform	ND	0.005
Carbon tetrachloride	ND	0.005
Chlorobenzene	ND	0.005
Chlorodibromomethane	ND	0.005
Chloroethane	ND	0.010
2-Chloroethyl Vinyl Ether	ND	0.010
Chloroform	ND	0.005
Dibromochloromethane	ND	0.005
Dichlorodifluoromethane	ND	0.010
1,3-Dichlorobenzene	ND	0.005
1,2-Dichlorobenzene	ND	0.005
1,4-Dichlorobenzene	ND	0.005
1,1-Dichloroethane	ND	0.005
1,2-Dichloroethane	ND	0.005
1,1-Dichloroethylene	ND	0.005
1,2-Dichloropropane	ND	0.005
trans-1,3-Dichloropropene	ND	0.005
cis-1,3-Dichloropropene	ND	0.005
Ethylbenzene	ND	0.005
Methyl Bromide	ND	0.010
Methyl Chloride	ND	0.010
Methylene Chloride	ND	0.005
1,1,2,2-Tetrachloroethane	ND	0.005
Tetrachloroethylene	ND	0.005
Toluene	ND	0.005
1,2-Trans-dichloroethene	ND	0.005
1,1,1-Trichloroethane	ND	0.005
1,1,2-Trichloroethane	ND	0.005
Trichloroethylene	ND	0.005
Trichlorofluoromethane	ND	0.010
Vinyl Chloride	ND	0.005

ND - Analyte not detected at stated limit of detection.



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Inter-Mountain Laboratories, Inc.

Organics Laboratory
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Phone (409) 774-4999 Fax (409) 696-0692

EPA Method 624

Page 2

PURGEABLES

ADDITIONAL DETECTED COMPOUNDS

Client: **BLOOMFIELD REFINING CO.**
Project: Bloomfield, NM
Sample ID: GW-130 Inj
Laboratory ID: W571/0695G00868

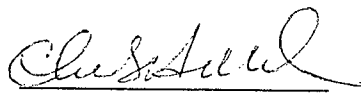
Report Date: 06/02/95
Date Sampled: 05/22/95
Date Analyzed: 05/24/95
Time Analyzed: 11:48 PM

Tentative Identification	Retention Time (Minutes)	Concentration (mg/L)
None detected at reportable levels.		

Quality Control:	Surrogate	Percent Recovery	Acceptance Limits
	Dibromofluoromethane	112%	86 - 118%
	Toluene-d8	101%	88 - 110%
	Bromofluorobenzene	95%	86 - 115%

Reference: Method 624 - Purgeables, 40 Code of Federal Regulations, Part 136, Appendix A, July 1993.

Comments: A capillary column is used instead of a packed column as in the reference above.


Analyst


Review



Inorganics Laboratory
11183 SH 30 College Station, Texas 77845
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Organics Laboratory
3304 Longmire Drive College Station, Texas 77845
Phone (409) 774-4999 Fax (409) 696-0692

MATRIX SPIKE / SPIKE DUPLICATE ANALYSIS

EPA Method 624 - PURGEABLES

Laboratory ID: Matrix Spike and Spike Duplicate
Sample Matrix: Water
Preservative: NA
Condition: NA

Report Date: 06/01/95
Date Sampled: 05/22/95
Date Received: 05/24/95
Date Analyzed: 05/31/95
Time Analyzed: 1:59 PM/3:06 PM

MATRIX SPIKE ANALYSIS

Analyte	Spiked Sample Result (mg/L)	Sample Result (mg/L)	Spike Added (mg/L)	Percent Recovery	QC Limits Recovery
1,1 - Dichloroethene	0.065	ND	0.050	131%	61 - 145
Trichloroethene	0.059	ND	0.050	118%	71 - 120
Benzene	0.059	ND	0.050	118%	76 - 127
Toluene	0.054	ND	0.050	107%	76 - 125
Chlorobenzene	0.061	ND	0.050	122%	75 - 130

MATRIX SPIKE DUPLICATE ANALYSIS

Analyte	Duplicate Result (mg/L)	Percent Recovery	Original Spike		QC Limits	
			Recovery	RPD	RPD	Rec.
1,1 - Dichloroethene	0.065	129%	131%	1%	14%	61 - 145
Trichloroethene	0.057	114%	118%	4%	14%	71 - 120
Benzene	0.057	113%	118%	5%	11%	76 - 127
Toluene	0.050	101%	107%	6%	13%	76 - 125
Chlorobenzene	0.059	119%	122%	3%	13%	75 - 130

ND - Analyte not detected at stated limit of detection

Spike Recovery: 0 out of 10 outside QC Limits
RPD: 0 out of 5 outside QC Limits

Quality Control:	Surrogate	Spike Recovery	Spike Dup. Recovery	Recovery Limits
	Dibromofluoromethane	112%	101%	86 - 118%
	Toluene-d8	108%	97%	88 - 110 %
	Bromofluorobenzene	107%	105%	86 - 115 %

Reference: Method 624 - Purgeables, 40 Code of Federal Regulations, Part 136, Appendix A, July 1993.

Comments: A capillary column is used instead of a packed column as in the reference above.

Analyst

Review



Inter-Mountain Laboratories, Inc.

Inorganics Laboratory
11183 SH 30 College Station, Texas 77845
Phone (409) 776-8945 FAX (409) 774-4705

Organics Laboratory
3304 Longmire Drive College Station, Texas 77845
Phone (409) 774-4999 Fax (409) 696-0692

QUALITY CONTROL REPORT - METHOD BLANK EPA METHOD 624 - PURGEABLES

Sample ID: Method Blank
Laboratory ID: MB0524D
Sample Matrix: Water

Report Date: 06/02/95
Date Extracted: N/A
Date Analyzed: 05/24/95
Time Analyzed: 7:46 PM

Analyte	Concentration (mg/L)	Detection Limit (mg/L)
Benzene	ND	0.005
Bromoform	ND	0.005
Carbon tetrachloride	ND	0.005
Chlorobenzene	ND	0.005
Chlorodibromomethane	ND	0.005
Chloroethane	ND	0.010
2-Chloroethyl Vinyl Ether	ND	0.010
Chloroform	ND	0.005
Dibromochloromethane	ND	0.005
Dichlorodifluoromethane	ND	0.010
1,3-Dichlorobenzene	ND	0.005
1,2-Dichlorobenzene	ND	0.005
1,4-Dichlorobenzene	ND	0.005
1,1-Dichloroethane	ND	0.005
1,2-Dichloroethane	ND	0.005
1,1-Dichloroethylene	ND	0.005
1,2-Dichloropropane	ND	0.005
trans-1,3-Dichloropropene	ND	0.005
cis-1,3-Dichloropropene	ND	0.005
Ethylbenzene	ND	0.005
Methyl Bromide	ND	0.010
Methyl Chloride	ND	0.010
Methylene Chloride	ND	0.005
1,1,2,2-Tetrachloroethane	ND	0.005
Tetrachloroethylene	ND	0.005
Toluene	ND	0.005
1,2-Trans-dichloroethene	ND	0.005
1,1,1-Trichloroethane	ND	0.005
1,1,2-Trichloroethane	ND	0.005
Trichloroethylene	ND	0.005
Trichlorofluoromethane	ND	0.010
Vinyl Chloride	ND	0.005

ND - Analyte not detected at stated limit of detection



Inorganics Laboratory

11183 SH 30 College Station, Texas 77845
Phone (409) 776-8945 FAX (409) 774-4705

Organics Laboratory

3304 Longmire Drive College Station, Texas 77845
Phone (409) 774-4999 Fax (409) 696-0692

QUALITY CONTROL REPORT - METHOD BLANK

EPA METHOD 624 - PURGEABLES

Page 2

ADDITIONAL DETECTED COMPOUNDS

Sample ID: Method Blank
Laboratory ID: MB0524D

Report Date: 06/02/95
Date Sampled: 05/24/95
Date Analyzed: 05/24/95
Time Analyzed: 7:46 PM

Tentative Identification	Retention Time (Minutes)	Concentration* (mg/L)
None detected at reportable levels		

* - Concentration calculated using assumed Relative Response Factor = 1

Quality Control:	Surrogate	Percent Recovery	Acceptance Limits
	Dibromofluoromethane	96%	80 - 118%
	Toluene-d8	104%	88 - 110%
	Bromofluorobenzene	97%	86 - 115%

Reference: Method 624 - Purgeables, 40 Code of Federal Regulations, Part 136, Appendix A, July 1993.

Comments: A capillary column is used instead of a packed column as in the reference above.

Analyst

Review

Quality Assurance / Quality Control

VOLATILE AROMATIC HYDROCARBONS
QUALITY CONTROL REPORTMethod Blank AnalysisSample Matrix:
Lab ID:Water
Method BlankReport Date:
Date Analyzed:06/06/95
05/31/95

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2
m,p-Xylenes	ND	0.2
o-Xylene	ND	0.2

ND - Analyte not detected at the stated detection limit.

Quality Control:

SurrogatePercent RecoveryAcceptance Limits

Bromofluorobenzene

111.6

75-125%

Reference:

Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:


Analyst

Review

Quality Control / Quality Assurance**Known Analysis****BTEX**

Client: **Bloomfield Refining Co.**
Project: **Bloomfield NM**
Sample Matrix: **Water**

Date Reported: 06/06/95

Date Analyzed: 06/05/95

Known Analysis

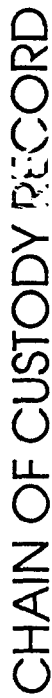
Parameter	Found Concentration (ppb)	Known Concentration (ppb)	Percent Recovery
Benzene	9.1	10.0	91%
Toluene	8.3	10.0	83%
Ethylbenzene	9.2	10.0	92%
m+p-Xylene	9.6	10.0	96%
o-Xylene	7.5	10.0	75%

Quality Control:	<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>
	Bromofluorobenzene	113.7	75-125%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Reported by Anna SchaeferReviewed by mx



CHAIN OF CUSTODY RECORD

[illegible]



**Bloomfield Refining
Company**

A Gary Energy Corporation Subsidiary

OIL CONSERVATION DIVISION
RECEIVED

'95 JUN 9 AM 8 52

June 6, 1995

RECEIVED

JUN 09 1995

Environmental Bureau
Oil Conservation Division

Mr. Roger Anderson
Environmental Bureau
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Mr. Denny Foust
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

RE: Monthly Water Effluent Report

Dear Sirs:

Please find attached our June 1995 waste water effluent (GW-001) and injection well (GW-130) report.

Please call me if you need any additional information.

Sincerely,

Chris Hawley
Environmental Manager

CH/ah

Enclosure

cc: Joe Warr
Dave Roderick
Ron Weaver
Chad King
John Goodrich



May 1, 1995

Mr. Roger Anderson
Environmental Bureau
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Mr. Denny Foust
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

RE: Monthly Water Effluent Report

Dear Sirs:

Please find attached our May 1995 waste water effluent (GW-001) and injection well (GW-130) report.

Please call me if you need any additional information.

Sincerely,

Chris Hawley
Environmental Manager

CH/ah

Enclosure

cc: Joe Warr
Dave Roderick
Ron Weaver
Chad King
John Goodrich

BLOOMFIELD REFINING COMPANY
P. O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130, EXP. DATE: 11/4/1998
NE/4 SE/4, SECTION 27, T29N, R11W,
NMIPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
						MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
1995														
JAN	11,597,000	3,794,400												
FEB	9,384,000	3,427,200	2,291,200	2,844,000	72	809	643	706	220	12	100	111	57	79
MAR	10,659,000	3,178,300	4,383,100	5,498,880	28	949	763	870	220	37	100	151	98	128
APR	9,977,000	3,371,300	289,400	316,800	669	902	712	807	70	64	67	136	85	110
MAY														
JUN														
JUL														
AUG														
SEP														
OCT														
NOV														
DEC														
TOTAL	41,617,000	13,771,200	6,963,700	8,659,680										

CERTIFICATION: *Chris Thompson* DATE: 5/1/95

NOTES:
1. DOWNTIME IS NOT INCLUDED IN OPERATING DATA. FOR EXAMPLE, THE AVERAGE FLOW RATE FOR FEBRUARY IS BASED ON 25 DAYS.
2. MAXIMUM FLOW RATE DURING A SHORT TEST ON MARCH 7, 1995 WAS 151 GPM AT 949 PSI.



Bloomfield Refining
Company

A Gary Energy Corporation Subsidiary

OIL CONSERVATION DIVISION
RECEIVED

APR 3 1995 PM 8 52

April 3, 1995

Mr. Roger Anderson
Environmental Bureau
New Mexico OCD
P. O. Box 2088
Santa Fe, New Mexico 87504-2088

Mr. Denny Foust
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

RE: Waste Water Effluent (GW-001)
Injection Well Permit (GW-130)
Monthly Reports

Dear Sirs:

Please find attached our March 1995 waste water effluent (GW-001) and injection well (GW-130) reports that have been combined into one report. The amounts shown as discharged to the evaporation ponds in January and February 1995 have been corrected this month. Our meter was not operating correctly during January and February. Also enclosed is the analytical data required for the injection well for the first quarter of 1995.

Please call me if you need any addition information.

Sincerely,

Chris Hawley
Environmental Manager

CH/jm

Enclosure

cc: Joe Warr
Dave Roderick
Ron Weaver
Chad King
John Goodrich

BLOOMFIELD REFINING COMPANY
P. O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130, EXP. DATE: 11/4/1998
NE/4 SE/4, SECTION 27, T29N, R11W,
NMPM, SAN JUAN COUNTY, NEW MEXICO

PERIOD	AMOUNT OF WATER FROM RIVER (GALLONS)	AMOUNT TO SOLAR EVAP PONDS (GALLONS)	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	DOWN- TIME (HRS)	INJECTION PRESSURE			ANNULAR PRESSURE			ON-LINE FLOW RATES		
						MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
1995														
JAN	11,597,000	3,794,400												
FEB	9,384,000	3,427,200	2,291,200	2,844,000	72	809	643	706	220	12	100	111	57	79
MAR	10,659,000	3,178,300	4,383,100	5,498,880	28	949	763	870	220	37	100	151	98	128
APR														
MAY														
JUN														
JUL														
AUG														
SEP														
OCT														
NOV														
DEC														
TOTAL	31,640,000	10,399,900	6,674,300	8,342,880				788			100			106

CERTIFICATION: *Anthony* DATE: 4/3/95

NOTES:

1. DOWNTIME IS NOT INCLUDED IN OPERATING DATA. FOR EXAMPLE, THE AVERAGE FLOW RATE FOR FEBRUARY IS BASED ON 25 DAYS.
2. MAXIMUM FLOW RATE DURING A SHORT TEST ON MARCH 7, 1995 WAS 151 GPM AT 949 PSI.



2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

March 20, 1995

Mr. Chris Hawley
Environmental Manager
Bloomfield Refining Company
P.O. Box 159
Bloomfield, New Mexico 87413

Dear Mr. Hawley:

Enclosed are the analytical results for the water sample received at Inter-Mountain Laboratories - Farmington, New Mexico, on March 2, 1995. The sample was identified by Project "NE/4SE, SEC 27,T29N,R11W."

Tests were performed in accordance with 40 CFR 136, "Guidelines Establishing Test Procedures for Analysis," as amended.

Please call me if you have any questions or comments concerning the analysis.

Sincerely,

Melissa Klute

Melissa Klute
Water Lab Supervisor
IML - Farmington

Enclosures: Analytical Report

Performed in BRC Lab.

pH = 7.2

Conductivity = 12,400

Client: **Bloomfield Refining Co.**

Project: NE/4 SE/4, SEC 27, T29N, R11W

Sample ID: GW-130 INJ.

Laboratory ID: W02734

Sample Matrix: Water

Condition: Cool/Intact

Date Reported: 03/24/95

Date Sampled: 03/02/95

Time Sampled: 1300

Date Received: 03/02/95

Parameter	Analytical			
	Result	Units	Units	
Total Dissolved Solids @ 180°C.....	16,800	mg/L		
Total Dissolved Solids (Calc).....	16,900	mg/L		
Total Alkalinity as CaCO ₃	282	mg/L		
Total Hardness as CaCO ₃	2,160	mg/L		
Bicarbonate as HCO ₃	344	mg/L	5.64	meq/L
Carbonate as CO ₃	0	mg/L	0.00	meq/L
Hydroxide as OH.....	0	mg/L	0.00	meq/L
Chloride.....	7,960	mg/L	224.53	meq/L
Sulfate.....	2,410	mg/L	50.21	meq/L
Calcium.....	583	mg/L	29.11	meq/L
Magnesium.....	172	mg/L	14.12	meq/L
Potassium.....	110	mg/L	2.84	meq/L
Sodium.....	5,490	mg/L	238.80	meq/L
Cations.....			284.87	meq/L
Anions.....			280.59	meq/L
Cation/Anion Difference.....			0.76	%

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 17th ed., 1989.

Reported by M. KluteReviewed by dt

Client: **Bloomfield Refining Co.**
Project: NE/4 SE/4, SEC 27, T29N, R11W
Sample ID: GW-130 INJ.
Laboratory ID: W02734
Sample Matrix: Water
Condition: Cool/Intact

Date Reported: 03/24/95
Date Sampled: 03/02/95
Time Sampled: 1300
Date Received: 03/02/95

Parameter	Dissolved	Units
	Analytical Result	

Trace Metals

Arsenic.....	0.05	mg/L
Barium.....	<0.5	mg/L
Cadmium.....	<0.005	mg/L
Chromium.....	<0.02	mg/L
Lead.....	<0.100	mg/L
Mercury.....	<0.001	mg/L
Selenium.....	<0.100	mg/L
Silver.....	<0.01	mg/L

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 17th ed., 1989.

Comments: Corrected report - additional metals were analyzed.

Reported by M. Klute

Reviewed by dt

QUALITY ASSURANCE / QUALITY CONTROL

Quality Control / Quality Assurance**Known Analysis / Spike Analysis*****Dissolved Metals***

Client: Bloomfield Refining Co.
Project: NE/4 SE/4, SEC 27, T29N, R11W
Laboratory ID: W02734
Sample Matrix: Water

Date Reported: 03/20/95
Date Sampled: 03/02/95
Date Received: 03/02/95

Known Analysis

Parameter	Found Result	Known Result	Units	Percent Recovery
Arsenic	0.011	0.010	mg/L	110%
Mercury	0.004	0.004	mg/L	100%

Spike Analysis

Parameter	Spiked Sample Result	Sample Result	Spike Added	Percent Recovery
Arsenic	0.049	0.00	0.100	98%
Mercury	0.003	0.00	0.100	89%

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 17th ed., 1989.

Comments: Quality control run concurrently with the above sample lab numbers.

Reported by: M. Klute

Reviewed by: dt

VOLATILE AROMATIC HYDROCARBONS

Bloomfield Refining Co.

Project ID: NE/4 SE/4, SEC 27, T29N, R11W
Sample ID: GW-130 INJ.
Lab ID: 2734
Sample Matrix: Water
Condition: Cool/Intact

Report Date: 03/09/95
Date Sampled: 03/02/95
Date Received: 03/02/95
Date Extracted: NA
Date Analyzed: 03/08/95

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	ND	0.4
Toluene	ND	0.4
Ethylbenzene	ND	0.4
m,p-Xylenes	1.0	0.4
o-Xylene	0.7	0.4

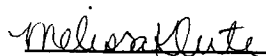
ND - Analyte not detected at the stated detection limit.

Quality Control:	<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>
	Bromofluorobenzene	119.0	75 -125%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:


Analyst


Review

Quality Assurance / Quality Control

VOLATILE AROMATIC HYDROCARBONS
QUALITY CONTROL REPORTDuplicate AnalysisLab ID: 2734
Sample Matrix: Water
Condition: Cool/IntactReport Date: 03/09/95
Date Sampled: 03/02/95
Date Received: 03/02/95
Date Extracted: NA
Date Analyzed: 03/08/95

Target Analyte	Duplicate Concentration (ppb)	Original Concentration (ppb)	% Difference
Benzene	ND	ND	NA
Toluene	ND	ND	NA
Ethylbenzene	ND	ND	NA
m,p-Xylenes	1.1	1.0	9.5
o-Xylene	0.6	0.7	15.4

ND - Analyte not detected at the stated detection limit.

NA - Not applicable or not calculated.

Quality Control:	<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>
	Bromofluorobenzene	93.3	75 -115%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Anna Schaefer
Analyst

Melissa Klute
Review

VOLATILE AROMATIC HYDROCARBONS
QUALITY CONTROL REPORTMatrix Spike AnalysisLab ID: 2686
Sample Matrix: Water
Condition: Cool/IntactReport Date: 03/09/95
Date Sampled: 02/24/95
Date Received: 02/24/95
Date Extracted: NA
Date Analyzed: 03/08/95

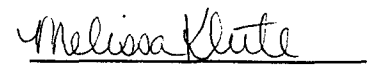
Target Analyte	Spiked Sample Result in ng	Sample result in ng	Spike Added (ng)	% Recovery	Acceptance Limits (%)
Benzene	41.09	13.50	20	125.4%	70-130
Toluene	31.46	15.38	20	73.1%	70-130
Ethylbenzene	18.80	0.24	20	84.4%	70-130
m,p-Xylenes	52.24	15.43	40	83.7%	70-130
o-Xylene	55.77	38.13	20	80.2%	70-130

ND - Analyte not detected at the stated detection limit.
NA - Not applicable or not calculated.

Quality Control:	<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>
	Bromofluorobenzene	114.5%	75 -125%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:


Analyst
Review

VOLATILE AROMATIC HYDROCARBONS
QUALITY CONTROL REPORTMethod Blank AnalysisSample Matrix: Water
Lab ID: Method BlankReport Date: 03/09/95
Date Analyzed: 03/08/95

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2
m,p-Xylenes	ND	0.2
o-Xylene	ND	0.2

ND - Analyte not detected at the stated detection limit.

Quality Control:	<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>
	Bromofluorobenzene	95.3	75-125%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Anna Schaefer
Analyst

Melissa Rute
Review

Quality Control / Quality Assurance**Known Analysis****BTEX**

Client: **Bloomfield Refining Co.**
Project: **Not Given**
Sample Matrix: **Water**

Date Reported: **03/09/95**
Date Analyzed: **03/08/95**
Date Received: **03/02/95**

Known Analysis

Parameter	Found Concentration (ppb)	Known Concentration (ppb)	Percent Recovery
Benzene	5.4	5.0	108%
Toluene	4.0	5.0	79%
Ethylbenzene	3.8	5.0	77%
m+p-Xylene	3.6	5.0	72%
o-Xylene	3.6	5.0	71%

Quality Control:	<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>
	Bromofluorobenzene	108.1	75-125%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Reported by Anna Schaefer

Reviewed by Melissa Plute

**Inter-Mountain Laboratories, Inc.**

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**EPA Method 624
PURGEABLES**

Client: **BLOOMFIELD REFINING CO.**
Project: NE/4, SE/4, SEC 27, T29N, R11W
Sample ID: GW - 130 INJ.
Laboratory ID: 2734/0695G00635
Sample Matrix: Water
Preservative: Cool, HCl
Condition: Intact, pH<2

Report Date: 03/10/95
Date Sampled: 03/02/95
Date Received: 03/06/95
Date Extracted: 03/09/95
Date Analyzed: 03/09/95
Time Analyzed: 12:40 AM

Analyte	Concentration (mg/L)	Detection Limit (mg/L)
Benzene	ND	0.005
Bromoform	ND	0.005
Carbon tetrachloride	ND	0.005
Chlorobenzene	ND	0.005
Chlorodibromomethane	ND	0.005
Chloroethane	ND	0.010
2-Chloroethyl Vinyl Ether	ND	0.010
Chloroform	ND	0.005
Dibromochloromethane	ND	0.005
Dichlorodifluoromethane	ND	0.010
1,3-Dichlorobenzene	ND	0.005
1,2-Dichlorobenzene	ND	0.005
1,4-Dichlorobenzene	ND	0.005
1,1-Dichloroethane	ND	0.005
1,2-Dichloroethane	ND	0.005
1,1-Dichloroethylene	ND	0.005
1,2-Dichloropropane	ND	0.005
trans-1,3-Dichloropropene	ND	0.005
cis-1,3-Dichloropropene	ND	0.005
Ethylbenzene	ND	0.005
Methyl Bromide	ND	0.010
Methyl Chloride	ND	0.010
Methylene Chloride	ND	0.005
1,1,2,2-Tetrachloroethane	ND	0.005
Tetrachloroethylene	ND	0.005
Toluene	ND	0.005
1,2-Trans-dichloroethene	ND	0.005
1,1,1-Trichloroethane	ND	0.005
1,1,2-Trichloroethane	ND	0.005
Trichloroethylene	ND	0.005
Trichlorofluoromethane	ND	0.010
Vinyl Chloride	ND	0.005

ND - Analyte not detected at stated limit of detection.



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EPA Method 624

Page 2

PURGEABLES**ADDITIONAL DETECTED COMPOUNDS**

Client: **BLOOMFIELD REFINING CO.**
Project: NE/4, SE/4, SEC 27, T29N, R11W
Sample ID: GW - 130 INJ.
Laboratory ID: 2734/0695G00635

Report Date: 03/10/95
Date Sampled: 03/02/95
Date Analyzed: 03/06/95
Time Analyzed: 12:40 AM

Tentative Identification	Retention Time (Minutes)	Concentration (mg/L)
None detected at reportable levels		

Quality Control:	<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>
	Dibromofluoromethane	110%	70 - 121%
	Toluene-d8	89%	81 - 117%
	Bromofluorobenzene	97%	74 - 121%

Reference: Method 624 - Purgeables, 40 Code of Federal Regulations, Part 136, Appendix A, July 1993.

Comments: A capillary column is used instead of a packed column as in the reference above.

Ramona R. Dennis
Analyst

Wendy M. Rogers
Review



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EPA Method 624 PURGEABLES

Client: **BLOOMFIELD REFINING CO.**

Project: NA

Sample ID: Trip Blank

Laboratory ID: 0695G00636

Sample Matrix: Water

Preservative: Cool, HCl

Condition: Intact, pH<2

Report Date: 03/10/95

Date Sampled: NA

Date Received: 03/06/95

Date Extracted: 03/08/95

Date Analyzed: 03/08/95

Time Analyzed: 11:59 PM

Analyte	Concentration (mg/L)	Detection Limit (mg/L)
Benzene	ND	0.005
Bromoform	ND	0.005
Carbon tetrachloride	ND	0.005
Chlorobenzene	ND	0.005
Chlorodibromomethane	ND	0.005
Chloroethane	ND	0.010
2-Chloroethyl Vinyl Ether	ND	0.010
Chloroform	ND	0.005
Dibromochloromethane	ND	0.005
Dichlorodifluoromethane	ND	0.010
1,3-Dichlorobenzene	ND	0.005
1,2-Dichlorobenzene	ND	0.005
1,4-Dichlorobenzene	ND	0.005
1,1-Dichloroethane	ND	0.005
1,2-Dichloroethane	ND	0.005
1,1-Dichloroethylene	ND	0.005
1,2-Dichloropropane	ND	0.005
trans-1,3-Dichloropropene	ND	0.005
cis-1,3-Dichloropropene	ND	0.005
Ethylbenzene	ND	0.005
Methyl Bromide	ND	0.010
Methyl Chloride	ND	0.010
Methylene Chloride	ND	0.005
1,1,2,2-Tetrachloroethane	ND	0.005
Tetrachloroethylene	ND	0.005
Toluene	ND	0.005
1,2-Trans-dichloroethene	ND	0.005
1,1,1-Trichloroethane	ND	0.005
1,1,2-Trichloroethane	ND	0.005
Trichloroethylene	ND	0.005
Trichlorofluoromethane	ND	0.010
Vinyl Chloride	ND	0.005

ND - Analyte not detected at stated limit of detection.



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EPA Method 624

Page 2

PURGEABLES**ADDITIONAL DETECTED COMPOUNDS**

Client: **BLOOMFIELD REFINING CO.**
Project: NA
Sample ID: Trip Blank
Laboratory ID: 0695G00636

Report Date: 03/10/95
Date Sampled: NA
Date Analyzed: 03/06/95
Time Analyzed: 11:59 PM

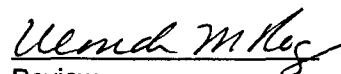
Tentative Identification	Retention Time (Minutes)	Concentration (mg/L)
None detected at reportable levels		

Quality Control:	<u>Surrogate</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>
	Dibromofluoromethane	101%	70 - 121%
	Toluene-d8	98%	81 - 117%
	Bromofluorobenzene	99%	74 - 121%

Reference: Method 624 - Purgeables, 40 Code of Federal Regulations, Part 136, Appendix A, July 1993.

Comments: A capillary column is used instead of a packed column as in the reference above.


Analyst


Review



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QUALITY CONTROL REPORT - METHOD BLANK EPA METHOD 624 - PURGEABLES

Sample ID: Method Blank
Laboratory ID: MB0308A
Sample Matrix: Water

Report Date: 03/09/95
Date Extracted: 03/08/95
Date Analyzed: 03/08/95
Time Analyzed: 4:26 PM

Analyte	Concentration (mg/L)	Detection Limit (mg/L)
Benzene	ND	0.005
Bromoform	ND	0.005
Carbon tetrachloride	ND	0.005
Chlorobenzene	ND	0.005
Chlorodibromomethane	ND	0.005
Chloroethane	ND	0.010
2-Chloroethyl Vinyl Ether	ND	0.010
Chloroform	ND	0.005
Dibromochloromethane	ND	0.005
Dichlorodifluoromethane	ND	0.010
1,3-Dichlorobenzene	ND	0.005
1,2-Dichlorobenzene	ND	0.005
1,4-Dichlorobenzene	ND	0.005
1,1-Dichloroethane	ND	0.005
1,2-Dichloroethane	ND	0.005
1,1-Dichloroethylene	ND	0.005
1,2-Dichloropropane	ND	0.005
trans-1,3-Dichloropropene	ND	0.005
cis-1,3-Dichloropropene	ND	0.005
Ethylbenzene	ND	0.005
Methyl Bromide	ND	0.010
Methyl Chloride	ND	0.010
Methylene Chloride	ND	0.005
1,1,2,2-Tetrachloroethane	ND	0.005
Tetrachloroethylene	ND	0.005
Toluene	ND	0.005
1,2-Trans-dichloroethene	ND	0.005
1,1,1-Trichloroethane	ND	0.005
1,1,2-Trichloroethane	ND	0.005
Trichloroethylene	ND	0.005
Trichlorofluoromethane	ND	0.010
Vinyl Chloride	ND	0.005

ND - Analyte not detected at stated limit of detection



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QUALITY CONTROL REPORT - METHOD BLANK

EPA METHOD 624 - PURGEABLES

Page 2

ADDITIONAL DETECTED COMPOUNDS

Sample ID: Method Blank
Laboratory ID: MB0308A

Report Date: 03/09/95
Date Sampled: 03/08/95
Date Analyzed: 03/08/95
Time Analyzed: 4:26 PM

Tentative Identification	Retention Time (Minutes)	Concentration* (mg/L)
None detected at reportable levels		

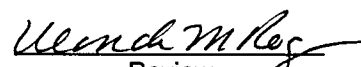
* - Concentration calculated using assumed Relative Response Factor = 1

Quality Control:	Surrogate	Percent Recovery	Acceptance Limits
	Dibromofluoromethane	101%	70 - 121%
	Toluene-d8	102%	88 - 110%
	Bromofluorobenzene	99%	86 - 115%

Reference: Method 624 - Purgeables, 40 Code of Federal Regulations, Part 136, Appendix A, July 1993.

Comments: A capillary column is used instead of a packed column as in the reference above.


Analyst


Review

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QUALITY CONTROL REPORT - METHOD BLANK**EPA METHOD 624 - PURGEABLES**

Sample ID: Method Blank
Laboratory ID: MB0308C
Sample Matrix: Water

Report Date: 03/09/95
Date Extracted: 03/08/95
Date Analyzed: 03/08/95
Time Analyzed: 9:59 PM

Analyte	Concentration (mg/L)	Detection Limit (mg/L)
Benzene	ND	0.005
Bromoform	ND	0.005
Carbon tetrachloride	ND	0.005
Chlorobenzene	ND	0.005
Chlorodibromomethane	ND	0.005
Chloroethane	ND	0.010
2-Chloroethyl Vinyl Ether	ND	0.010
Chloroform	ND	0.005
Dibromochloromethane	ND	0.005
Dichlorodifluoromethane	ND	0.010
1,3-Dichlorobenzene	ND	0.005
1,2-Dichlorobenzene	ND	0.005
1,4-Dichlorobenzene	ND	0.005
1,1-Dichloroethane	ND	0.005
1,2-Dichloroethane	ND	0.005
1,1-Dichloroethylene	ND	0.005
1,2-Dichloropropane	ND	0.005
trans-1,3-Dichloropropene	ND	0.005
cis-1,3-Dichloropropene	ND	0.005
Ethylbenzene	ND	0.005
Methyl Bromide	ND	0.010
Methyl Chloride	ND	0.010
Methylene Chloride	ND	0.005
1,1,2,2-Tetrachloroethane	ND	0.005
Tetrachloroethylene	ND	0.005
Toluene	ND	0.005
1,2-Trans-dichloroethene	ND	0.005
1,1,1-Trichloroethane	ND	0.005
1,1,2-Trichloroethane	ND	0.005
Trichloroethylene	ND	0.005
Trichlorofluoromethane	ND	0.010
Vinyl Chloride	ND	0.005

ND - Analyte not detected at stated limit of detection



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QUALITY CONTROL REPORT - METHOD BLANK

EPA METHOD 624 - PURGEABLES

Page 2

ADDITIONAL DETECTED COMPOUNDS

Sample ID: Method Blank
Laboratory ID: MB0308C

Report Date: 03/09/95
Date Sampled: 03/08/95
Date Analyzed: 03/08/95
Time Analyzed: 9:59 PM

Tentative Identification	Retention Time (Minutes)	Concentration* (mg/L)
None detected at reportable levels		

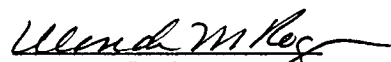
* - Concentration calculated using assumed Relative Response Factor = 1

Quality Control:	Surrogate	Percent Recovery	Acceptance Limits
	Dibromofluoromethane	101%	70 - 121%
	Toluene-d8	101%	88 - 110%
	Bromofluorobenzene	101%	86 - 115%

Reference: Method 624 - Purgeables, 40 Code of Federal Regulations, Part 136, Appendix A, July 1993.

Comments: A capillary column is used instead of a packed column as in the reference above.


Analyst


Review



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QUALITY CONTROL REPORT - METHOD BLANK EPA METHOD 624 - PURGEABLES

Sample ID: Method Blank
Laboratory ID: MB0309
Sample Matrix: Water

Report Date: 03/10/95
Date Extracted: 03/09/95
Date Analyzed: 03/09/95
Time Analyzed: 11:51 AM

Analyte	Concentration (mg/L)	Detection Limit (mg/L)
Benzene	ND	0.005
Bromoform	ND	0.005
Carbon tetrachloride	ND	0.005
Chlorobenzene	ND	0.005
Chlorodibromomethane	ND	0.005
Chloroethane	ND	0.010
2-Chloroethyl Vinyl Ether	ND	0.010
Chloroform	ND	0.005
Dibromochloromethane	ND	0.005
Dichlorodifluoromethane	ND	0.010
1,3-Dichlorobenzene	ND	0.005
1,2-Dichlorobenzene	ND	0.005
1,4-Dichlorobenzene	ND	0.005
1,1-Dichloroethane	ND	0.005
1,2-Dichloroethane	ND	0.005
1,1-Dichloroethylene	ND	0.005
1,2-Dichloropropane	ND	0.005
trans-1,3-Dichloropropene	ND	0.005
cis-1,3-Dichloropropene	ND	0.005
Ethylbenzene	ND	0.005
Methyl Bromide	ND	0.010
Methyl Chloride	ND	0.010
Methylene Chloride	ND	0.005
1,1,2,2-Tetrachloroethane	ND	0.005
Tetrachloroethylene	ND	0.005
Toluene	ND	0.005
1,2-Trans-dichloroethene	ND	0.005
1,1,1-Trichloroethane	ND	0.005
1,1,2-Trichloroethane	ND	0.005
Trichloroethylene	ND	0.005
Trichlorofluoromethane	ND	0.010
Vinyl Chloride	ND	0.005

ND - Analyte not detected at stated limit of detection



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QUALITY CONTROL REPORT - METHOD BLANK

EPA METHOD 624 - PURGEABLES

Page 2

ADDITIONAL DETECTED COMPOUNDS

Sample ID: Method Blank
Laboratory ID: MB0309

Report Date: 03/10/95
Date Sampled: 03/09/95
Date Analyzed: 03/09/95
Time Analyzed: 11:51 AM

Tentative Identification	Retention Time (Minutes)	Concentration* (mg/L)
None detected at reportable levels		

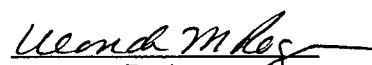
* - Concentration calculated using assumed Relative Response Factor = 1

Quality Control:	Surrogate	Percent Recovery	Acceptance Limits
	Dibromofluoromethane	90%	70 - 121%
	Toluene-d8	101%	88 - 110%
	Bromofluorobenzene	98%	86 - 115%

Reference: Method 624 - Purgeables, 40 Code of Federal Regulations, Part 136, Appendix A, July 1993.

Comments: A capillary column is used instead of a packed column as in the reference above.


Analyst


Review



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QUALITY CONTROL REPORT - MATRIX SPIKE / SPIKE DUPLICATE ANALYSIS

EPA Method 624 - PURGEABLE ORGANICS

Laboratory ID: 0695G00608
Sample Matrix: Water
Preservative: Cool, HCl
Condition: Intact, pH<2

Report Date: 03/13/95
Date Sampled: 02/24/95
Date Received: 02/28/95
Date Analyzed: 03/09/95
Time Analyzed: 8:43 PM / 9:22 PM

MATRIX SPIKE ANALYSIS

Analyte	Spiked Sample Result (mg/L)	Sample Result (mg/L)	Spike Added (mg/L)	Percent Recovery	QC Limits Recovery
1,1 - Dichloroethene	0.099	ND	0.100	99%	61 - 145
Trichloroethene	0.105	ND	0.100	105%	71 - 120
Benzene	0.112	ND	0.100	112%	76 - 127
Toluene	0.113	ND	0.100	113%	76 - 125
Chlorobenzene	0.115	ND	0.100	115%	75 - 130

MATRIX SPIKE DUPLICATE ANALYSIS

Analyte	Duplicate Result (mg/L)	Percent Recovery	Original Spike Result (mg/L)	RPD	QC Limits RPD	Rec.
1,1 - Dichloroethene	0.103	103%	99%	4%	14%	61 - 145
Trichloroethene	0.104	104%	105%	1%	14%	71 - 120
Benzene	0.110	110%	112%	2%	11%	76 - 127
Toluene	0.107	107%	113%	5%	13%	76 - 125
Chlorobenzene	0.113	113%	115%	2%	13%	75 - 130

ND - Analyte not detected at stated limit of detection

Spike Recovery: 0 out of 10 outside QC Limits
RPD: 0 out of 5 outside QC Limits

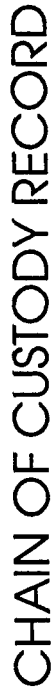
Quality Control:	Surrogate	Spike Recovery	Duplicate Recovery	Recovery Limits
	Dibromofluoromethane	93%	95%	86 - 114%
	Toluene-d8	103%	101%	88 - 110%
	Bromofluorobenzene	93%	100%	86 - 115%

Reference: Method 624 - Purgeables, 40 Code of Federal Regulations, Part 136, Appendix A, July 1993.

Comments: A capillary column is used instead of a packed column as in the reference above.

Ramona R. Dennis
Analyst

Urend M. Log
Review



CHAIN OF CUSTODY RECORD

[illegible]



Bloomfield Refining
Company

A Gary Energy Corporation Subsidiary

OIL CONSERVATION DIVISION
RECEIVED

'95 MAR 7 AM 8 52

March 1, 1995

Mr. Roger Anderson
New Mexico OCD
P. O. Box 2088
Santa Fe, New Mexico 87504-2088

Mr. Denny Foust
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

RE: Injection Well Permit GW-130
Monthly Report

Dear Sirs:

Attached is our first monthly report for our injection well. During initial start-up the annular pressure was bounced around some, probably because of temperature changes, but now appears to be holding fairly steady. The totalizer meter also seems to record a lower value than our continuous rate meter. We believe the continuous rate meter is more accurate so I have included both numbers.

Please call me if you need any addition information.

Sincerely,

Chris Hawley
Environmental Manager

CH/jm

cc: Joe Warr
Dave Roderick
Ron Weaver
Chad King
John Goodrich

p:\wp\chawley\injectn

BLOOMFIELD REFINING COMPANY
P. O. BOX 159
BLOOMFIELD, NEW MEXICO 87413

MONTHLY INJECTION WELL REPORT
DISCHARGE PLAN GW-130, EXP. DATE: 11/4/1998
NE/4 SE/4, SECTION 27, T29N, R11W,
NMPM, SAN JUAN COUNTY, NEW MEXICO

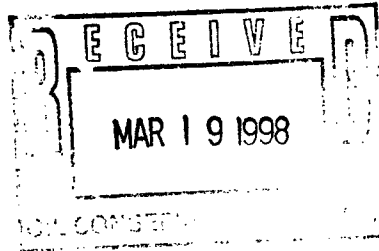
PERIOD	TOTALIZER AMOUNT INJECTED (GALLONS)	CALCULATED AMOUNT INJECTED (GALLONS)	INJECTION PRESSURES			ANNULAR PRESSURE			FLOW RATES		
			MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (PSIA)	MIN (PSIA)	AVG (PSIA)	MAX (GPM)	MIN (GPM)	AVG (GPM)
1995											
FEB	2,291,200	2,844,000	809	643	706	220	12	100	111	57	79
MAR											
APR											
MAY											
JUN											
JUL											
AUG											
SEP											
OCT											
NOV											
DEC											
TOTAL	2,291,200	2,844,000	809	643	706	220	12	100	111	57	79

CERTIFICATION: *Carroll H. H. H. H. H.*

DATE: 3/1/95



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



March 17, 1998

Roger Anderson
Environmental Bureau Chief
New Mexico OCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Denny Foust
Deputy Oil & Gas Inspector
New Mexico OCD
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: **Monthly Water Effluent Report**

Dear Sirs:

Attached is the February, 1998 waste water effluent (GW-001) and injection well (GW-130) report for Giant Refining Company's Bloomfield Refinery. Also included are copies of the quarterly sample analyses for the injection well.

If you require additional information, please do not hesitate to contact me at (505) 632 8013.

Sincerely:

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

Enclosure

cc: John Stokes
Ron Weaver
Chad King

pH Water
Method SW846 9040
Sample Results

Page 1 of 1

Lab Name: Paragon Analytics, Inc.
ClientName: Giant Refining Company
Client Project ID: QTR Inj Well
Work Order Number: 9709247
Reporting Basis: AS RECEIVED

Reported on: Friday, October 03, 1997

Final Volume: N/A
Matrix: Water

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Units	Detection Limit	Flag	Sample Aliquot
Qtr. Inj. Well	9709247-1	9/23/97	N/A	9/30/97	N/A	1	8.9	PH	N/A		N/A

Comments:

KM

Specific Conductance In Water**Method EPA 120.1****Sample Results**

Lab Name: Paragon Analytics, Inc.

Page 1 of 1

ClientName: Giant Refining Company

Client Project ID: QTR Inj Well

Work Order Number: 9709247

Final Volume: N/A

Reporting Basis: AS RECEIVED

Reported on: Friday, October 03, 1997

Matrix: Water

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Units	Detection Limit	Flag	Sample Aliquot
Qtr. Inj. Well	9709247-1	9/23/97	N/A	10/2/97	N/A	1	7550	umhos/cm	N/A		N/A

Comments:

Km

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.

Work Order Number: 9709247

Client Name: Giant Refining Company

ClientProject ID:

Reported on: Wednesday, October 01, 1997

Field No.	Qtr. Inj. Well
Lab No.	9709247-1

Sample Matrix: liquid

% Moisture: N/A

Cleanup Method: NONE

Report Basis: AS RECEIVED

Date Collected: 23-Sep-97

Date Extracted: 30-Sep-97

Date Analyzed: 30-Sep-97

Prep Batch: v09247

Sample Aliquot: 5

Final Volume: 5

Dilution: 20

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	200	ug/L	200	U	
74-87-3	CHLOROMETHANE	200	ug/L	200	U	
75-01-4	VINYL CHLORIDE	200	ug/L	200	U	
74-83-9	BROMOMETHANE	200	ug/L	200	U	
75-00-3	CHLOROETHANE	200	ug/L	200	U	
75-69-4	TRICHLOROFLUOROMETHANE	100	ug/L	100	U	
75-35-4	1,1-DICHLOROETHENE	100	ug/L	100	U	
76-13-1	TRICHLOROTRIFLUOROETHANE	100	ug/L	100	U	
67-84-1	ACETONE	400	ug/L	400	U	
74-88-4	IODOMETHANE	100	ug/L	100	U	
75-15-0	CARBON DISULFIDE	100	ug/L	100	U	
75-09-2	METHYLENE CHLORIDE	61	ug/L	100	J,B	
156-80-5	TRANS-1,2-DICHLOROETHENE	100	ug/L	100	U	
1634-04-4	METHYL TERTIARY BUTYL ETHER	9800	ug/L	100	E	
75-34-3	1,1-DICHLOROETHANE	100	ug/L	100	U	
108-05-4	VINYL ACETATE	400	ug/L	400	U	
156-59-2	CIS-1,2-DICHLOROETHENE	100	ug/L	100	U	
78-93-3	2-BUTANONE	400	ug/L	400	U	
74-97-5	BROMOCHLOROMETHANE	100	ug/L	100	U	
67-66-3	CHLOROFORM	100	ug/L	100	U	
71-55-6	1,1,1-TRICHLOROETHANE	100	ug/L	100	U	
594-20-7	2,2-DICHLOROPROPANE	100	ug/L	100	U	
56-23-5	CARBON TETRACHLORIDE	100	ug/L	100	U	
563-58-6	1,1-DICHLOROPROPENE	100	ug/L	100	U	
107-06-2	1,2-DICHLOROETHANE	100	ug/L	100	U	
71-43-2	BENZENE	100	ug/L	100	U	
79-01-6	TRICHLOROETHENE	100	ug/L	100	U	
78-87-5	1,2-DICHLOROPROPANE	100	ug/L	100	U	
74-95-3	DIBROMOMETHANE	100	ug/L	100	U	
75-27-4	BROMODICHLOROMETHANE	100	ug/L	100	U	
110-75-8	2-CHLOROETHYL VINYL ETHER	200	ug/L	200	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	100	ug/L	100	U	
108-10-1	4-METHYL-2-PENTANONE	400	ug/L	400	U	
108-88-3	TOLUENE	100	ug/L	100	U	

Volatile Organics by GC/MS

Method SW8260

Lab Name: Paragon Analytics, Inc.

Work Order Number: 9709247

Client Name: Giant Refining Company

ClientProject ID:

Reported on: Wednesday, October 01, 1997

Field ID:	Qtr. Inj. Well
Lab ID:	9709247-1

Sample Matrix: liquid

% Moisture: N/A

Cleanup Method: NONE

Report Basis: AS RECEIVED

Date Collected: 23-Sep-97

Date Extracted: 30-Sep-97

Date Analyzed: 30-Sep-97

Prep Batch: v09247

Sample Aliquot: 5

Final Volume: 5

Dilution: 20

10061-02-6	TRANS-1,3-DICHLOROPROPENE	100	ug/L	100	U	
79-00-5	1,1,2-TRICHLOROETHANE	100	ug/L	100	U	
591-78-6	2-HEXANONE	400	ug/L	400	U	
127-18-4	TETRACHLOROETHENE	100	ug/L	100	U	
142-28-9	1,3-DICHLOROPROPANE	100	ug/L	100	U	
124-48-1	DIBROMOCHLOROMETHANE	100	ug/L	100	U	
106-93-4	1,2-DIBROMOETHANE	100	ug/L	100	U	
544-10-5	1-CHLOROHEXANE	100	ug/L	100	U	
108-90-7	CHLOROBENZENE	100	ug/L	100	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	100	ug/L	100	U	
100-41-4	ETHYLBENZENE	100	ug/L	100	U	
136777-61-	M+P-XYLENE	100	ug/L	100	U	
95-47-6	O-XYLENE	100	ug/L	100	U	
100-42-5	STYRENE	100	ug/L	100	U	
75-25-2	BROMOFORM	100	ug/L	100	U	
98-82-8	ISOPROPYLBENZENE	100	ug/L	100	U	
96-18-4	1,2,3-TRICHLOROPROPANE	100	ug/L	100	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	100	ug/L	100	U	
108-86-1	BROMOBENZENE	100	ug/L	100	U	
103-65-1	N-PROPYLBENZENE	100	ug/L	100	U	
95-49-8	2-CHLOROTOLUENE	100	ug/L	100	U	
108-87-8	1,3,5-TRIMETHYLBENZENE	100	ug/L	100	U	
106-43-4	4-CHLOROTOLUENE	100	ug/L	100	U	
98-06-6	TERT-BUTYLBENZENE	100	ug/L	100	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	100	ug/L	100	U	
135-98-8	SEC-BUTYLBENZENE	100	ug/L	100	U	
541-73-1	1,3-DICHLOROBENZENE	100	ug/L	100	U	
99-87-6	P-ISOPROPYLTOLUENE	100	ug/L	100	U	
106-46-7	1,4-DICHLOROBENZENE	100	ug/L	100	U	
104-51-8	N-BUTYLBENZENE	100	ug/L	100	U	
95-50-1	1,2-DICHLOROBENZENE	100	ug/L	100	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	200	ug/L	200	U	
120-82-1	1,2,4-TRICHLOROBENZENE	100	ug/L	100	U	
87-68-3	HEXACHLOROBUTADIENE	100	ug/L	100	U	
91-20-3	NAPHTHALENE	100	ug/L	100	U	
87-61-6	1,2,3-TRICHLOROBENZENE	100	ug/L	100	U	

BICARBONATE ALKALINITY

Method 4500-CO2

Lab Name: Paragon Analytics, Inc.
Client Name: Giant Refining Company
Client Project ID: QTR Inj Well
Client Project No.
Lab Workorder Number: 9709247

Date Collected: 09/23/97
Date Analyzed: 10/02/97
Sample Matrix: Water

Client ID	Lab Sample ID	Bicarbonate Alkalinity as CaCO3 Conc (mg/L)	Detection Limit (mg/L)
Qtr. Inj. Well	Method Blank 9709247-1	ND 120	5 25

ND = Not Detected

CHLORIDE

Method 300.0

Lab Name: Paragon Analytics, Inc.

Client Name: Giant Refining Company

Client Project ID: QTR Inj Well

Client Project No.

Lab Workorder Number: 9709247

Date Collected: 09/23/97

Date Analyzed: 10/02/97

Sample Matrix: Water

Client ID	Lab Sample ID	Chloride Conc (mg/L)	Detection Limit (mg/L)
Qtr. Inj Well	Method Blank 9709247-1	ND 1900	0.2 100

ND = Not Detected

SULFATE
Method 300.0

Lab Name: Paragon Analytics, Inc.
Client Name: Giant Refining Company
Client Project ID: QTR Inj Well
Client Project No.
Lab Workorder Number: 9709247

Date Collected: 09/23/97
Date Analyzed: 09/27/97
Sample Matrix: Water

Client ID	Lab Sample ID	Sulfate Conc (mg/L)	Detection Limit (mg/L)
Qtr. Inj. Well	Method Blank 9709247-1	ND 590	1 50

ND = Not Detected

TOTAL RECOVERABLE METALS

Lab Name: Paragon Analytics, Inc.
Client Name: Giant Refining Company
Client Project ID: QTR Inj Well
Lab Sample ID: 9709247-1

Sample Matrix: Water

Sample ID

Qtr. Inj. Well

Date Collected: 09/23/97
Prep Date: 09/29/97, 10/02/97
Date Analyzed: 09/30/97,
10/03/97

Analyte	Concentration mg/L	Reporting Limit mg/L
Arsenic ^	0.04	0.02
Barium	0.1	0.1
Cadmium	ND	0.005
Calcium	150	1
Chromium	ND	0.01
Lead	ND	0.003
Magnesium	29	1
Mercury	0.0012	0.0002
Potassium	32	1
Selenium	0.018	0.005
Silver	ND	0.01
Sodium *	1300	50

ND = Not detected at or above the reporting limit.

* Detection limit raised. Dilution required due to analyte concentration.

^ Detection limit raised. Sample diluted to reduce matrix interferences.

DP



PARAGON ANALYTICS, INC.

225 Commerce Drive ♦ Fort Collins, CO 80524 ♦ (800) 443-1511 ♦ (970) 490-1511 ♦ FAX (970) 490-1522

December 23, 1997

Mr. Lynn Shelton
Giant Refining Company
PO Box 15
Bloomfield NM 87413

RE: Paragon Workorder: 97-12-055
Client Project Name: Qtr Injection Well
Client Project Number: Not Submitted

Dear Mr. Shelton:

One water sample was received from Giant Refining Company on December 5, 1997.
The samples were scheduled for the following analyses:

Total Recoverable Metals	pages 1-8
Specific Conductance	pages 1-4
pH	pages 1-5
Ignitablility	pages 1-3
Inorganics	pages 1-8
GC/MS Volatiles	pages 1-8

The results for these analyses are contained in the enclosed reports.

Thank you for your confidence in Paragon Analytics, Inc. Should you have any questions, please call.

Sincerely,

Paragon Analytics, Inc.
Victoria Bayly
Project Manager

VB/nmu
Enclosure: Report

Paragon Analytics, Inc.



SPECIFIC CONDUCTANCE CASE NARRATIVE

Giant Refining

Qtr Injection Well

Order Number - 9712055

1. This report consists of one water sample.
2. The sample was received cool and intact on December 5, 1997.
3. The sample was prepared for analysis based on SW-846, 3rd Edition procedures. Specifically, The water sample was analyzed following Method 9050.
4. All standards and solutions are NIST traceable and were used within their recommended shelf life.

All in house quality control procedures were followed, as described below.

5. General quality control procedures.
 - All initial and continuing calibration verifications associated with this batch were within acceptance criteria for the requested analyte. This indicates a valid calibration and stable instrument conditions.
6. PAI sample ID 9712055-1 was used as the matrix QC sample for this batch.
 - A duplicate was prepared and analyzed with this batch. All acceptance criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below:

Krista Mobley
Krista Mobley
Inorganic Technician

12-18-97
Date

SW
Reviewer's Initials

12/19/97
Date

CERTIFICATION

Paragon Analytics, Inc. certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Specific Conductance in Water

Method SW9050

Sample Results

Page 1 of 1

Lab Name: Paragon Analytics, Inc.

Client Name: Giant Refining Company

Client Project ID: Qtr Injection Well

Work Order Number: 9712055

Reporting Basis: As Received

Printed on: Thursday, December 18, 1997

Final Volume: 50 ML

Matrix: Water

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Units	Detection Limit	Flag	Sample Aliquot
Qtr Inj. Well	9712055-1	12/4/97	12/10/97	12/10/97		1	7430	umhos/cm			50 ML

Comments:

1. ND = Not Detected at or above the client requested detection limit.

Handwritten signature

Specific Conductance in Water

Method SW9050

Duplicate Sample Results

Page 1 of 1

Lab Name: Paragon Analytics, Inc.

ClientName: Giant Refining Company

Client Project ID: Qtr Injection Well

Work Order Number: 9712055

Reporting Basis: As Received

Sample Aliquot: 50 ML

Final Volume: 50ML

Matrix: Water

Reported on: Thursday, December 18, 1997

Client Sample ID	Lab ID	Date Prepared	Date Analyzed	Dilution Factor	Duplicate Result	Units	Sample Result	Detection Limit	Flag	RPD	RPD Limit
Qtr Inj. Well	9712055-1	12/10/97	12/10/97	1	7420	umhos/cm	7430			0	

Comments:

1. ND = Not Detected at or above the client requested detection limit.

Km

Paragon Analytics, Inc.



PH ANALYSIS CASE NARRATIVE

Giant Refining Company

Qtr Injection Well

Order Number - 9712055

1. This report consists of one water sample.
 2. The sample was received cool and intact on December 5, 1997.
 3. The sample was prepared for analysis based on SW-846, 3rd Edition procedures. Specifically, the water sample was analyzed following Method 9040.
 4. All standards and solutions were used within their recommended shelf life.
- All in house quality control procedures were followed, as described below.
5. General quality control procedures.
 - All initial and continuing calibration verifications associated with this batch were within acceptance criteria for the requested analyte. This indicates a valid calibration and stable instrument conditions.
 6. PAI sample ID 9712031-1 was used as the matrix QC sample for this batch.
 - A duplicate was prepared and analyzed with this batch. All acceptance criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below:



Krista Mobley
Krista Mobley
Inorganic Technician

12-11-97
Date

SW
Reviewer's Initials

12/11/97
Date

CERTIFICATION

Paragon Analytics, Inc. certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Paragon Analytics, Incorporated

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 9712055

Client Name: Giant Refining Company

Client Project Name:

Client Project Number: Qtr Injection Well

Client PO Number:

Client Sample	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Qtr Inj. Well	9712055-1		Water	12/4/97	10:00

pH in Water

Method SW9040

Sample Results

Page 1 of 1

Lab Name: Paragon Analytics, Inc.

Client Name: Giant Refining Company

Client Project ID: Qtr Injection Well

Work Order Number: 9712055

Reporting Basis: As Received

Printed on: Thursday, December 11, 1997

Final Volume: 20 ML

Matrix: Water

Client Sample ID	Lab ID	Date Collected	Date Prepared	Date Analyzed	Percent Moisture	Dilution Factor	Result	Units	Detection Limit	Flag	Sample Aliquot
Qtr Inj. Well	9712055-1	12/4/97	12/10/97	12/10/97		1	7.1	PH			20 ML

Comments:

1. ND = Not Detected at or above the client requested detection limit.

km

pH in Water

Method SW9040

Duplicate Sample Results

Page 1 of 1

Lab Name: Paragon Analytics, Inc.

ClientName: Giant Refining Company

Client Project ID: Qtr Injection Well

Work Order Number: 9712055

Reporting Basis: As Received

Reported on: Thursday, December 11, 1997

Sample Aliquot: 20 ML

Final Volume: 20ML

Matrix: Liquid

Client Sample ID	Lab ID	Date Prepared	Date Analyzed	Dilution Factor	Duplicate Result	Units	Sample Result	Detection Limit	Flag	RPD	RPD Limit
SHARED QC	9712031-1	12/10/97	12/10/97	1	5.8	PH	5.8			0	

Comments:

1. ND = Not Detected at or above the client requested detection limit.

Handwritten signature



Paragon Analytics, Inc.

TOTAL RECOVERABLE METALS CASE NARRATIVE

Giant Refining Company

Qtr Injection Well

Order Number - 9712055

1. This report consists of 1 water sample.
 2. The sample was received cool and intact on 12/05/97.
 3. The sample had not been preserved for the requested analyses. The pH was lowered below 2 with HNO_3 upon receipt.
 4. The sample was prepared for analysis based on SW-846, 3rd Edition procedures.
For analysis by Trace ICP the sample was digested following method 3005A.
For analysis by Cold Vapor AA (CVAA) the sample was digested following method 7470A.
 5. The sample was analyzed following SW846 protocols by Trace ICP (Method 6010A) and CVAA (Method 7470A).
 6. All standards and solutions are NIST traceable and were used within their recommended shelf life.
 7. The sample was prepared and analyzed within the established hold times.
 8. Sample results which are below the client's requested reporting limits are reported as "ND" on the enclosed report. PAI's standard reporting limits were used if the client's requested reporting limits were higher than the standard reporting limit.
- All in house quality control procedures were followed, as described below.
9. General quality control procedures.
 - A preparation (method) blank and laboratory control sample were digested and analyzed with the samples in each digestion batch. There were not more than 20 samples in each digestion batch.

- The preparation (method) blank results associated with each batch were below the reporting limits for the requested analytes. This indicates that no contaminants were introduced to the samples during the digestion procedure.
 - The laboratory control sample associated with each batch was within acceptance limits. This indicates complete digestion according to the method.
 - All initial and continuing calibration blanks associated with each batch were below the reporting limits for the requested analytes. This indicates a valid calibration and stable instrument conditions.
 - All initial and continuing calibration verifications associated with each batch were within acceptance criteria for the requested analytes. This indicates a valid calibration and stable instrument conditions.
 - The interference check samples, and high standard readbacks associated with Method 6010A analyses were within acceptance criteria.
10. A sample from another Order Number was used as the QC sample for each batch.
- A matrix spike and matrix spike duplicate were digested and analyzed with each batch. All acceptance criteria for accuracy were met.
 - A sample duplicate and spike duplicate were digested and analyzed with each batch. All acceptance criteria for precision were met.
 - A serial dilution was analyzed with each batch. All acceptance criteria were met.

The data contained in the following report have been reviewed and approved by the personnel listed below:

Darryl Patrick

Darryl Patrick
Senior Inorganic Chemist

12/17/97

Date

SW

Reviewer's Initials

12/17/97

Date

CERTIFICATION

Paragon Analytics, Inc. certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Paragon Analytics, Incorporated

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 9712055

Client Name: Giant Refining Company

Client Project Name:

Client Project Number: Qtr Injection Well

Client PO Number:

Client Sample	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Qtr Inj. Well	9712055-1		Water	12/4/97	10:00

TOTAL RECOVERABLE METALS

Lab Name: Paragon Analytics, Inc.
Client Name: Giant Refining Company
Client Project ID: Qtr Injection Well
Lab Sample ID: 9712055-1

Sample Matrix: Water

Sample ID

Qtr Inj. Well

Date Collected: 12/04/97
Prep Date: 12/09, 11/97
Date Analyzed: 12/10, 11/97

Analyte	Concentration mg/L	Reporting Limit mg/L
Arsenic	0.037	0.005
Barium	0.3	0.1
Cadmium	ND	0.002
Calcium	170	1
Chromium	ND	0.01
Lead	ND	0.003
Magnesium	30	1
Mercury	0.0021	0.0002
Potassium	33	1
Selenium	0.019	0.005
Silver	ND	0.01
Sodium	1100	50

ND = Not detected at or above the reporting limit.

TOTAL RECOVERABLE METALS

Lab Name: Paragon Analytics, Inc.
Client Name: Giant Refining Company
Client Project ID: Qtr Injection Well
Lab Sample ID: RB 9712055

Sample ID

Reagent Blank

Date Collected: N/A
Prep Date: 12/09, 11/97
Date Analyzed: 12/10, 11/97

Analyte	Concentration mg/L	Reporting Limit mg/L
Arsenic	ND	0.005
Barium	ND	0.1
Cadmium	ND	0.002
Calcium	ND	1
Chromium	ND	0.01
Lead	ND	0.003
Magnesium	ND	1
Mercury	ND	0.0002
Potassium	ND	1
Selenium	ND	0.005
Silver	ND	0.01
Sodium	ND	1

ND = Not detected at or above the reporting limit.

DP

TOTAL RECOVERABLE METALS MATRIX SPIKE

Lab Name: Paragon Analytics, Inc.
Client Name: Giant Refining Company
Lab Sample ID: 9712048-1

Sample ID

In House

Sample Matrix: Water

Prep Date: 12/11/97
Date Analyzed: 12/11/97

Analyte	Spike Added mg/L	Sample Conc. mg/L	MS Conc. mg/L	% Rec (limits 80-120%)	Flags
Mercury	0.0020	< 0.0002	0.0020	100	

Analyte	MSD Conc. mg/L	MSD % Rec (limits 80-120%)	Relative % Difference (limits 0-20%)	Flags
Mercury	0.0020	100	0	

DP

TOTAL RECOVERABLE METALS MATRIX SPIKE

Lab Name: Paragon Analytics, Inc.
 Client Name: Giant Refining Company
 Lab Sample ID: 9711301-1

Sample ID

In House

Sample Matrix: Water

Prep Date: 12/09/97

Date Analyzed: 12/10/97

Analyte	Spike Added mg/L	Sample Conc. mg/L	MS Conc. mg/L	% Rec (limits 80-120%)	Flags
Arsenic	2.00	< 0.005	2.09	105	
Barium	2.0	0.2	2.2	100	
Cadmium	0.050	< 0.002	0.055	110	
Calcium	40	47	94	118	
Chromium	0.20	< 0.01	0.20	100	
Lead	0.500	< 0.003	0.513	103	
Magnesium	40	7	49	105	
Potassium	40	3	40	93	
Selenium	2.00	< 0.005	2.16	108	
Silver	0.05	< 0.01	0.05	100	
Sodium	40	3	43	100	

DP

**TOTAL RECOVERABLE METALS
MATRIX SPIKE DUPLICATE**

Lab Name: Paragon Analytics, Inc.
Client Name: Giant Refining Company
Lab Sample ID: 9711301-1

Sample ID

In House

Sample Matrix: Water

Prep Date: 12/09/97
Date Analyzed: 12/10/97

Analyte	MSD Conc. mg/L	MSD % Rec (limits 80-120%)	Relative % Difference (limits 0-20%)	Flags
Arsenic	2.09	105	0	
Barium	2.2	100	0	
Cadmium	0.051	102	8	
Calcium	94	118	0	
Chromium	0.20	100	0	
Lead	0.512	102	0	
Magnesium	49	105	0	
Potassium	40	93	0	
Selenium	2.17	109	0	
Silver	0.05	100	0	
Sodium	43	100	0	

TOTAL ALKALINITY

Method 310.1

Lab Name: Paragon Analytics, Inc.
Client Name: Giant Refining Company
Client Project Name: Qtr Injection Well
Client Project ID:
Lab Workorder Number: 9712055

Date Collected: 12/04/97
Date Analyzed: 12/18/97
Sample Matrix: Water

Client ID	Lab Sample ID	Total Alkalinity as CaCO ₃ Conc (mg/L)	Detection Limit (mg/L)
Qtr Inj. Well	Method Blank 9712055-1	ND 190	5 50

ND = Not Detected

BICARBONATE ALKALINITY

Method 310.1 modified

Lab Name: Paragon Analytics, Inc.

Client Name: Giant Refining Company

Client Project Name: Qtr Injection Well

Client Project ID:

Lab Workorder Number: 9712055

Date Collected: 12/04/97

Date Analyzed: 12/18/97

Sample Matrix: Water

Client ID	Lab Sample ID	Bicarbonate Alkalinity as CaCO3 Conc (mg/L)	Detection Limit (mg/L)
Qtr Inj. Well	Method Blank 9712055-1	ND 190	5 50

ND = Not Detected

CARBONATE ALKALINITY

Method 310.1 modified

Lab Name: Paragon Analytics, Inc.

Client Name: Giant Refining Company

Client Project Name: Qtr Injection Well

Client Project ID:

Lab Workorder Number: 9712055

Date Collected: 12/04/97

Date Analyzed: 12/18/97

Sample Matrix: Water

Client ID	Lab Sample ID	Carbonate Alkalinity as CaCO ₃ Conc (mg/L)	Detection Limit (mg/L)
Qtr Inj. Well	Method Blank 9712055-1	ND ND	5 50

ND = Not Detected

Alkalinity Calculations and Quality Control Results

Date analyzed: 12/18/97

ID	aliq titrated (mL)	titrant normality N	vol to pH 8.3 (mL)	vol to pH 4.5 (mL)	total vol (mL)	HCO3	CO3	OH	Total	DL (mg/L)
						-----mg/L as CaCO3-----				
R Blank	100	0.0204	0	0.00	0.00	0	0	0	0.0	5
LCS	100	0.0204	0	9.63	9.63	98	0	0	98.1	5
9712055-1	10	0.0204	0	1.86	1.86	189	0	0	189.5	50
9712153-1	2	0.0204	8.07	17.28	25.35	4692	8222	0	12913.3	250
9712153-2	20	0.0204	1.23	16.75	17.98	791	125	0	915.9	25
9712153-3	2	0.0204	3.21	10.95	14.16	3943	3270	0	7213.1	250
9712153-4	5	0.0204	0	4.32	4.32	880	0	0	880.2	100
9712153-6	2	0.0204	1.34	7.88	9.22	3331	1365	0	4696.7	250
9712153-7	2	0.0204	0.92	2.28	3.20	693	937	0	1630.1	250
9712153-7 dup	2	0.0204	0.77	2.4	3.17	830	784	0	1614.8	250

Standardization of titrant

Conc Na ₂ CO ₃ std	Na ₂ CO ₃ aliq	HCl vol	HCl conc
0.0470	5.00	11.49	0.02045
0.0470	5.00	11.60	0.02026
0.0470	5.00	11.51	0.02042

mean = 0.02038

Alkalinity Quality Control Results

Date analyzed: 12/18/97

BLANK SUMMARY

ID	blank result (mg/L)	blank accept limit (mg/L)
R Blank	0.0	< 5

LCS SUMMARY

ID	expected alk conc (mg/L)	alk conc found (mg/L)	recovery %	recovery acceptance limit
LCS	100.0	98.1	98	85-115%

DUPLICATE SUMMARY

ID	sample alk conc (mg/L)	duplic alk conc (mg/L)	RPD %	accept. limits
9712153-7 dup	1630.1	1614.8	0.9	0-15%

CHLORIDE

Method 300.0

Lab Name: Paragon Analytics, Inc.
Client Name: Giant Refining Company
Client Project Name: Qtr Injection Well
Client Project ID:
Lab Workorder Number: 9712055

Date Collected: 12/04/97
Date Analyzed: 12/11/97
Sample Matrix: Water

Client ID	Lab Sample ID	Chloride Conc (mg/L)	Detection Limit (mg/L)
Qtr Inj. Well	Method Blank 9712055-1	ND 1800	0.2 40

ND = Not Detected

CHLORIDE MATRIX SPIKE

Method 300.0

Lab Name: Paragon Analytics, Inc.

Paragon Sample ID: 9712099-4

Date Analyzed: 12/11/97

Sample Matrix: Water

Sample ID

In House

Analyte	Spike Added (mg/L)	Sample Concentration (mg/L)	MS Concentration (mg/L)	MS Percent Recovery	MS/MSD Acceptance Limit
Chloride	100	94	188	94	85-115%

Analyte	Spike Added (mg/L)	MSD Concentration (mg/L)	MSD Percent Recovery	RPD %	RPD Acceptance Limit
Chloride	100	186	93	1.0	0-20 %

SULFATE
Method 300.0

Lab Name: Paragon Analytics, Inc.
Client Name: Giant Refining Company
Client Project Name: Qtr Injection Well
Client Project ID:
Lab Workorder Number: 9712055

Date Collected: 12/04/97
Date Analyzed: 12/11/97
Sample Matrix: Water

Client ID	Lab Sample ID	Sulfate Conc (mg/L)	Detection Limit (mg/L)
Qtr Inj. Well	Method Blank 9712055-1	ND 900	1 100

ND = Not Detected

SULFATE MATRIX SPIKE

Method 300.0

Lab Name: Paragon Analytics, Inc.

Paragon Sample ID: 9712040-3

Date Analyzed: 12/11/97

Sample Matrix: Water

Sample ID

In House

Analyte	Spike Added (mg/L)	Sample Concentration (mg/L)	MS Concentration (mg/L)	MS Percent Recovery	MS/MSD Acceptance Limit
Sulfate	1000	606	1619	101	85-115%

Analyte	Spike Added (mg/L)	MSD Concentration (mg/L)	MSD Percent Recovery	RPD %	RPD Acceptance Limit
Sulfate	1000	1584	98	2.1	0-15 %

TOTAL DISSOLVED SOLIDS

Method 160.1

Lab Name: Paragon Analytics, Inc.
Client Name: Giant Refining Company
Client Project Name: Qtr Injection Well
Client Project ID:
Lab Workorder Number: 9712055

Date Collected: 12/04/97
Date Analyzed: 12/08/97
Sample Matrix: Water

Client ID	Lab Sample ID	Total Dissolved Solids Conc (mg/L)	Detection Limit (mg/L)
Qtr Inj. Well	Method Blank 9712055-1	ND 4200	20 20

ND = Not Detected

TDS Calculations and Quality Control Results

Preparation Date: December 8, 1997

ID	sample vol (mL)	empty beaker tare (g)	A beaker + residue gross (g)	A net (mg)	B beaker + residue gross (g)	B net (mg)	gross A vs gross B RPD %	calculated TDS conc (mg/L)	TDS DL (mg/L)
Method Blank	100	70.5088	70.5093	0.5	70.5083	-0.5	0.001	-5	20
Blank Spike	100	80.2462	80.2871	40.9	80.2865	40.3	0.001	403	20
9712039-1	100	65.3112	65.3267	15.5	65.3263	15.1	0.001	151	20
9712039-1 dup	100	75.0617	75.0775	15.8	75.0770	15.3	0.001	153	20
9712039-2	100	73.2559	73.2781	22.2	73.2775	21.6	0.001	216	20
9712039-3	100	68.4239	68.4530	29.1	68.4526	28.7	0.001	287	20
9712039-4	100	84.7416	84.7675	25.9	84.7670	25.4	0.001	254	20
9712039-5	100	86.0824	86.1003	17.9	86.1010	18.6	0.001	186	20
9712040-1	100	87.4812	87.5406	59.4	87.5410	59.8	0.000	598	20
9712040-2	100	68.8920	68.9130	21.0	68.9120	20.0	0.001	200	20
9712040-3	100	67.5307	67.6235	92.8	67.6223	91.6	0.002	916	20
9712040-3 dup	100	67.4905	67.5837	93.2	67.5831	92.6	0.001	926	20
9712040-4	100	71.8005	71.8916	91.1	71.8907	90.2	0.001	902	20
9712055-1	100	80.9529	81.3778	424.9	81.3757	422.8	0.003	4228	20

BLANK SUMMARY

ID	blank conc (mg/L)	accept. limit (mg/L)
Method Blank	-5	< 20

BLANK SPIKE SUMMARY

ID	spike added (g)	spike added conc (mg/L)	spiked sample conc (mg/L)	recovery %	accept. limits
Blank Spike	40.0	400	403	101	85-115%

DUPLICATE SUMMARY

ID	sample conc (mg/L)	duplic conc (mg/L)	RPD %	accept. limits
9712039-1 dup	151	153	1.3	0-15%
9712040-3 dup	916	926	1.1	0-15%

ND = Not Detected

NA = Not Applicable



Paragon Analytics, Inc.

GC/MS Volatiles Case Narrative

Giant Refining Company

Quarterly Injection Well

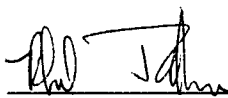
Order Number - 9712055

1. This report consists of one water sample received by Paragon on December 5, 1997.
2. This sample was prepared and analyzed according to SW-846, 3rd Edition procedures. Specifically, the water sample was prepared by purging 5 mls using purge and trap procedures based on Method 5030.
3. The sample was analyzed using GC/MS with a RTX-624 capillary column according to protocols based on SW-846 Method 8260. All positive results were quantitated with the average response of the initial calibration standards using the internal standard technique. The identification of positive results was achieved by a comparison of the retention time and mass spectrum of the sample versus the daily calibration standard.
4. The sample was analyzed within the established holding times.
5. There were no target compounds detected in the method blank..
6. All blank spike and blank spike duplicate recoveries and RPDs were within the acceptance criteria.
7. Matrix spikes and matrix spike duplicates were performed on an in-house sample not included in this report.
8. All surrogate recoveries were within acceptance criteria.
9. All internal standard recoveries were within acceptance criteria.



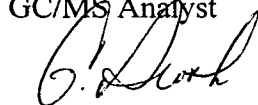
10. All initial and continuing calibration criteria were within acceptance criteria. Method 8260 states any compound exceeding 15% RSD is to be quantitated with a higher order curve. Several compounds from the curve were within the acceptance limit but exceeded the 15% RSD criteria and should be analyzed with a higher curve such as quadratic. We quantitated these compounds using the average response factor due to a software programming problem associated with Hewlett-Packard MSDs. The manufacturer is now aware of the problem and is working on a solution.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics, Inc. certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.



Phil Tallarico
GC/MS Analyst

12-22-97
Date



Reviewer's Initials

12-22-97
Date

Paragon Analytics, Incorporated

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 9712055

Client Name: Giant Refining Company

Client Project Name:

Client Project Number: Qtr Injection Well

Client PO Number:

Client Sample	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Qtr Inj. Well	9712055-1		Water	12/4/97	10:00

Volatile Organics by GC/MS

Method SW8240

Lab Name: Paragon Analytics, Inc.

Work Order Number: 9712055

Client Name: Giant Refining Company

ClientProject ID:

Reported on: Monday, December 15, 1997

Field ID: Qtr Inj. Well
Lab ID: 9712055-1

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 04-Dec-97
Date Extracted: 10-Dec-97
Date Analyzed: 10-Dec-97
Prep Batch: v12055

Sample Aliquot: 5
Final Volume: 5
Dilution: 50

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	500	ug/L	500	U	
74-87-3	CHLOROMETHANE	500	ug/L	500	U	
75-01-4	VINYL CHLORIDE	500	ug/L	500	U	
74-83-9	BROMOMETHANE	500	ug/L	500	U	
75-00-3	CHLOROETHANE	500	ug/L	500	U	
75-69-4	TRICHLOROFLUOROMETHANE	250	ug/L	250	U	
75-35-4	1,1-DICHLOROETHENE	250	ug/L	250	U	
75-09-2	METHYLENE CHLORIDE	250	ug/L	250	U	
156-60-5	TRANS-1,2-DICHLOROETHENE	250	ug/L	250	U	
75-34-3	1,1-DICHLOROETHANE	250	ug/L	250	U	
67-66-3	CHLOROFORM	250	ug/L	250	U	
71-55-6	1,1,1-TRICHLOROETHANE	250	ug/L	250	U	
56-23-5	CARBON TETRACHLORIDE	250	ug/L	250	U	
107-06-2	1,2-DICHLOROETHANE	250	ug/L	250	U	
71-43-2	BENZENE	250	ug/L	250	U	
79-01-6	TRICHLOROETHENE	250	ug/L	250	U	
78-87-5	1,2-DICHLOROPROPANE	250	ug/L	250	U	
110-75-8	2-CHLOROETHYL VINYL ETHER	250	ug/L	250	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	250	ug/L	250	U	
108-88-3	TOLUENE	250	ug/L	250	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	250	ug/L	250	U	
79-00-5	1,1,2-TRICHLOROETHANE	250	ug/L	250	U	
127-18-4	TETRACHLOROETHENE	250	ug/L	250	U	
124-48-1	DIBROMOCHLOROMETHANE	250	ug/L	250	U	
108-90-7	CHLOROBENZENE	250	ug/L	250	U	
100-41-4	ETHYLBENZENE	250	ug/L	250	U	
75-25-2	BROMOFORM	250	ug/L	250	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	250	ug/L	250	U	
541-73-1	1,3-DICHLOROBENZENE	250	ug/L	250	U	
106-46-7	1,4-DICHLOROBENZENE	250	ug/L	250	U	
95-50-1	1,2-DICHLOROBENZENE	250	ug/L	250	U	

Volatile Organics by GC/MS

Method SW8240

Lab Name: Paragon Analytics, Inc.

Work Order Number: 9712055

Client Name: Giant Refining Company

ClientProject ID:

Reported on: Monday, December 15, 1997

Field ID: Qtr Inj. Well
Lab ID: 9712055-1

Sample Matrix: liquid

% Moisture: N/A

Cleanup Method: NONE

Report Basis: AS RECEIVED

Date Collected: 04-Dec-97

Date Extracted: 10-Dec-97

Date Analyzed: 10-Dec-97

Prep Batch: v12055

Sample Aliquot: 5

Final Volume: 5

Dilution: 50

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	52.3	ug/l	50	105	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	54.6	ug/l	50	109	85 - 115
2037-26-5	TOLUENE-D8	50	ug/l	50	100	88 - 110

U = Less than the Reporting Limit

Volatile Organics by GC/MS

Method SW8240

Method Blank

Lab Name: Paragon Analytics, Inc.

Work Order Number: 9712055

Client Name: Giant Refining Company

ClientProject ID:

Reported on: Monday, December 15, 1997

Field ID: LABQC

Lab ID: VB971209-1MB

Sample Matrix: liquid

% Moisture: N/A

Cleanup Method: NONE

Report Basis: NA

Date Collected: 10-Dec-97

Date Extracted: 10-Dec-97

Date Analyzed: 10-Dec-97

Prep Batch: v12055

Sample Aliquot: 5

Final Volume: 5

Dilution: 1

CASNO	Target Analyte	Result	Units	Reporting Limit	Result Qualifier	Result Footnote
75-71-8	DICHLORODIFLUOROMETHANE	10	ug/L	10	U	
74-87-3	CHLOROMETHANE	10	ug/L	10	U	
75-01-4	VINYL CHLORIDE	10	ug/L	10	U	
74-83-9	BROMOMETHANE	10	ug/L	10	U	
75-00-3	CHLOROETHANE	10	ug/L	10	U	
75-69-4	TRICHLOROFLUOROMETHANE	5	ug/L	5	U	
75-35-4	1,1-DICHLOROETHENE	5	ug/L	5	U	
75-09-2	METHYLENE CHLORIDE	5	ug/L	5	U	
156-60-5	TRANS-1,2-DICHLOROETHENE	5	ug/L	5	U	
75-34-3	1,1-DICHLOROETHANE	5	ug/L	5	U	
67-66-3	CHLOROFORM	5	ug/L	5	U	
71-55-6	1,1,1-TRICHLOROETHANE	5	ug/L	5	U	
56-23-5	CARBON TETRACHLORIDE	5	ug/L	5	U	
107-06-2	1,2-DICHLOROETHANE	5	ug/L	5	U	
71-43-2	BENZENE	5	ug/L	5	U	
79-01-6	TRICHLOROETHENE	5	ug/L	5	U	
78-87-5	1,2-DICHLOROPROPANE	5	ug/L	5	U	
110-75-8	2-CHLOROETHYL VINYL ETHER	5	ug/L	5	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
108-88-3	TOLUENE	5	ug/L	5	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	5	ug/L	5	U	
79-00-5	1,1,2-TRICHLOROETHANE	5	ug/L	5	U	
127-18-4	TETRACHLOROETHENE	5	ug/L	5	U	
124-48-1	DIBROMOCHLOROMETHANE	5	ug/L	5	U	
108-90-7	CHLOROBENZENE	5	ug/L	5	U	
100-41-4	ETHYLBENZENE	5	ug/L	5	U	
75-25-2	BROMOFORM	5	ug/L	5	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	5	ug/L	5	U	
541-73-1	1,3-DICHLOROBENZENE	5	ug/L	5	U	
106-46-7	1,4-DICHLOROBENZENE	5	ug/L	5	U	
95-50-1	1,2-DICHLOROBENZENE	5	ug/L	5	U	

Volatile Organics by GC/MS

Method SW8240

Method Blank

Lab Name: Paragon Analytics, Inc.

Work Order Number: 9712055

Client Name: Giant Refining Company

ClientProject ID:

Reported on: Monday, December 15, 1997

Field ID: LABQC

Lab ID: VB971209-1MB

Sample Matrix: liquid

% Moisture: N/A

Cleanup Method: NONE

Report Basis: NA

Date Collected: 10-Dec-97

Date Extracted: 10-Dec-97

Date Analyzed: 10-Dec-97

Prep Batch: v12055

Sample Aliquot: 5

Final Volume: 5

Dilution: 1

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Units	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	52.5	ug/l	50	105	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	50.5	ug/l	50	101	85 - 115
2037-26-5	TOLUENE-D8	50.9	ug/l	50	102	88 - 110

U = Less than the Reporting Limit

Volatile Organics by GC/MS

Blank Spike and Blank Spike Duplicate

Method SW8240

Lab Name: Paragon Analytics, Inc.

Work Order Number: 9712055

Client Name: Giant Refining Company

ClientProject ID:

Reported on: Monday, December 15, 1997

BS ID: VB971209-1LCS	Sample Matrix: liquid	Date Collected: 10-Dec-97	Sample Aliquot: 5
BSD ID: VB971209-1LCSD	% Moisture: N/A	Date Extracted: 10-Dec-97	Final Volume: 5
	Cleanup Method: NONE	Date Analyzed: 10-Dec-97	Dilution: 1
	Report Basis: N/A	Prep Batch: v12055	

CASNO	Target Analyte	Spike Added	BS Result	Units	Reporting Limit	BS % Rec.	Control Limits
75-35-4	1,1-DICHLOROETHENE	20	20.7	ug/L	5	103	73 - 127
79-01-6	TRICHLOROETHENE	20	18.9	ug/L	5	95	85 - 121
71-43-2	BENZENE	20	19.8	ug/L	5	99	84 - 119
108-88-3	TOLUENE	20	19	ug/L	5	95	83 - 123
108-90-7	CHLOROBENZENE	20	19.6	ug/L	5	98	85 - 119

CASNO	Target Analyte	Spike Added	BSD Result	Units	Reporting Limit	BSD % Rec.	RPD	RPD Limits
75-35-4	1,1-DICHLOROETHENE	20	20.1	ug/L	5	100	3	20
79-01-6	TRICHLOROETHENE	20	18.7	ug/L	5	93	2	18
71-43-2	BENZENE	20	18.9	ug/L	5	94	5	17
108-88-3	TOLUENE	20	18.8	ug/L	5	94	1	20
108-90-7	CHLOROBENZENE	20	19	ug/L	5	95	3	17

Surrogate Recovery BS/BSD

CASNO	Target Analyte	Spike Added	BS % Rec.	BSD % Rec.	RPD	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	50	104	97	7	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	50	108	105	3	85 - 115
2037-26-5	TOLUENE-D8	50	94	101	7	88 - 110