GW - 40

INSPECTIONS & DATA

CHEMICAL ANALYSES
GIANT BLOOMFIELD REFINERY
BLOOMFIELD, NM

April 20, 1988

Prepared For

MONTGOMERY & ANDREWS, P.A.
325 Paseo de Peralta
P.O. Box 2307
Santa Fe, New Mexico 87504-2307

Submitted to:

MR. DAVE BOYER
Environmental Bureau Chief
NM Oil Conservation Division
Santa Fe, NM 87105

Prepared by:

GEOSCIENCE CONSULTANTS, LTD.

HEADQUARTERS
500 Copper Avenue, NW
Suite 200
Albuquerque, New Mexico 87102
(505) 842-0001
FAX (505) 842-0595

8504151545

ASSAIGAI ANALYTICAL LABORATORIES

8504151545

TO: Geoscience Consultants Ltd.
Attn: Randy Hicks
500 Copper N.W. Suite 325
Albuquerque, NM 87102

DATE: 24 April 1986
0629

SAMPLE ID: 8504151545 GGC-13

ANALYTE	ANALYTICAL RESULTS	NOMINAL DETECTION LIMIT
Benzene	0.042 mg/l	0.01 mg/l
Toluene	0.025 mg/l	0.01 mg/l
Ethylbenzene	0.011 mg/l	0.01 mg/l
Xylenes	0.099 mg/l	0.01 mg/l

REFERENCE: "Test Methods for the Examination of Solid Waste Physcial/Chemical Methods", USEPA, SW 846, EMSL-Cincinnati, 1982.

An invoice for services is enclosed. Thank you for contacting Assagai Laboratories.

Sincerely,

Jennifer V. Smith

Jennifer V. Smith, Ph.D.
Laboratory Director

7300 Jefferson, NE • Albuquerque, New Mexico 87109 • (505) 345-8964

4/15/85

8510241735

ASSAIGAI ANALYTICAL LABORATORIES

GBR-27

Received 85/10/24 8510241735

TO: Geoscience Consultants, Ltd.
500 Copper N.W. Suite 325
Albuquerque,NM 87102

DATE: 8 January 1986
1559 Revised
Page 1 of 2

See [illegible] 1:4

ANALYTE	SAMPLE ID/ANALYTICAL RESULTS		NOMINAL DETECTION LIMITS
	Water 851024 1435	Sludge EP TOX	
As	<0.050 mg/l	<0.050 mg/l	0.050 mg/l
Ba	<1.0 mg/l	2.0 mg/l	1.0 mg/l
Cd	<0.010 mg/l	<0.010 mg/l	0.010 mg/l
Cr	<0.050 mg/l	<0.050 mg/l	0.050 mg/l
Hg	<0.002 mg/l	<0.002 mg/l	0.002 mg/l
Se	<0.010 mg/l	<0.010 mg/l	0.010 mg/l
Ag	<0.050 mg/l	<0.050 mg/l	0.050 mg/l
Pb	<0.050 mg/l	<0.050 mg/l	0.050 mg/l
NO 3 as N	<0.01 mg/l		0.01 mg/l
Benzene	5.23 mg/l		0.01 mg/l
Toluene	<0.01 mg/l		0.01 mg/l
Ethyl Benzene	3.16 mg/l		0.01 mg/l
Xylenes	3.25 mg/l		0.01 mg/l
PCB	1.0 ppm		1.0 ppm
C Cl 4	<0.001 mg/l		0.001 mg/l
1,2-dichloroethane	<0.001 mg/l		0.001 mg/l
1,1-dichloroethylene	<0.001 mg/l		0.001 mg/l
Tetrachloroethylene	<0.001 mg/l		0.001 mg/l
TCE	<0.001 mg/l		0.001 mg/l
Phenols	0.4 mg/l		0.001 mg/l
Cl	98.0 mg/l		0.1 mg/l
Fe	32.0 mg/l		0.05 mg/l
Cu	<0.01 mg/l		0.01 mg/l
Mn	1.19 mg/l		0.005 mg/l
SO 4	9.0 mg/l		0.1 mg/l
TDS	1258.0 mg/l		1 mg/l
pH	7.5		0.01
Methylene Chloride	<0.001 mg/l		0.001 mg/l

REFERENCES: 1."Standard Methods for the Examination of Water and Wastewater", 15th Edition, APHA, N.Y., 1980.

2. EPA Method 608

STATE OF NEW MEXICO
ENVIRONMENT

85-1123-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

REPORT TO: DAVID G. BOYER
PLEASE PRINT
NEW MEXICO OIL CONSERVATION DIV.
P.O. BOX 2088
SANTA FE, NM 87501

PHONE(S): 827-5812

S.L.D. No.: OR- 1123
DATE REC. : 10/29/85
SLD PRIORITY #: 3

USER CODE: 8|2|2|3|5|

SUBMITTER: D. G. BOYER
SUBMITTER CODE: | | | |

SAMPLE TYPE: WATER [X], SOIL [ ], OTHER _____
SAMPLE TYPE CODE: | |

COLLECTED: 85/10/24 - 14:30 BY DGB
DATE TIME INITIALS
CODE: Y Y M M D D H H M M I I I

SOURCE: West Seep, Giant Refinery
CODE: AQUIFER DEPTH

NEAREST CITY: Farmington
CODE:

LOCATION: Refinery & Lea Acres
CODE: TOWNSHIP RANGE SECTION TRACTS

pH=_____; Conductivity=_____umho/cm at _____°C; Chlorine Residual=_____
Dissolved Oxygen=_____mg/l; Alkalinity=_____; Flow Rate=_____

Sampling Location, Methods and Remarks (i.e. odors, etc.)
Sample from seep at west side of Facility Pad, SW corner of refinery above parking lot. Seep has oil droplets and sheen. Area very black and oily. Strong odor

I certify that the statements in this block accurately reflect the results of my field analyses, observations and activities. D G Boyer *

Method of shipment to the Laboratory Hand carried

This form accompanies 2 Septum Vials, ___ Glass Jugs, ___ _____
Containers are marked as follows to indicate preservation:

- [ ] NP: No preservation; sample stored at room temperature.
- [X] P-Ice Sample stored in an ice bath (not frozen).
- [ ] P-$Na_2S_2O_3$; Sample preserved with $Na_2S_2O_3$ to remove chlorine residual.

* Collection observed by Giant Rep. T. J. Hunter, Geoscientist

I (we) certify that this sample was transferred from David G Boyer
to R Meyerhein at (location) SLD on
10/29/85 - 14:30 and that the statements in this block are correct.
DATE AND TIME
Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [X] No [ ]
Signatures D G Boyer Richard Meyerhein

(we) certify that this sample was transferred from _____
to _____ at (location) _____ on
___/___/___ - ___:___ and that the statements in this block are correct.
DATE AND TIME
Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [ ] No [ ]
Signatures _____ _____

85 10241450

STATE OF NEW MEXICO
ENVIRONMENT

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87108 841-2570

85-1121-C

REPORT TO: DAVID G. BOYER
PLEASE PRINT
NEW MEXICO OIL CONSERVATION DIV.
P.O. BOX 2088
SANTA FE, NM 87501

S.L.D. No.: OR-1121
DATE REC.: 10/29/85
SLD PRIORITY #: 3

PHONE(S): 827-5812
USER CODE: 8 2 2 3 5

SUBMITTER: D. G. BOYER
SUBMITTER CODE:

SAMPLE TYPE: WATER [X], SOIL [ ], OTHER
SAMPLE TYPE CODE:

COLLECTED: 85/10/24 (DATE) - 14:50 (TIME) BY DGB (INITIALS)
CODE: Y Y M M D D H H M M I I I

SOURCE: West Seep, Giant Refinery
CODE: AQUIFER + DEPTH

NEAREST CITY: Farmington
CODE:

LOCATION: Refinery & Lea Acres
CODE: TOWNSHIP RANGE SECTION TRACTS

pH=____; Conductivity= 1550 umho/cm at 21 °C; Chlorine Residual=____

Dissolved Oxygen=____mg/l; Alkalinity=____; Flow Rate=____

Sampling Location, Methods and Remarks (i.e. odors, etc.)
Sample from seep at west side of Facility Pad, SW corner of refinery above parboyl lot. Seep has oil droplets and sheen. Area very black and oily. Strong odor

I certify that the statements in this block accurately reflect the results of my field analyses, observations and activities. D.G. Boyer *

Method of shipment to the Laboratory Hand carried

This form accompanies 2 Septum Vials, ___ Glass Jugs, ___

Containers are marked as follows to indicate preservation:

- [ ] NP: No preservation; sample stored at room temperature.
- [X] P-Ice: Sample stored in an ice bath (not frozen).
- [ ] P-$Na_2S_2O_3$; Sample preserved with $Na_2S_2O_3$ to remove chlorine residual.

* Collection observed by Giant Rep. T.J. Hunter, Geoscientist

I (we) certify that this sample was transferred from D. G. BOYER to R. F. ~~Mayerhein~~ Meyerhein at (location) SLD Specimen Receiving on 85/10/29 (DATE) - 14:30 (TIME) and that the statements in this block are correct.

Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [X] No [ ]

Signatures D.G. Boyer K. Meyerhein

I (we) certify that this sample was transferred from ____ to ____ at (location) ____ on ___/___/___ (DATE) - ___:___ (TIME) and that the statements in this block are correct.

Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [ ] No [ ]

Signatures ____ ____

8512181220

TO: Geoscience Consultants, Ltd. 1884

ANALYTE	SAMPLE ID/ANALYTICAL RESULTS		
	8512201046 GBE-2 12.5'	8512201240 GBE-5 20.0'	8512201410 GBE-5 55.0'
Benzene	<0.01 ug/g	<0.01 ug/g	3.9 ug/g
Xylenes	<0.01 ug/g	<0.01 ug/g	<0.01 ug/g
Ethylbenzene	<0.01 ug/g	<0.1 ug/g	<0.01 ug/g
Toluene	<0.01 ug/g	<0.01 ug/g	<0.01 ug/g
Scan	small peaks each <1.0 ug/g	Many Peaks	1 peak≈50 ug/g
Moisture	16.0 %	7.8 %	18.8 %
Oil & Grease	1600.0 ug/g	2000.0 ug/g	3000.0 ug/g
	8512191459 AMOCO PW Pit 1.0'	8512191200 3'N of TD#2 0.5'	8512191201 3'N of TD#2 3.0'
Benzene	<0.01 ug/g	<0.01 ug/g	<0.01 ug/g
Xylenes	<0.01 ug/g	<0.01 ug/g	<0.01 ug/g
Ethylbenzene	<0.01 ug/g	<0.01 ug/g	<0.01 ug/g
Toluene	<0.01 ug/g	<0.01 ug/g	<0.01 ug/g
Scan	ND *	ND *	ND *
	8512191202 3'N of TD#2 5.0'	8512191430 API Pond(S) 1.0'	8512191440 API Pond(E) 2.0'
Benzene	<0.01 ug/g	3.04 ug/g	3.80 ug/g
Xylenes	<0.01 ug/g	<0.01 ug/g	<0.01 ug/g
Ethylbenzene	<0.01 ug/g	<0.01 ug/g	<0.01 ug/g
Toluene	<0.01 ug/g	<0.01 ug/g	<0.01 ug/g
Scan	ND *	1 peak=15 ug/g	1 peak≈50 ug/g
	8512191450 API pond (N) 2.0'		NOMINAL DETECTION LIMITS
Benzene	4.10 ug/g		0.01 ug/g
Xylenes	<0.01 ug/g		0.01 ug/g
Ethylbenzene	<0.01 ug/g		0.01 ug/g
Toluene	<0.01 ug/g		0.01 ug/g
Scan	1 peak ≈ 15 ug/g		1.0 ug/g
Oil & Grease			0.1 ug/g

* ND = None Detected
** = Did not receive

REFERENCE: "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", USEPA, SW 846, EMSL-Cincinnati, 1982.

12/18/85

ASSAIGAI ANALYTICAL LABORATORIES

8512181220 8512191159
8512191020 8512191500
8512191021 8512191530
8512191022 8512200850
8512191157 8512200900
8512191158 8512200916

TO: Geoscience Consultants, Ltd.
500 Copper N.W. Suite 325
Albuquerque,NM 87102

DATE: 17 January 1986
1884

ANALYTE	SAMPLE ID/ANALYTICAL RESULTS		
	8512181220 UTD Pit	8512191020 API Pond 0.5' (center)	8512191021 API Pond 1.0' (center)
Benzene	<0.01 ug/g	<0.01 ug/g	<0.01 ug/g
Xylenes	<0.01 ug/g	<0.1 ug/g	<0.01 ug/g
Ethylbenzene	<0.01 ug/g	<0.1 ug/g	<0.01 ug/g
Toluene	<0.01 ug/g	<0.1 ug/g	<0.01 ug/g
Scan	ND *	Many Peaks	ND *
	8512191022 API Pond 2.0' (center)	8512191157 TD Pit #2 0-5'	8512191158 TD Pit #2 3-0'
Benzene	<0.01 ug/g	<0.01 ug/g	<0.01 ug/g
Xylenes	<0.01 ug/g	<0.01 ug/g	<0.01 ug/g
Ethylbenzene	<0.01 ug/g	<0.01 ug/g	<0.01 ug/g
Toluene	<0.01 ug/g	<0.01 ug/g	<0.01 ug/g
Scan	ND *	ND *	ND *
	8512191159 TD Pit #2 5.0'	8512191500 NMCO PW Pit	8512191530 BACKGROUND
Benzene	<0.01 ug/g	<0.01 ug/g	<0.01 ug/g
Xylenes	<0.01 ug/g	<0.01 ug/g	<0.01 ug/g
Ethylbenzene	<0.01 ug/g	<0.01 ug/g	<0.01 ug/g
Toluene	<0.01 ug/g	<0.01 ug/g	<0.01 ug/g
Scan	ND *	ND *	ND *
	8512200850 GBR-1 10.0'	8512200900 GBR-1 15.0'	8512200916 GBR-1 20.0'
Benzene	9.37 ug/g	<0.01 ug/g	<0.01 ug/g
Xylenes	<0.01 ug/g	<0.01 ug/g	<0.01 ug/g
Ethylbenzene	<0.01 ug/g	<0.01 ug/g	<0.01 ug/g
Toluene	<0.01 ug/g	<0.01 ug/g	<0.01 ug/g
Scan	1 peak ≈100 ug/g	ND *	ND *
Oil & Grease	4000.0 ug/g	800.0 ug/g	3000.0 ug/g
Moisture	**	9.4 %	8.7 %

12/18 - 12/20/85

8601231230 thru 8601231410

Assaigai Analytical Laboratories, Inc.
7300 Jefferson N.E.
Albuquerque,NM 87109

TO: Geoscience Consultants Ltd.
Attn: Trent Thomas
500 Copper N.W. Suite 325
Albuquerque, NM 87102

DATE: 13 March 1986
0132

ANALYTE	SAMPLE ID / ANALYTICAL RESULTS					NOMINAL DETECTION LIMITS
	8601231410 B Borehole GBR-5	8601231410 C Borehole GBR-5	8601231300 A	8601231310 Abandoned Supply Well	8601231230	
Oil & Grease		2703 mg/l		4.5 mg/l		0.1 mg/l
Benzene	0.830 mg/l		N.D. *		N.D. *	0.001 mg/l
Toluene	0.638 mg/l		N.D. *		N.D. *	0.001 mg/l
Ethylbenzene	0.299 mg/l		N.D. *		N.D. *	0.001 mg/l
Xylenes	2.204 mg/l		N.D. *		N.D. *	0.001 mg/l
PAH's	**			**		
Naphthalene	**			**		

N.D. * = None Detected
** = Insufficient sample to analyze

REFERENCE: "Standard Methods for the Examination of Water and Wastewater", 15th Edition, APHA, N.Y., 1980.

An invoice for services is enclosed. Thank you for contacting Assaigai Laboratories.

Sincerely,

Jennifer V. Smith, Ph.D.
Laboratory Director

8604021550
thru 8604031115

Assaigai Analytical Labs
7300 Jefferson NE
Albuquerque, NM 87109

TO: Geoscience Consultants Ltd.
Attn: Jim Hunter
500 Copper N.W. Suite 325
Albuquerque, NM 87102

DATE: 21 May 1986
0546

ANALYTE	WWRP 8604031115 SLOP PIT	8604021550 F.P. #2	8604021635 F.P. #4	8604021618 F.P. #3	8604021605 F.P. #1
	SAMPLE ID/ ANALYTICAL RESULTS				
Benzene	<0.1 ug/g	<0.1 ug/g	<1 ug/g	<0.1 ug/g	<1 ug/g
Toluene	<0.1 ug/g	<0.1 ug/g	4842 ug/g	<0.1 ug/g	167 ug/g
Ethyl benzene	<0.1 ug/g	<0.1 ug/g	3683 ug/g	<0.1 ug/g	468 ug/g
Xylenes	<1.0 ug/g	<1.0 ug/g	32569 ug/g	<1.0 ug/g	9950 ug/g
Napthalene	ND	ND	2.52 ug/g	ND	ND
Anthracene	3.7 ug/g	ND	1.54 ug/g	0.329 ug/g	3.04 ug/g
Phenanthracene	ND	ND	2.00 ug/g	0.330 ug/g	2.04 ug/g
Benzo(b)fluoranthene	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND
Fluoranthene	6.1	ND	4.63 ug/g	1.254 ug/g	ND
1-Methyl napthalene	ND	ND	ND	ND	ND
Pyrene	2.0 ug/g	ND	5.22 ug/g	ND	ND
Fluorene	ND	ND	ND	ND	ND
2-Nitro phenol	8.0 ug/g	ND	ND	ND	ND
Phenol	16.0 ug/g	3.0 ug/g	50.0 ug/g	<1 ug/g	<1 ug/g
Cresol	<1 ug/g	<1 ug/g	<1 ug/g	<1 ug/g	<1 ug/g
2,4-Dimethyl phenol	<1 ug/g	<1 ug/g	<1 ug/g	<1 ug/g	<1 ug/g
2,4-Dinitro phenol	<1 ug/g	<1 ug/g	<1 ug/g	27.0 ug/g	<1 ug/g
4-Nitro phenol	<1 ug/g	<1 ug/g	526 ug/g	<1 ug/g	<1 ug/g
4,6-Dinito-o-cresol	<1 ug/g	<1 ug/g	<1 ug/g	<1 ug/g	<1 ug/g

WWRP = WASTEWATER RETENTION POND

8604031115

ASSAIGAI ANALYTICAL LABORATORIES

WWRP

TO: Geoscience Consultants Ltd.
Attn: Virginia
500 Copper NW Suite 325
Albuquerque, NM 87102

DATE; 30 May 1986
0546

SAMPLE ID: 8604031115

ANALYTE	ANALYTICAL RESULTS	NOMINAL DETECTION LIMITS	% Rec.
EP TOX:			
As	<0.050 mg/l	0.050 mg/l	100
Ba	0.075 mg/l	0.005 mg/l	
Cd	<0.010 mg/l	0.010 mg/l	90
Cr	<0.050 mg/l	0.050 mg/l	90
Se	<0.010 mg/l	0.010 mg/l	100
Hg	<0.002 mg/l	0.002 mg/l	95
Pb	<0.050 mg/l	0.050 mg/l	92
Ag	<0.050 mg/l	0.050 mg/l	92

REFERENCE:"Test Methods for Evaluating Solid Waste, Physcial/Chemical Methods", USEPA, SW 846, EMSL-Cincinnati, 1982.

An invoice for services is enclosed. Thank you for contacting Assaigai Laboratories.

Sincerely,

Jennifer V. Smith

Jennifer V. Smith, Ph.D.
Laboratory Director

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

8604031115

ANALYTICAL RESULTS

for

Geoscience Consultants, Ltd.

PURGEABLE ORGANICS METHOD 602

Parameter	Units	Pit #4 61315-01		WASTEWATER RETENTION POND (WWRP) 61315-02	
Benzene	ug/kg	100	(2)	ND	(8)
Ethylbenzene	ug/kg	9000	(900)	ND	(20)
Toluene	ug/kg	270	(4)	ND	(50)
Xylene, m	ug/kg	84000	(12000)	670	(20)
Xylenes, o & p	ug/kg	37000	(24000)	880	(40)

ND = Not detected. Detection limits in parentheses.

8604031115

ANALYTICAL RESULTS

for

Geoscience Consultants, Ltd.

METHOD 610 PNA

Parameter	Units	PIT 4 61315-01		WWRP 61315-02	
Acenaphthene	ug/kg	ND	(1000)	ND	(1000)
Acenaphthylene	ug/kg	ND	(1000)	ND	(1000)
Anthracene	ug/kg	ND	(100)	ND	(100)
Benzo(a)anthracene	ug/kg	ND	(200)	ND	(200)
Benzo(a)pyrene	ug/kg	ND	(200)	ND	(200)
Benzo(b)fluoranthene	ug/kg	ND	(100)	ND	(100)
Benzo(g,h,i)perylene	ug/kg	ND	(200)	ND	(200)
Benzo(k)fluoranthene	ug/kg	ND	(100)	ND	(100)
Chrysene	ug/kg	ND	(300)	ND	(300)
Dibenzo(a,h)anthracene	ug/kg	ND	(500)	ND	(500)
Fluoranthene	ug/kg	ND	(2000)	ND	(2000)
Fluorene	ug/kg	150	(100)	ND	(100)
Indeno(1,2,3-cd)pyrene	ug/kg	ND	(100)	ND	(100)
Naphthalene	ug/kg	1500	(500)	300	(500)
Phenanthrene	ug/kg	ND	(500)	ND	(500)
Pyrene	ug/kg	ND	(2000)	ND	(2000)

ND = Not detected. Detection limits in parentheses.

ANALYTICAL RESULTS

for

Geoscience Consultants, Ltd.

PRIORITY POLLUTANT INORGANIC PARAMETERS PIT 4 WWRP

Parameter	Units	61315-01		61315-02	
Phenolics	mg/kg	ND	(1)	ND	(1)

ND = Not detected. Detection limits in parentheses.

8604031115

8605020225
thru 8605020320
/ Mountain Analytical Laboratory

SAMPLE DESCRIPTION INFORMATION

for

Geoscience Consultants, Ltd.

RMA Sample No.	Sample Description	Sample Type	Date Sampled	Date Received
61424-01	8605020230	Soil	05/02/86	05/06/86
61424-02	8605020225	Soil	05/02/86	05/06/86
61424-03	8605020235	Water	05/02/86	05/06/86
61424-04	8605020305	Soil	05/02/86	05/06/86
61424-05	8605020310	Soil	05/02/86	05/06/86
61424-06	8605020320	Soil	05/02/86	05/06/86
61424-07	8605020250	Soil*	05/02/86	05/06/86
61424-08	8605020300	Soil*	05/02/86	05/06/86
61424-09	8605020245	Soil*	05/02/86	05/06/86

June 4, 1986

* TRUCK LOADING AREA. SOUTH WALL OF TANK REMOVAL PIT.

ANALYTICAL RESULTS

for

Geoscience Consultants, Ltd.

PURGEABLE ORGANICS - GC/PID

Parameter	Units	61424-03	
Benzene	ug/L	ND	(0.5)
Ethylbenzene	ug/L	ND	(1.0)
Toluene	ug/L	3.6	(1.0)
Xylene, m	ug/L	ND	(1.0)
Xylenes, o & p	ug/L	ND	(2.0)

Parameter	Units	61424-01		61424-02		61424-04		61424-05	
Benzene	ug/kg	ND	(0.5)	ND	(0.5)	ND	(1500)	ND	(0.5)
Ethylbenzene	ug/kg	2.4	(1.0)	ND	(1.0)	17000	(2000)	ND	(1.0)
Toluene	ug/kg	1.4	(1.0)	ND	(1.0)	10000	(2000)	ND	(1.0)
Xylene, m	ug/kg	ND	(1.0)	ND	(1.0)	92000	(2000)	ND	(1.0)
Xylenes, o & p	ug/kg	2.0	(2.0)	ND	(2.0)	66000	(4000)	ND	(2.0)

Parameter	Units	61424-06		61424-07		61424-08		61424-09	
Benzene	ug/kg	ND	(0.5)	10000	(200)	ND	(200)	6.8	(5.0)
Ethylbenzene	ug/kg	ND	(1.0)	50000	(10000)	ND	(400)	210	(10)
Toluene	ug/kg	ND	(1.0)	100000	(10000)	ND	(400)	120	(10)
Xylene, m	ug/kg	ND	(1.0)	230000	(10000)	2300*	(400)	1400	(10)
Xylenes, o & p	ug/kg	ND	(2.0)	210000	(20000)	5000*	(800)	1000	(20)

ND = Not detected. Detection limits in parentheses.
*Results may be high due to interference.

8605090925
thru 8605091700

Assaigai Analytical Laboratories, Inc.
7300 Jefferson N.E.
Albuquerque, NM 87109

TO: Geoscience Consultants Ltd.
Attn: Randy Hicks
500 Copper N.W. Suite 325
Albuquerque, NM 87102

DATE: 29 May 1986
0752 revised

ANALYTE	8605090925 A & B GBR 18	8605091040 A & B GBR 20	8605091140 Steel Well	8605091210 A & B GBR 25	8605091350 A & B GBR 22	8605091515 A & B GBR 26
Benzene	<1.0 ug/l	<1.0 ug/l	<1.0 ug/l	<1.0 ug/l	<1.0 ug/l	<1.0 ug/l
Toluene	<1.0 ug/l	<1.0 ug/l	<1.0 ug/l	<1.0 ug/l	<1.0 ug/l	<1.0 ug/l
Xylenes	<1.0 ug/l	<1.0 ug/l	<1.0 ug/l	<1.0 ug/l	<1.0 ug/l	<1.0 ug/l
Ethyl benzene	<1.0 ug/l	<1.0 ug/l	<1.0 ug/l	<1.0 ug/l	<1.0 ug/l	<1.0 ug/l
EC		3840 umhos/cm		4980 umhos/cm		
TDS				5096 mg/l		

ANALYTE	8605091550 A & B GBR 13	8605091625 GBR 24	8605091700 GBR 21	NOMINAL DETECTION LIMITS
Benzene	129 ug/l	1154 ug/l	<1.0 ug/l	1.0 ug/l
Toluene	32 ug/l	803 ug/l	22 ug/l	1.0 ug/l
Xylenes	105 ug/l	1020 ug/l	234 ug/l	1.0 ug/l
Ethyl benzene	3 ug/l	147 ug/l	2 ug/l	1.0 ug/l
EC	6300 umhos/cm	3690 umhos/cm		1 umhos/cm
TDS				1 mg/l

REFERENCE:"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", USEPA, SW 846 EMSL-Cincinnati, 1982

An invoice for services is enclosed. Thank you for contacting Assaigai Laboratories.

Sincerely,

Jennifer V. Smith

Jennifer V. Smith, Ph.D.
Laboratory Director

8605091410 (33)

Rocky Mountain Analytical Laboratory

SAMPLE DESCRIPTION INFORMATION

for

Geoscience Consultants, Ltd.

RMA Sample No.	Sample Description	Sample Type	Date Sampled	LOCATION ~~Date Received~~
61454-01	8605091410 Soil	05/09/86	05/13/86	FFDA REAR SEEP
61454-02	8605091420 Soil	05/09/86	05/13/86	FFDA MIDDLE
61454-03	8605091430 Soil	05/09/86	05/13/86	FFDA MIDDLE/EAST
61454-04	8605091450 Soil	05/09/86	05/13/86	FFDA BLACK SOIL EXCAVATION

June 4, 1986

FFDA: FIRE FIGHTING
DRILL AREA

8605091410

ANALYTICAL RESULTS

for

Geoscience Consultants, Ltd.

PURGEABLE ORGANICS - GC/PID

Parameter	Units	61454-01		61454-02		61454-03		61454-04	
Benzene	ug/kg	ND	(0.5)	ND	(0.5)	ND	(0.5)	170	(5)
Ethylbenzene	ug/kg	ND	(1)	ND	(1)	1.4	(1)	2000	(400)
Toluene	ug/kg	ND	(1)	ND	(1)	ND	(1)	140	(10)
Xylene, m	ug/kg	ND	(1)	ND	(1)	9.5	(1)	17000	(400
Xylenes, o & p	ug/kg	ND	(2)	ND	(1)	6.5	(2)	9300	(800)

ND = Not detected. Detection limits in parentheses.

8605181400

ASSAIGAI ANALYTICAL LABORATORIES

TO: Geoscience Consultants Ltd.
Attn: Virginia
500 Copper NW Suite 325
Albuquerque, NM 87102

DATE; 29 May 1986
0812

E6.367-200

SAMPLE ID: 8605181400 GBR-27

ANALYTE	ANALYTICAL RESULTS	NOMINAL DETECTION LIMIT
Benzene	<1.0 ug/l	1.0 ug/l
Toluene	<1.0 ug/l	1.0 ug/l
Xylenes	<1.0 ug/l	1.0 ug/l
Ethyl benzene	<1.0 ug/l	1.0 ug/l

REFERENCE: "Test Methods for Evaluating Solid Waste, Physical/Chemical Method", USEPA, SW 846, EMSL-Cincinnati, 1982.

An invoice for services is enclosed. Thank you for contacting Assaigai Laboratories.

Sincerely,

Jennifer V. Smith

Jennifer V. Smith, Ph.D.
Laboratory Director

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

8605290830

ASSAIGAI ANALYTICAL LABORATORIES

TO: Geoscience Consultants Ltd.
Attn: Randy Hicks
500 Copper NW Suite 325
Albuquerque, NM 87102

DATE: 18 June 1986
0879

SAMPLE ID: 8605290830 GBR-17

ANALTYE	ANALTYICAL RESULTS	DETECTION LIMITS
Pb	0.076 mg/l	0.001 mg/l
Benzene	<1 ug/l	1 ug/l
Toluene	<1 ug/l	1 ug/l
Xylenes	<1 ug/l	1 ug/l
TDS	3024 mg/l	1 mg/l

REFERENCE: "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", USEPA, SW 846, EMSL-Cincinnati, 1982.

An invoice for services is enclosed. Thank you for contacting Assaigai Laboratories.

Sincerely,

Jennifer V. Smith

Jennifer V. Smith, Ph.D.
Laboratory Director

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

8605291130

ASSAIGAI ANALYTICAL LABORATORIES

TO: Geoscience Consultants Ltd.
Attn: Randy Hicks
500 Copper NW Suite 325
Albuquerque, NM 87102

DATE: 18 June 1986
0879

SAMPLE ID: 8605291130 GBR5

ANALTYE	ANALTYICAL RESULTS
Density	0.807 g/ml
Specific Gravity	0.794
Scan	see enclosed

REFERENCE: "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", USEPA, SW 846, EMSL-Cincinnati, 1982.

An invoice for services is enclosed. Thank you for contacting Assaigai Laboratories.

Sincerely,

Jennifer V. Smith

Jennifer V. Smith, Ph.D.
Laboratory Director

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

8605291600

ASSAIGAI ANALYTICAL LABORATORIES

TO: Geoscience Consultants Ltd.
Attn: Randy Hicks
500 Copper NW Suite 325
Albuquerque, NM 87102

DATE: 18 June 1986
0879

SAMPLE ID: 8605291600 GRP. 28

ANALTYE	ANALTYICAL RESULTS	DETECTION LIMITS
Benzene	2419 ug/l	1 ug/l
Toluene	819 ug/l	1 ug/l
Xylenes	4019 ug/l	1 ug/l

REFERENCE: "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", USEPA, SW 846, EMSL-Cincinnati, 1982.

An invoice for services is enclosed. Thank you for contacting Assaigai Laboratories.

Sincerely,

Jennifer V. Smith, Ph.D.
Laboratory Director

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

8605291615

ASSAIGAI ANALYTICAL LABORATORIES

TO: Geoscience Consultants Ltd.
Attn: Randy Hicks
500 Copper NW Suite 325
Albuquerque, NM 87102

DATE: 18 June 1986
0879

SAMPLE ID: 8605291615 GW-11

ANALTYE	ANALYTICAL RESULTS	DETECTION LIMITS
Pb	0.066 mg/l	0.001 mg/l
Benzene	9025 ug/l	1 ug/l
Toluene	3088 ug/l	1 ug/l
Xylenes	6981 ug/l	1 ug/l

REFERENCE: "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", USEPA, SW 846, EMSL-Cincinnati, 1982.

An invoice for services is enclosed. Thank you for contacting Assaigai Laboratories.

Sincerely,

Jennifer V. Smith

Jennifer V. Smith, Ph.D.
Laboratory Director

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

8605300945

ASSAIGAI ANALYTICAL LABORATORIES

TO: Geoscience Consultants Ltd.
Attn: Randy Hicks
500 Copper NW Suite 325
Albuquerque, NM 87102

DATE: 18 June 1986
0879

SAMPLE ID: 8605300945 GBR-29

ANALTYE	ANALTYICAL RESULTS	DETECTION LIMITS
Pb	0.14 mg/l	0.001 mg/l
Benzene	388 ug/l	1 ug/l
Toluene	643 ug/l	1 ug/l
Xylenes	2000 ug/l	1 ug/l

REFERENCE: "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", USEPA, SW 846, EMSL-Cincinnati, 1982.

An invoice for services is enclosed. Thank you for contacting Assaigai Laboratories.

Sincerely,

Jennifer V. Smith

Jennifer V. Smith, Ph.D.
Laboratory Director

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

8606051230

86-0683-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

ENVIRONMENT

STATE OF NEW MEXICO

REPORT TO: (PLEASE PRINT)
DAVID G. BOYER
NEW MEXICO OIL CONSERVATION DIV.
P.O. BOX 2088
SANTA FE, NM 87504-2088

PHONE(S): 827-5812

S.L.D. No.: OR-683-H-6
DATE REC. : 06/04/86
SLD PRIORITY #:

USER CODE: 8 2 2 3 5

SUBMITTER: DAVID BOYER
SUBMITTER CODE:

SAMPLE TYPE: WATER [X], SOIL [ ], OTHER
SAMPLE TYPE CODE:

COLLECTED: 86/06/04 (DATE) - 12:30 (TIME) BY DGB (INITIALS)
CODE: Y Y M M D D H H M M I I I

SOURCE: GBR-17
CODE: (AQUIFER) (DEPTH)

NEAREST CITY: Bloomfield
CODE:

LOCATION: Giant Bloomfield Refinery
CODE: 29N 12W 27 1 1 1 (TOWNSHIP RANGE SECTION TRACTS)

pH= 7 ; Conductivity= 5580 umho/cm at 18.5 °C; Chlorine Residual=

Dissolved Oxygen= mg/l; Alkalinity= ; Flow Rate=

Sampling Location, Methods and Remarks (i.e. odors, etc.)
Alluvial well, No odor, Low Level Activity

I certify that the statements in this block accurately reflect the results of my field analyses, observations and activities. David G. Boyer

Method of shipment to the Laboratory Hand Carried

This form accompanies 2 Septum Vials, Glass Jugs,
Containers are marked as follows to indicate preservation:
[ ] NP: No preservation; sample stored at room temperature.
[X] P-Ice Sample stored in an ice bath (not frozen).
[ ] P-$Na_2S_2O_3$; Sample preserved with $Na_2S_2O_3$ to remove chlorine residual.

I (we) certify that this sample was transferred from D.G. Boyer ORD to R Meyer Lee at (location) SLD on 6/5/86 (DATE AND TIME) - 16:21 and that the statements in this block are correct.
Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [X] No [ ]
Signatures R Meyer Lee D.G. Boyer

(we) certify that this sample was transferred from
to at (location) on
__/__/__ (DATE AND TIME) - __:__ and that the statements in this block are correct.
Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [ ] No [ ]
Signatures

8606051230

ANALYSES REQUESTED LAB. No.: ORG- 683

PLEASE CHECK THE APPROPRIATE BOXES BELOW TO INDICATE THE TYPE OF ANALYTICAL SCREENS REQUIRED. WHENEVER POSSIBLE LIST SPECIFIC COMPOUNDS SUSPECTED OR REQUIRED.

QUALITATIVE	QUANTITATIVE	PURGEABLE SCREENS
		ALIPHATIC HYDROCARBON SCREEN
X	X	AROMATIC HYDROCARBON SCREEN
X	X	HALOGENATED HYDROCARBON SCREEN
		GAS CHROMATOGRAPH/MASS SPECTROMETER
		SPECIFIC COMPOUNDS

QUALITATIVE	QUANTITATIVE	EXTRACTABLE SCREENS
		ALIPHATIC HYDROCARBONS
		CHLORINATED HYDROCARBON PESTICIDES
		CHLOROPHENOXY ACID HERBICIDES
		HYDROCARBON FUEL SCREEN
		ORGANOPHOSPHATE PESTICIDES
		POLYCHLORINATED BIPHENYLS (PCB's)
		POLYNUCLEAR AROMATIC HYDROCARBONS
		TRIAZINE HERBICIDES
		SPECIFIC COMPOUNDS

REMARKS:

ANALYTICAL RESULTS

COMPOUND	[PPB]	COMPOUND	[PPB]
aromatic purgeables	none detected*		
dichlorobromomethane	15		
1,1-dichloroethane	approx 20		
1,2-dichloroethane	1		
1,1,1-trichloroethane	14		
trichloroethene	1		
tetrachloroethene	1		
		* DETECTION LIMIT	2 ppb

REMARKS: * There is a possible trace of benzene < 2 ppb.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes X NO ___. Seal(s) broken by: MF date: 7-1-86 6/15/86

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements in this block and the analytical data on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 6-15-86. Analyst's signature: [signature]

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block. Reviewers signature: [signature]

FOR OCD USE -- Date Owner Notified _____ Phone or letter? _____ Initials _____

8606051230

859
2

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED: 6/10/86 | LAB NO.: W2-2507 | USER CODE: ☐ 59300 ☐ 59600 ☒ OTHER: 82235

Collection DATE: 6/10/86 | SITE INFORM-ATION ► | Sample location: GIANT BLOOMFIELD GBR-17

Collection TIME: 1230 | Collection site description:

Collected by — Person/Agency: BOYER /OCD

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/well code:

Owner:

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type: GRAB
pH (00400): 7	Conductivity (Uncorrected): 5500 µmho	Water Temp. (00010): 18.5 °C	Conductivity at 25°C (00094): µmho

Field comments: ALLUVIAL WELL, NO ODOR, LEE ACRES ARROYO

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-specify: ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed	F, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho		☒ Calcium (00915) 112	mg/l	6-11
☐ Total non-filterable residue (suspended) (00530)	mg/l		☒ Magnesium (00925) 63.4	mg/l	6-11
☐ Other:			☒ Sodium (00930) 616.4	mg/l	"
☐ Other:			☒ Potassium (00935) 1.11	mg/l	"
☐ Other:			☒ Bicarbonate (00440) 376	mg/l	6/12
			☒ Chloride (00940) 160.5	mg/l	6/17
			☒ Sulfate (00945) 1202	mg/l	6/19
			☒ Total filterable residue (dissolved) (70300) 4355	mg/l	6/17
			☒ Other: CO_3 0		6/13
NF, A-H_2SO_4			F, A-H_2SO_4		
☐ Nitrate-N + , Nitrate-N total (00630)	mg/l		☐ Nitrate-N + , Nitrate-N dissolved (00631)	mg/l	
☐ Ammonia-N total (00610)	mg/l		☐ Ammonia-N dissolved (00608)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l		☐ Total Kjeldahl-N ( )	mg/l	
☐ Chemical oxygen demand (00340)	mg/l		☐ Other:		
☐ Total organic carbon ( )	mg/l				
☐ Other:					
☐ Other:					

Analyst	Date Reported	Reviewed by

Laboratory remarks:

SLD 726 (12/84)

FOR OCD USE — Date Owner Notified: Phone or letter? Initials:

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

HEAVY METALS
~~GE RAL WATER CHEMISTRY~~
~~and NITROGEN~~ ANALYSIS 8606051236

DATE RECEIVED 6 10 86	LAB NO. HM-1026	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 86 06 05	SITE INFORMATION ►	Sample location GIANT BLOOMFIELD GBR-17	
Collection TIME 12.30		Collection site description	
Collected by — Person/Agency BOYER /OCD			

2260

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office, Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/well code

Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type GRAB
pH (00400) 7	Conductivity (Uncorrected) 5500 µmho	Water Temp. (00010) 18.5 °C	Conductivity at 25°C (00094) µmho

Field comments ALLUVIAL WELL, NO ODOR, LGE ACRES ARROYO

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µ membrane filter ☐ A: 2 ml H_2SO_4/L added

☐ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☒ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed	F, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho		☐ Calcium (00915)	mg/l	
☐ Total non-filterable residue (suspended) (00530)	mg/l		☐ Magnesium (00925)	mg/l	
☒ Other: ICAP			☐ Sodium (00930)	mg/l	
☒ Other: As	0.001		☐ Potassium (00935)	mg/l	
☒ Other: Se Hg	<0.0005		☐ Bicarbonate (00440)	mg/l	
			☐ Chloride (00940)	mg/l	
			☐ Sulfate (00945)	mg/l	
			☐ Total filterable residue (dissolved) (70300)	mg/l	
			☐ Other:		
NF, A-H_2SO_4			F, A-H_2SO_4		
☐ Nitrate-N + Nitrate-N total (00630)	mg/l		☐ Nitrate-N + Nitrate-N dissolved (00631)	mg/l	
☐ Ammonia-N total (00610)	mg/l		☐ Ammonia-N dissolved (00608)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l		☐ Total Kjeldahl-N ( )	mg/l	
☐ Chemical oxygen demand (00340)	mg/l		☐ Other:		
☐ Total organic carbon ( )	mg/l				
☐ Other:					
☐ Other:					

Analyst	Date Reported	Reviewed by
	7 8 86	Jim Ashley

Laboratory remarks

SLD 726 (12/84)

FOR OCD USE — Date Owner Notified _____ Phone or Letter? _____ Initials _____

8606051435

704

86- 0600-C

STATE OF NEW MEXICO
ENVIRONMENT

SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

REPORT TO: DAVID G. BOYER
PLEASE PRINT
NEW MEXICO OIL CONSERVATION DIV.
P.O. BOX 2088
SANTA FE, NM 87504-2088

S.L.D. No.: OR-680-16
DATE REC. : 06/09/86
SLD PRIORITY #:

PHONE(S): 827-5812

USER CODE: 8|2|2|3|5

SUBMITTER: David Boyer

SUBMITTER CODE:

SAMPLE TYPE: WATER ☒, SOIL ☐, OTHER

SAMPLE TYPE CODE:

COLLECTED: 86/06/05 - 11:35 BY DGB
DATE TIME INITIALS

CODE: Y Y M M D D H H M M I I

SOURCE: GBR-18, Giant Bloomfield

CODE: AQUIFER DEPTH

NEAREST CITY: Bloomfield Refinery

CODE:

LOCATION:

CODE: 29N/12W/02/2/3/3
TOWNSHIP RANGE SECTION TRACTS

pH= 7 ; Conductivity= 1100 umho/cm at 17 °C; Chlorine Residual=

Dissolved Oxygen= mg/l; Alkalinity= ; Flow Rate=

Sampling Location, Methods and Remarks (i.e. odors, etc.)

Well below raw-water pond

I certify that the statements in this block accurately reflect the results of my field analyses, observations and activities. D G Boyer

Method of shipment to the Laboratory Hand carried

This form accompanies 2 Septum Vials, Glass Jugs,

Containers are marked as follows to indicate preservation:

☐ NP: No preservation; sample stored at room temperature.
☒ P-Ice Sample stored in an ice bath (not frozen).
☐ P-$Na_2S_2O_3$; Sample preserved with $Na_2S_2O_3$ to remove chlorine residual.

I (we) certify that this sample was transferred from D G Boyer

to K Meyer-Ivie at (location) SLD on

6/5/86 - 16:20 and that the statements in this block are correct.
DATE AND TIME

Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☒ No ☐

Signatures K Meyer-Ivie D G Boyer

(we) certify that this sample was transferred from

to at (location) on

__/__/__ - __:__ and that the statements in this block are correct.
DATE AND TIME

Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☐ No ☐

Signatures

8606051435

ANALYSES REQUESTED — LAB. No.: ORG- 680

PLEASE CHECK THE APPROPRIATE BOXES BELOW TO INDICATE THE TYPE OF ANALYTICAL SCREENS REQUIRED. WHENEVER POSSIBLE LIST SPECIFIC COMPOUNDS SUSPECTED OR REQUIRED.

QUALITATIVE	QUANTITATIVE	PURGEABLE SCREENS
		ALIPHATIC HYDROCARBON SCREEN
X	X	AROMATIC HYDROCARBON SCREEN
X	X	HALOGENATED HYDROCARBON SCREEN
		GAS CHROMATOGRAPH/MASS SPECTROMETER
		SPECIFIC COMPOUNDS

QUALITATIVE	QUANTITATIVE	EXTRACTABLE SCREENS
		ALIPHATIC HYDROCARBONS
		CHLORINATED HYDROCARBON PESTICIDES
		CHLOROPHENOXY ACID HERBICIDES
		HYDROCARBON FUEL SCREEN
		ORGANOPHOSPHATE PESTICIDES
		POLYCHLORINATED BIPHENYLS (PCB's)
		POLYNUCLEAR AROMATIC HYDROCARBONS
		TRIAZINE HERBICIDES
		SPECIFIC COMPOUNDS

REMARKS:

ANALYTICAL RESULTS

COMPOUND	[PPB]	COMPOUND	[PPB]
Halogenated purgables	none detected		
Benzene @	50	From J.A. Finney, 2:28PM 7/7/86	
Toluene	11	Both samples had Toluene	
ethyl benzene	None detected	and M-Xylene @ levels	
p-Xylene	None detected	known. Ethylbenzene	
m-Xylene	4	different @ ppb	
o-Xylene	None detected		
		* DETECTION LIMIT	2 ug/l

REMARKS: @ The results for benzene were different between the two duplicate samples, one duplicate had 50 ppb benzene, and the other duplicate, there was none detected.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes X NO ___. Seal(s) broken by: JFF date: 12 June 86 / 13 June 86

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements in this block and the analytical data on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 12 & 13 June 86. Analyst's signature: JF Finney

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block. Reviewers signature: K Mayerhan

FOR OCD USE -- Date Owner Notified _____ Phone or letter? _____ Initials _____

8606051435

New Mexico Health and Env ...ent Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

459

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED: 6/10/86	LAB NO.: WC-2513	USER CODE: ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE: 86106105	CO3 - WC 2514	SITE INFORM-ATION ►	Sample location: GIANT BLOOMFIELD REF GBR-18
Collection TIME: 1435			Collection site description:
Collected by — Person/Agency: BOYER /OCD			

SEND FINAL REPORT TO ►
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/ well code:

Owner:

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type: GRAB
pH (00400): 7	Conductivity (Uncorrected): 4100 µmho	Water Temp. (00010): 17 °C	Conductivity at 25°C (00094): µmho

Field comments: WELL BELOW RAW WATER POND

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µm membrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed	F, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho		☒ Calcium (00915) 420	mg/l	6/11
☐ Total non-filterable residue (suspended) (00530)	mg/l		☒ Magnesium (00925) 223	mg/l	6/11
☐ Other:			☒ Sodium (00930) 432	mg/l	"
☐ Other:			☒ Potassium (00935) 6.13	mg/l	"
☐ Other:			☒ Bicarbonate (00440) 122	mg/l	6/13
NF, A-H_2SO_4			☒ Chloride (00940) 262	mg/l	6/17
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l		☒ Sulfate (00945) 314	mg/l	6/17
☐ Ammonia-N total (00610)	mg/l		☒ Total filterable residue (dissolved) (70300) 4935	mg/l	6/18
☐ Total Kjeldahl-N ( )	mg/l		☒ Other: CO_3 0		6/13
☐ Chemical oxygen demand (00340)	mg/l		F, A-H_2SO_4		
☐ Total organic carbon ( )	mg/l		☐ Nitrate-N +, Nitrate-N dissolved (00631)	mg/l	
☐ Other:			☐ Ammonia-N dissolved (00608)	mg/l	
☐ Other:			☐ Total Kjeldahl-N ( )	mg/l	
			☐ Other:		

Analyst	Date Reported	Reviewed by
	6/24/86	(C)

Laboratory remarks:

SLD 726 (12/84)

FOR OCD USE -- Date Owner Notified _____ Phone or letter? _____ Initials _____

8606051510

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

859
2

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 6 10 86	LAB NO. WC-2541	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 8610605	SITE INFORMATION →	Sample location: RAW WATER POND	
Collection TIME 1510		Collection site description: GIANT BLOOMFIELD REFINERY	
Collected by — Person/Agency: Boyer / OCD			

SEND FINAL REPORT TO →
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/well code:
Owner:

SAMPLING CONDITIONS

☐ Bailed ☐ Pump ☒ Dipped ☐ Tap	Water level	Discharge	Sample type: GRAB
pH (00400): 7	Conductivity (Uncorrected): 350 µmho	Water Temp. (00010): 26 °C	Conductivity at 25°C (00094): µmho

Field comments:

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-specify: ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)		µmho	
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☐ Other:			
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☒ Calcium (00915)	36	mg/l	6/11
☒ Magnesium (00925)	9.76	mg/l	"
☒ Sodium (00930)	16.1	mg/l	"
☒ Potassium (00935)	1.95	mg/l	"
☒ Bicarbonate (00440)	105	mg/l	6/13
☒ Chloride (00940)	8	mg/l	6/17
☒ Sulfate (00945)	86	mg/l	6/19
☒ Total filterable residue (dissolved) (70300)	253	mg/l	6/13
☒ Other: CO_3	0		6/13

NF, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst	Date Reported	Reviewed by

Laboratory remarks:

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

8606051525

ASSAIGAI ANALYTICAL LABORATORIES

TO: Geoscience Consultants Ltd.
Attn: Randy Hicks
500 Copper NW Suite 325
Albuquerque, NM 87102

DATE: 21 July 1986
0933

SAMPLE ID: 8606051525 GBR-29

ANALYTE	ANALYTICAL RESULTS	NOMINAL DETECTION LIMITS
Benzene	3818 ug/l	1 ug/l
Toluene	3338 ug/l	1 ug/l
Xylenes	5210 ug/l	1 ug/l
Fe	<0.3 mg/l	0.3 mg/l
Pb	<0.050 mg/l	0.050 mg/l
Cr	<0.050 mg/l	0.050 mg/l

REFERENCE:"Test Methods for Evaluating Solid Waste Physical/Chemical Methods",USEPA, SW 846, EMSL-Cincinnati, 1982

An invoice for services is enclosed. Thank you for contacting Assaigai Laboratories.

Sincerely,

Jennifer V. Smith

Jennifer V. Smith, Ph.D.
Laboratory Director

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

8606051525

754

STATE OF NEW MEXICO
ENVIRONMENT

SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

86- 0685-D

REPORT TO: DAVID G. BOYER
PLEASE PRINT
NEW MEXICO OIL CONSERVATION DIV.
P.O. BOX 2088
SANTA FE, NM 87504-2088
PHONE(S): 827-5812

S.L.D. No.: OR-685-A&C
DATE REC.: 06/09/86
SLD PRIORITY #:

USER CODE: 8|2|2|3|5

SUBMITTER: DAVID BOYER
SUBMITTER CODE:

SAMPLE TYPE: WATER [X], SOIL [ ], OTHER
SAMPLE TYPE CODE:

COLLECTED: 86/06/05 (DATE) - 15:25 (TIME) BY DGB (INITIALS)
CODE: Y Y M M D D H H M M I I

SOURCE: GBR-25
CODE: AQUIFER DEPTH

NEAREST CITY: Bloomfield
CODE:

LOCATION: Grant Bloomfield R. fuerco
CODE: 2|9|N|1|2|W|2|7|1|1|1
TOWNSHIP RANGE SECTION TRACTS

pH= ~ ; Conductivity= ~ umho/cm at ____ °C; Chlorine Residual=____
Dissolved Oxygen=____mg/l; Alkalinity=____; Flow Rate=____
Sampling Location, Methods and Remarks (i.e. odors, etc.)
Monitor well, 1-1.5" crude oil (black) on bailer, strong odor

I certify that the statements in this block accurately reflect the results of my field analyses, observations and activities. DG Boyer
Method of shipment to the Laboratory Hand carried
This form accompanies 3 Septum Vials, ___ Glass Jugs, ___
Containers are marked as follows to indicate preservation:
[ ] NP: No preservation; sample stored at room temperature.
[X] P-Ice Sample stored in an ice bath (not frozen).
[ ] P-$Na_2S_2O_3$; Sample preserved with $Na_2S_2O_3$ to remove chlorine residual.

I (we) certify that this sample was transferred from DG Boyer
to K Meyerhoff at (location) SLD on
6/9/86 (DATE AND TIME) - 6:12 and that the statements in this block are correct.
Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [X] No [ ]
Signatures K Meyerhoff DG Boyer

(we) certify that this sample was transferred from ____
to ____ at (location) ____ on
__/__/__ (DATE AND TIME) - __:__ and that the statements in this block are correct.
Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [ ] No [ ]
Signatures ____ ____

8606051525

ANALYSES REQUESTED LAB. No.: ORG- 685

PLEASE CHECK THE APPROPRIATE BOXES BELOW TO INDICATE THE TYPE OF ANALYTICAL SCREENS REQUIRED. WHENEVER POSSIBLE LIST SPECIFIC COMPOUNDS SUSPECTED OR REQUIRED.

QUALITATIVE	QUANTITATIVE	PURGEABLE SCREENS	QUALITATIVE	QUANTITATIVE	EXTRACTABLE SCREENS
		ALIPHATIC HYDROCARBON SCREEN			ALIPHATIC HYDROCARBONS
X	X	AROMATIC HYDROCARBON SCREEN			CHLORINATED HYDROCARBON PESTICIDES
X	X	HALOGENATED HYDROCARBON SCREEN			CHLOROPHENOXY ACID HERBICIDES
		GAS CHROMATOGRAPH/MASS SPECTROMETER			HYDROCARBON FUEL SCREEN
					ORGANOPHOSPHATE PESTICIDES
					POLYCHLORINATED BIPHENYLS (PCB's)
					POLYNUCLEAR AROMATIC HYDROCARBONS
					TRIAZINE HERBICIDES
		SPECIFIC COMPOUNDS			SPECIFIC COMPOUNDS

REMARKS:

ANALYTICAL RESULTS

COMPOUND	[PPB]	COMPOUND	[PPB]
benzene	2600	~~1,2-dichloroethane~~	
toluene	3000		
ethylbenzene	600	1,1-dichloroethane	approx. 30 ppb
p-Xylene	700	1,2-dichloroethene	approx. 30 ppb
m-Xylene	1,500	1,1,1-Trichloroethane	trace < 10 ppb
o-Xylene	670	Trichloroethene	trace < 10 ppb
1,2-dichloroethane	36		
		* DETECTION LIMIT	10 ppb

REMARKS: Twelve compounds were detected by the aromatic screen that were not identified.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes X NO ___. Seal(s) broken by: JF date: 6-13-86

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements in this block and the analytical data on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 6-16-86, 6-24-86. Analyst's signature: [signature]

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block. Reviewers signature: [signature]

FOR OCD USE -- Date Owner Notified _____ Phone or letter? _____ Initials _____

8606051525

New Mexico Health and En ...ent Department
SCIENTIFIC LABORATORY ...ISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

459
2

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 6/10/86	LAB NO. W-2521	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 36/06/05	CO_3-2522 SITE INFORM-ATION	Sample location GIANT BLOOMFIELD REF GBR-29	
Collection TIME 1525		Collection site description	
Collected by — Person/Agency Boyer /OCD			

SEND FINAL REPORT TO
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/well code

Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type GRAB
pH (00400) ~~7~~	Conductivity (Uncorrected) — µmho	Water Temp. (00010) — °C	Conductivity at 25°C (00094) µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ~~☐~~: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed	F, NA		Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)		µmho		☒ Calcium (00915)	300	mg/l	6/20
				☒ Magnesium (00925)	6.3	mg/l	"
☐ Total non-filterable residue (suspended) (00530)		mg/l		☒ Sodium (00930)	341	mg/l	"
				☒ Potassium (00935)	10	mg/l	"
☐ Other:				☒ Bicarbonate (00440)	166	mg/l	6/13
☐ Other:				☒ Chloride (00940)	153	mg/l	6/17
☐ Other:				☒ Sulfate (00945)	113	mg/l	6/19
				☒ Total filterable residue (dissolved) (70300)	753	mg/l	6/19
				☒ Other: CO_3	0		6/13
NF, A-H_2SO_4				F, A-H_2SO_4			
☐ Nitrate-N + Nitrate-N total (00630)		mg/l		☐ Nitrate-N + Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N total (00610)		mg/l		☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l		☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l		☐ Other:			
☐ Total organic carbon ( )		mg/l					
☐ Other:							
☐ Other:							

Analyst	Date Reported	Reviewed by
	6/20/86	

Laboratory remarks

SLD 726 (12/84)

FOR OCD USE -- Date Owner Notified _____ Phone or letter: _____ Initials _____

Lab Number: H 1078

Date Submitted: 6/10/86

By: Boyer

Sample de: Giant Bloomfield GBR-29

8606051525

Date Analyzed: 6/19/86

Reviewed By: Jim Ashley

Date Reported: 7/8/86

Element	ICAP VALUE (MG/L)	AA VALUE (MG/L)
Aluminum	<0.1	
Barium	<0.1	

8606051525

SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

GENERAL WATER CHEMISTRY and ~~NITROGEN ANALYSIS~~

DATE RECEIVED 6 10 86	LAB NO. HM-10-77	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 86 06 05	SITE INFORM-ATION ►	Sample location GIANT BLOOMFIELD REF GBR-29	
Collection TIME 1525		Collection site description	
Collected by — Person/Agency Boyer /OCD			

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/well code

Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Pump ☐ Dipped ☐ Tap	Water level	Discharge	Sample type GRAB
pH (00400) ~~7~~	Conductivity (Uncorrected) — µmho	Water Temp. (00010) — °C	Conductivity at 25°C (00094) µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µm membrane filter ☐ A: 2 ml H_2SO_4/L added

☐ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☒ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed	F, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho		☐ Calcium (00915)	mg/l	
☐ Total non-filterable residue (suspended) (00530)	mg/l		☐ Magnesium (00925)	mg/l	
☒ Other: ICAP			☐ Sodium (00930)	mg/l	
☒ Other: As	0.008		☐ Potassium (00935)	mg/l	
☒ Other: ~~Se~~ Hg	<0.0005		☐ Bicarbonate (00440)	mg/l	
			☐ Chloride (00940)	mg/l	
			☐ Sulfate (00945)	mg/l	
			☐ Total filterable residue (dissolved) (70300)	mg/l	
			☐ Other:		
NF, A-H_2SO_4			F, A-H_2SO_4		
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l		☐ Nitrate-N +, Nitrate-N dissolved (00631)		
☐ Ammonia-N total (00610)	mg/l				
☐ Total Kjeldahl-N					

8606051705

ASSAIGAI ANALYTICAL LABORATORIES

TO: Geoscience Consultants Ltd.
Attn: Randy Hicks
500 Copper NW Suite 325
Albuquerque, NM 87102

DATE: 21 July 1986
0933

SAMPLE ID: 8606051705 GBR-11

ANALYTE	ANALYTICAL RESULTS	NOMINAL DETECTION LIMITS
Fe	<0.3 mg/l	0.3 mg/l
Pb	<0.050 mg/l	0.050 mg/l
Cr	<0.050 mg/l	0.050 mg/l

REFERENCE: "Test Methods for Evaluating Solid Waste Physical/Chemical Methods", USEPA, SW 846, EMSL-Cincinnati, 1982

An invoice for services is enclosed. Thank you for contacting Assaigai Laboratories.

Sincerely,

Jennifer V. Smith

Jennifer V. Smith, Ph.D.
Laboratory Director

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

8606051705

754

STATE OF NEW MEXICO

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

8606051705

New Mexico Health and Env ..ent Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

759

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 6/10/86	LAB NO. W.O. 2523	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 86/06/05	WO_3 - WC 2524 SITE INFORM-ATION ►	Sample location GIANT BLOOMFIELD REF. GBR-11	
Collection TIME 1705		Collection site description	
Collected by — Person/Agency BOYER /OCD			

SEND FINAL REPORT TO ►
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/well code

Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type GRAB
pH (00400) 7	Conductivity (Uncorrected) 7200 µmho	Water Temp. (00010) 25 °C	Conductivity at 25°C (00094) µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted 1 ☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)		µmho	
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☐ Other:			
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☒ Calcium (00915)	1030	mg/l	6-23
☒ Magnesium (00925)	68	mg/l	"
☒ Sodium (00930)	1,132	mg/l	"
☒ Potassium (00935)	5.25	mg/l	"
☒ Bicarbonate (00440)	474	mg/l	6/13
☒ Chloride (00940)	2200	mg/l	6/17
☒ Sulfate (00945)	314	mg/l	6/18
☒ Total filterable residue (dissolved) (70300)	7593	mg/l	6/14
☒ Other: CO_3	0		6/13

NF, A-H_2SO_4		
☐ Nitrate-N + Nitrate-N total (00630)		mg/l
☐ Ammonia-N total (00610)		mg/l
☐ Total Kjeldahl-N ( )		mg/l
☐ Chemical oxygen demand (00340)		mg/l
☐ Total organic carbon ( )		mg/l
☐ Other:		
☐ Other:		

F, A-H_2SO_4		
☐ Nitrate-N + Nitrate-N dissolved (00631)		mg/l
☐ Ammonia-N dissolved (00608)		mg/l
☐ Total Kjeldahl-N ( )		mg/l
☐ Other:		

Analyst	Date Reported	Reviewed by
	6/24/86	

Laboratory remarks

8606051705

ANALYSES REQUESTED — LAB. No.: ORG- 678

PLEASE CHECK THE APPROPRIATE BOXES BELOW TO INDICATE THE TYPE OF ANALYTICAL SCREENS REQUIRED. WHENEVER POSSIBLE LIST SPECIFIC COMPOUNDS SUSPECTED OR REQUIRED.

QUALITATIVE	QUANTITATIVE	PURGEABLE SCREENS	QUALITATIVE	QUANTITATIVE	EXTRACTABLE SCREENS
		ALIPHATIC HYDROCARBON SCREEN			ALIPHATIC HYDROCARBONS
X	X	AROMATIC HYDROCARBON SCREEN			CHLORINATED HYDROCARBON PESTICIDES
X	X	HALOGENATED HYDROCARBON SCREEN			CHLOROPHENOXY ACID HERBICIDES
		GAS CHROMATOGRAPH/MASS SPECTROMETER			HYDROCARBON FUEL SCREEN
					ORGANOPHOSPHATE PESTICIDES
					POLYCHLORINATED BIPHENYLS (PCB's)
					POLYNUCLEAR AROMATIC HYDROCARBONS
					TRIAZINE HERBICIDES
		SPECIFIC COMPOUNDS			SPECIFIC COMPOUNDS

REMARKS:

ANALYTICAL RESULTS

COMPOUND	[PPB]	COMPOUND	[PPB]
Benzene	4600		
Toluene	3100		
Ethylbenzene	960		
p-Xylene	1000		
m-Xylene	2100		
o-Xylene	1100		
1,2-dichloroethane	140		
		* DETECTION LIMIT	50 ug/L

REMARKS: Eight other compounds were detected by the aromatic screen that were not identified.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes X NO ___. Seal(s) broken by: TAF date: 12 June 86

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements in this block and the analytical data on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 12 June 86. Analyst's signature: [signature]

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block. Reviewers signature: [signature]

FOR OCD USE -- Date Owner Notified _____ Phone or letter? _____ Initials _____

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

HEAVY METALS 8606051705
~~GE. IAL WATER CHEMISTRY~~
~~and NITROGEN ANALYSIS~~

DATE RECEIVED 6 10 86	LAB NO. HM-1077	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 86 06 05	SITE INFORM-ATION ►	Sample location - GIANT BLOOMFIELD REF. GBR-11	
Collection TIME 1705		Collection site description	
Collected by — Person/Agency BOYER /OCD			

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/well code

Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type GRAB
pH (00400) 7	Conductivity (Uncorrected) 7200 µmho	Water Temp. (00010) 25 °C	Conductivity at 25°C (00094) µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmemt rane filter ☐ A: 2 ml H_2SO_4/L added

☐ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☒ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed	F, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho		☐ Calcium (00915)	mg/l	
☐ Total non-filterable residue (suspended) (00530)	mg/l		☐ Magnesium (00925)	mg/l	
☒ Other: ICAP			☐ Sodium (00930)	mg/l	
☒ Other: As	0.014		☐ Potassium (00935)	mg/l	
☒ Other: ~~Se~~ Hg	<0.0005		☐ Bicarbonate (00440)	mg/l	
			☐ Chloride (00940)	mg/l	
			☐ Sulfate (00945)	mg/l	
			☐ Total filterable resicue (dissolved) (70300)	mg/l	
			☐ Other:		
NF, A-H_2SO_4			F, A-H_2SO_4		
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l		☐ Nitrate-N +, Nitrate-N dissolved (00631)	mg/l	
☐ Ammonia-N total (00610)	mg/l		☐ Ammonia-N dissolved (00608)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l		☐ Total Kjeldahl-N ( )	mg/l	
☐ Chemical oxygen demand (00340)	mg/l		☐ Other:		
☐ Total organic carbon ( )	mg/l				
☐ Other:					
☐ Other:					

Analyst	Date Reported	Reviewed by
	7 8 86	JTA

Laboratory remarks

SLD 726 (12/84)

FOR OCD USE -- Date Owner Notified _____ Phone or letter? _____ Initials _____

Lab Number: 1077

Sample de: Kent Bloomfield GBR-1

Date Submitted: 6/10/86

Date Analyzed: 6/19/86

By: Boyer

Reviewed By: Jim Ashby

8606051705

Date Reported: 7/8/86

Element	ICAP VALUE(MG/L)	AA VALUE(MG/L)
Aluminum	<0.1	
Barium	0.5	
Beryllium	<0.1	
Boron	0.3	
Cadmium	<0.1	
Calcium	970.	
Chromium	<0.1	
Cobalt	<0.1	
Copper	<0.1	
Iron	6.9	
Lead	<0.1	
Magnesium	100.	
Manganese	7.1	
Molybdenum	<0.1	
Nickel	.2	
Silicon	7.8	
Silver	<0.1	
Strontium	19.	
Tin	<0.1	
Vanadium	<0.1	
Zinc	7.3	
Arsenic		0.014
Selenium		
Mercury		<0.0005

8606051730

754

STATE OF NEW MEXICO
ENVIRONMENT

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

86- 0679-C

REPORT TO: DAVID G. BOYER
PLEASE PRINT
NEW MEXICO OIL CONSERVATION DIV.
P.O. BOX 2088
SANTA FE, NM 87504-2088

S.L.D. No.: OR- 679-17.15
DATE REC. : 06/09/86
SLD PRIORITY #:

PHONE(S): 827-5812
USER CODE: 8|2|2|3|5|

SUBMITTER: DAVID BOYER
SUBMITTER CODE:

SAMPLE TYPE: WATER [X], SOIL [ ], OTHER
SAMPLE TYPE CODE:

COLLECTED: 06/06/86 - 17:30 BY D.G.B.
DATE TIME INITIALS
CODE: Y Y M M D D H H M M I I I

SOURCE: GBR-20
CODE: AQUIFER DEPTH

NEAREST CITY: Bloomfield
CODE:

LOCATION: Giant Bloomfield Refinery
CODE: 29N 12W 17 TOWNSHIP RANGE SECTION TRACTS

pH= 7 ; Conductivity= 3100 umho/cm at 21 °C; Chlorine Residual=
Dissolved Oxygen= mg/l; Alkalinity= ; Flow Rate=
Sampling Location, Methods and Remarks (i.e. odors, etc.)
Monitor Well, Hydrocarbon odor at start of sampling

I certify that the statements in this block accurately reflect the results of my field analyses, observations and activities. D.G. Boyer
Method of shipment to the Laboratory Hand carried
This form accompanies 2 Septum Vials, Glass Jugs,
Containers are marked as follows to indicate preservation:
[ ] NP: No preservation; sample stored at room temperature.
[X] P-Ice Sample stored in an ice bath (not frozen).
[ ] P-$Na_2S_2O_3$; Sample preserved with $Na_2S_2O_3$ to remove chlorine residual.

I (we) certify that this sample was transferred from D.G. Boyer
to K. Meyerhoff at (location) SLD on
6/9/86 - 16:12 and that the statements in this block are correct.
DATE AND TIME
Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [X] No [ ]
Signatures K. Meyerhoff D.G. Boyer

(we) certify that this sample was transferred from
to at (location) on
__/__/__ - :__ and that the statements in this block are correct.
DATE AND TIME
Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [ ] No [ ]
Signatures

8606051730

ANALYSES REQUESTED LAB. No.: ORG- 679

PLEASE CHECK THE APPROPRIATE BOXES BELOW TO INDICATE THE TYPE OF ANALYTICAL SCREENS REQUIRED. WHENEVER POSSIBLE LIST SPECIFIC COMPOUNDS SUSPECTED OR REQUIRED.

QUALITATIVE	QUANTITATIVE	PURGEABLE SCREENS	QUALITATIVE	QUANTITATIVE	EXTRACTABLE SCREENS
		ALIPHATIC HYDROCARBON SCREEN			ALIPHATIC HYDROCARBONS
X	X	AROMATIC HYDROCARBON SCREEN			CHLORINATED HYDROCARBON PESTICIDES
X	X	HALOGENATED HYDROCARBON SCREEN			CHLOROPHENOXY ACID HERBICIDES
		GAS CHROMATOGRAPH/MASS SPECTROMETER			HYDROCARBON FUEL SCREEN
					ORGANOPHOSPHATE PESTICIDES
					POLYCHLORINATED BIPHENYLS (PCB's)
					POLYNUCLEAR AROMATIC HYDROCARBONS
					TRIAZINE HERBICIDES
		SPECIFIC COMPOUNDS			SPECIFIC COMPOUNDS

REMARKS:

ANALYTICAL RESULTS

COMPOUND	[PPB]	COMPOUND	[PPB]
1,2-dichloroethane	Possible trace < 1ppb		
Benzene	4		
Ethylbenzene	Trace < 5ppb		
		* DETECTION LIMIT	2 ppb

REMARKS: Six other compounds were detected by the aromatic scan that were not identified

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes X NO ___. Seal(s) broken by: JJF date: 12/13 Time 8:6

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements in this block and the analytical data on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 12/13 Time 8:6. Analyst's signature: [signature]

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block. Reviewers signature: [signature]

FOR OCD USE -- Date Owner Notified _____ Phone or letter? _____ Initials _____

8606051730

New Mexico Health and Env ...ent Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 6/18/86	LAB NO. WC-2514	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 3/10/86	003 - WC-1520	SITE INFORMATION ► Sample location: GIANT BLOOMFIELD REF. GBR-20	
Collection TIME 1730		Collection site description	
Collected by — Person/Agency: BOYER /OCD			

SEND FINAL REPORT TO ►
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088
Attn: David Boyer
Phone: 827-5812

Station/well code
Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type: GRAB
pH (00400): 7	Conductivity (Uncorrected): 3400 µmho	Water Temp. (00010): 21 °C	Conductivity at 25°C (00094): µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☒ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed	F, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho		☒ Calcium (00915): 420	mg/l	6/11
			☒ Magnesium (00925): 14.6	mg/l	"
			☒ Sodium (00930): 248.4	mg/l	"
			☒ Potassium (00935): 10.1	mg/l	"
☐ Total non-filterable residue (suspended) (00530)	mg/l		☒ Bicarbonate (00440): 428	mg/l	6/13
☐ Other:			☒ Chloride (00940): 290	mg/l	6/17
☐ Other:			☒ Sulfate (00945): 1773	mg/l	6/19
☐ Other:			☒ Total filterable residue (dissolved) (70300): 3473	mg/l	6/18
			☒ Other: 0		6/13

NF, A-H_2SO_4	Units	Date analyzed	F, A-H_2SO_4	Units	Date analyzed
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l		☐ Nitrate-N +, Nitrate-N dissolved (00631)	mg/l	
☐ Ammonia-N total (00610)	mg/l		☐ Ammonia-N dissolved (00608)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l		☐ Total Kjeldahl-N ( )	mg/l	
☐ Chemical oxygen demand (00340)	mg/l		☐ Other:		
☐ Total organic carbon ( )	mg/l				
☐ Other:					
☐ Other:					

Analyst	Date Reported	Reviewed by
	6/20/86	CS

Laboratory remarks

SLD 726 (12/84)

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initials _____

754

8606051745

STATE OF NEW MEXICO
ENVIRONMENT

SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

86-0677-C

REPORT TO: DAVID G. BOYER
PLEASE PRINT
NEW MEXICO OIL CONSERVATION DIV.
P.O. BOX 2088
SANTA FE, NM 87504-2088

S.L.D. No.: OR-677-A,B
DATE REC. : 86/09/86
SLD PRIORITY #:

PHONE(S): 827-5812

USER CODE: 8|2|2|3|5

SUBMITTER: David Boyer

SUBMITTER CODE: | | | |

SAMPLE TYPE: WATER [X], SOIL [ ], OTHER _____

SAMPLE TYPE CODE: | |

COLLECTED: 86/06/05 (DATE) - 17:15 (TIME) BY DGB (INITIALS)

CODE: | | | | | | | | | | | | | | | | | | | |
Y Y M M D D H H M M I I I

SOURCE: GBR-5

CODE: | | | | | | | | | | | | | |
AQUIFER DEPTH

NEAREST CITY: Bloomfield

CODE: | | | | | | |

LOCATION: Giant Bloomfield Refinery

CODE: 29N 11W 12 4 2 2 | | | | |
TOWNSHIP RANGE SECTION TRACTS

pH= 7 ; Conductivity= 3700 umho/cm at 25 °C; Chlorine Residual= _____

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ ; Flow Rate= _____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

Monitor well, Hydrocarbon emulsion

I certify that the statements in this block accurately reflect the results of my field analyses, observations and activities. D G Boyer

Method of shipment to the Laboratory Hand carried

This form accompanies 2 Septum Vials, ___ Glass Jugs, ___ _____

Containers are marked as follows to indicate preservation:

[ ] NP: No preservation; sample stored at room temperature.

[X] P-Ice Sample stored in an ice bath (not frozen).

[ ] P-$Na_2S_2O_3$; Sample preserved with $Na_2S_2O_3$ to remove chlorine residual.

I (we) certify that this sample was transferred from D G Boyer

to R. Meyerhein at (location) SLD on

6/9/86 - 16:15 (DATE AND TIME) and that the statements in this block are correct.

Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [X] No [ ]

Signatures R Meyerhein D G Boyer

_____

(we) certify that this sample was transferred from _____

to _____ at (location) _____ on

__/__/__ - __:__ (DATE AND TIME) and that the statements in this block are correct.

Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [ ] No [ ]

Signatures _____ _____

8606051745

ANALYSES REQUESTED

LAB. No.: ORG- 677

PLEASE CHECK THE APPROPRIATE BOXES BELOW TO INDICATE THE TYPE OF ANALYTICAL SCREENS REQUIRED. WHENEVER POSSIBLE LIST SPECIFIC COMPOUNDS SUSPECTED OR REQUIRED.

QUALITATIVE	QUANTITATIVE	PURGEABLE SCREENS	QUALITATIVE	QUANTITATIVE	EXTRACTABLE SCREENS
		ALIPHATIC HYDROCARBON SCREEN			ALIPHATIC HYDROCARBONS
X	X	AROMATIC HYDROCARBON SCREEN			CHLORINATED HYDROCARBON PESTICIDES
X	X	HALOGENATED HYDROCARBON SCREEN			CHLOROPHENOXY ACID HERBICIDES
		GAS CHROMATOGRAPH/MASS SPECTROMETER			HYDROCARBON FUEL SCREEN
					ORGANOPHOSPHATE PESTICIDES
					POLYCHLORINATED BIPHENYLS (PCB's)
					POLYNUCLEAR AROMATIC HYDROCARBONS
					TRIAZINE HERBICIDES
		SPECIFIC COMPOUNDS			SPECIFIC COMPOUNDS

REMARKS:

ANALYTICAL RESULTS

COMPOUND	[PPB]	COMPOUND	[PPB]
Benzene	530		
Toluene	200		
Ethylbenzene	1000		
p-Xylene	1000		
m-Xylene	2300		
o-Xylene	300		
Halogenated Purgeables	none detected		
		* DETECTION LIMIT	50 ppb

REMARKS: Six aromatic compounds were detected by the aromatic screen that were not identified.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes X NO ___. Seal(s) broken by: JA-F date: 12 June 86

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements in this block and the analytical data on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 12 June 86. Analyst's signature: [signature]

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block. Reviewers signature: [signature]

FOR OCD USE -- Date Owner Notified _____ Phone or letter? _____ Initials _____

B606051745

New Mexico Health and E[illegible]ment Department
SCIENTIFIC LABORATOR[illegible]IVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

854
2

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED: 6/10/86 | LAB NO: UK-2509 | USER CODE: ☐ 59300 ☐ 59600 ☒ OTHER: 82235

Collection DATE: 86 06 05 | Collection TIME: 1745 | SITE INFORM-ATION ► | Sample location: GBR-5

Collected by — Person/Agency: BOYER /OCD | Collection site description: GIANT BLOOMFIELD REFINERY

SEND FINAL REPORT TO ►
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/well code:

Owner:

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type: GRAB
pH (00400): 7	Conductivity (Uncorrected): 3700 µmho	Water Temp. (00010): 25 °C	Conductivity at 25°C (00094): µmho

Field comments: HYDROCARBON EMULSION

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed	F, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho		☒ Calcium (00915) 320	mg/l	6-11
☐ Total non-filterable residue (suspended) (00530)	mg/l		☒ Magnesium (00925) 77.6	mg/l	"
☐ Other:			☒ Sodium (00930) 588.8	mg/l	"
☐ Other:			☒ Potassium (00935) 6.77	mg/l	"
☐ Other:			☒ Bicarbonate (00440) 1837	mg/l	6/24
			☒ Chloride (00940) 464	mg/l	6/17
			☒ Sulfate (00945) 491	mg/l	6/19
			☒ Total filterable residue (dissolved) (70300) 2865	mg/l	6/14
			☒ Other: CO_3 0		6/13

NF, A-H, SO_4			F, A-H, SO_4		
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l		☐ Nitrate-N +, Nitrate-N dissolved (00631)	mg/l	
☐ Ammonia-N total (00610)	mg/l		☐ Ammonia-N dissolved (00608)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l		☐ Total Kjeldahl-N ( )	mg/l	
☐ Chemical oxygen demand (00340)	mg/l		☐ Other:		
☐ Total organic carbon ( )	mg/l				
☐ Other:					
☐ Other:					

Analyst	Date Reported	Reviewed by

Laboratory remarks:

SLD 726 (12/84)

FOR OCD USE -- Date Owner Notified _____ Phone or letter? _____ Initials _____

154

8606051900

STATE OF NEW MEXICO
ENVIRONMENT

SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

86-0676-C

REPORT TO: DAVID G. BOYER
PLEASE PRINT
NEW MEXICO OIL CONSERVATION DIV.
P.O. BOX 2088
SANTA FE, NM 87504-2088
PHONE(S): 827-5812

S.L.D. No.: OR-0676-H.S
DATE REC.: 06/09/86
SLD PRIORITY #:

USER CODE: 8|2|2|3|5|

SUBMITTER: DAVID BOYER
SUBMITTER CODE: | | | |

SAMPLE TYPE: WATER [X], SOIL [ ], OTHER _____
SAMPLE TYPE CODE: | |

COLLECTED: 86/06/05 (DATE) - 19:00 (TIME) BY DWB (INITIALS)
CODE: | | | | | | | | | | | | | | | | | | | | | | | |
Y Y M M D D H H M M I I

SOURCE: GBR-13
CODE: | | | | | | | | | | | | | | | | | | | | | | | |
AQUIFER DEPTH

NEAREST CITY: Bloomfield
CODE: | | | | | | |

LOCATION: Giant Bloomfield Refinery
CODE: B|29N|R|11W|2|1|1|1|1|1|
TOWNSHIP RANGE SECTION TRACTS

pH= 7 ; Conductivity= 7800 umho/cm at 18.5 °C; Chlorine Residual= _____
Dissolved Oxygen= _____ mg/l; Alkalinity= _____; Flow Rate= _____
Sampling Location, Methods and Remarks (i.e. odors, etc.)
Monitor well, Hydrocarbon sheen & odor

I certify that the statements in this block accurately reflect the results of my field analyses, observations and activities. D.G. Boyer
Method of shipment to the Laboratory Hand carried
This form accompanies 2 Septum Vials, ___ Glass Jugs, ___ _____
Containers are marked as follows to indicate preservation:
[ ] NP: No preservation; sample stored at room temperature.
[X] P-Ice Sample stored in an ice bath (not frozen).
[ ] P-$Na_2S_2O_3$; Sample preserved with $Na_2S_2O_3$ to remove chlorine residual.

I (we) certify that this sample was transferred from D.G. Boyer
to R Meyerhein at (location) SLD on
6/12/86 - 16:15 (DATE AND TIME) and that the statements in this block are correct.
Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [X] No [ ]
Signatures R Meyerhein D.G. Boyer

(we) certify that this sample was transferred from _____
to _____ at (location) _____ on
__/__/__ - __:__ (DATE AND TIME) and that the statements in this block are correct.
Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [ ] No [ ]
Signatures _____ _____

8606051900

ANALYSES REQUESTED LAB. No.: ORG- 676

PLEASE CHECK THE APPROPRIATE BOXES BELOW TO INDICATE THE TYPE OF ANALYTICAL SCREENS REQUIRED. WHENEVER POSSIBLE LIST SPECIFIC COMPOUNDS SUSPECTED OR REQUIRED.

QUALITATIVE	QUANTITATIVE	PURGEABLE SCREENS	QUALITATIVE	QUANTITATIVE	EXTRACTABLE SCREENS
		ALIPHATIC HYDROCARBON SCREEN	✓		ALIPHATIC HYDROCARBONS
X	X	AROMATIC HYDROCARBON SCREEN			CHLORINATED HYDROCARBON PESTICIDES
X	X	HALOGENATED HYDROCARBON SCREEN			CHLOROPHENOXY ACID HERBICIDES
		GAS CHROMATOGRAPH/MASS SPECTROMETER			HYDROCARBON FUEL SCREEN
					ORGANOPHOSPHATE PESTICIDES
					POLYCHLORINATED BIPHENYLS (PCB's)
					POLYNUCLEAR AROMATIC HYDROCARBONS
					TRIAZINE HERBICIDES
		SPECIFIC COMPOUNDS			SPECIFIC COMPOUNDS

REMARKS:

ANALYTICAL RESULTS

COMPOUND	[PPB]	COMPOUND	[PPB]
benzene	1300	dichloromethane	25
toluene	12	1,1-dichloroethane	25
ethylbenzene	130	1,2-dichloroethene	10
p-xylene	250	1,1,1-trichloroethane	23
m-xylene	410	trichloroethene	Trace < 10
o-xylene	71	tetrachloroethene	Trace < 10
1,2-dichloroethane	58		
		* DETECTION LIMIT	10 ug/L

REMARKS: Several other compounds were detected by the aromatic screen that were not identified.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes X NO ___. Seal(s) broken by: JAF date: 20 June 86 (12 June 86)

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements in this block and the analytical data on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 12 & 20 June 86. Analyst's signature: D. Tierney

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block. Reviewers signature: K. Meyerhaus

FOR OCD USE -- Date Owner Notified _____ Phone or letter? _____ Initials _____

8606051900

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

459 2

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED: 6/10/86	LAB NO. WC-2515	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE: 86/06/05	SITE INFORM-ATION ►	Sample location: GBR-13	
Collection TIME: 1900		Collection site description: GIANT BLOOMFIELD REFINERY	
Collected by — Person/Agency: /OCD			

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/well code:

Owner:

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level:	Discharge:	Sample type: GRAB
pH (00400): 7	Conductivity (Uncorrected): 7800 µmho	Water Temp. (00010): 18.5 °C	Conductivity at 25°C (00094): µmho

Field comments: HYDROCARBON SHEEN & ODOR

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-specify: ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed	F, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho		☒ Calcium (00915) 1464	mg/l	6-19
☐ Total non-filterable residue (suspended) (00530)	mg/l		☒ Magnesium (00925) 70.8	mg/l	"
☐ Other:			☒ Sodium (00930) 317.2	mg/l	"
☐ Other:			☒ Potassium (00935) 2.73	mg/l	"
☐ Other:			☒ Bicarbonate (00440) 470	mg/l	6/13
NF, A-H_2SO_4			☒ Chloride (00940) 3070	mg/l	6/17
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l		☒ Sulfate (00945) 1332	mg/l	6/19
☐ Ammonia-N total (00610)	mg/l		☒ Total filterable residue (dissolved) (70300) 10553	mg/l	6/16
☐ Total Kjeldahl-N ( )	mg/l		☒ Other: CO_3 0		6/13
☐ Chemical oxygen demand (00340)	mg/l		F, A-H_2SO_4		
☐ Total organic carbon ( )	mg/l		☐ Nitrate-N +, Nitrate-N dissolved (00631)	mg/l	
☐ Other:			☐ Ammonia-N dissolved (00608)	mg/l	
☐ Other:			☐ Total Kjeldahl-N ( )	mg/l	
			☐ Other:		

Analyst	Date Reported	Reviewed by
	6/24/86	CJ

Laboratory remarks:

SLD 726 (12/84)

FOR OCD USE -- Date Owner Notified _____ Phone or letter? _____ Initials _____

8606051905

ASSAIGAI ANALYTICAL LABORATORIES

TO: Geoscience Consultants Ltd.
Attn: Randy Hicks
500 Copper NW Suite 325
Albuquerque, NM 87102

DATE: 21 July 1986
0933

SAMPLE ID: 8606051905 Burn Pit (FIRE FIGHTING DRILL AREA)

ANALYTE	ANALYTICAL RESULTS	NOMINAL DETECTION LIMITS
Benzene	15.5 mg/l	1 mg/l
Toluene	11.9 mg/l	1 mg/l
Xylenes	1.1 ug/l	1 mg/l
Fe	<0.3 mg/l	0.3 mg/l
Pb	<0.050 mg/l	0.050 mg/l
Cr	<0.050 mg/l	0.050 mg/l

Recovery %:

Pb	100 %
Cr	100 %

REFERENCE:"Test Methods for Evaluating Solid Waste Physical/Chemical Methods",USEPA, SW 846, EMSL-Cincinnati, 1982

An invoice for services is enclosed. Thank you for contacting Assaigai Laboratories.

Sincerely,

Jennifer V. Smith

Jennifer V. Smith, Ph.D.
Laboratory Director

Xylenes 1.1 mg/l

0.1 mg/l

JVK 12.28.86

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

8606051905

86-0684-C

STATE OF NEW MEXICO
ENVIRONMENT

SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

7/14

REPORT TO: DAVID G. BOYER
PLEASE PRINT
NEW MEXICO OIL CONSERVATION DIV.
P.O. BOX 2088
SANTA FE, NM 87504-2088
PHONE(S): 827-5812

S.L.D. No.: OR-684-17-5
DATE REC.: 06/19/86
SLD PRIORITY #:

USER CODE: 8|2|2|3|5|
SUBMITTER: DAVID BOYER
SUBMITTER CODE: | | | |
SAMPLE TYPE: WATER [X], SOIL [ ], OTHER ____
SAMPLE TYPE CODE: | |
COLLECTED: 86/06/05 (DATE) - 17:05 (TIME) BY DVB (INITIALS)
CODE: | | | | | | | | | | | | | | (Y Y M M D D H H M M I I I)
SOURCE: East Burn Pit Seep
CODE: | | | | | | | | | | | | (AQUIFER / DEPTH)
NEAREST CITY: Bloomfield
CODE: | | | | | |
LOCATION: Giant Bloomfield Refinery
CODE: 29N/12W/21/V/1/1 (TOWNSHIP / RANGE / SECTION / TRACTS)
pH= 7 ; Conductivity= 1600 umho/cm at 21.5 °C; Chlorine Residual= ____
Dissolved Oxygen= ____ mg/l; Alkalinity= ____ ; Flow Rate= ____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

Seep at face of excavated pit. Source to east towards ~~the~~ refinement inlet. Sample is water ~~oily~~ in contact w/ hydrocarbons at seep.

I certify that the statements in this block accurately reflect the results of my field analyses, observations and activities. DV Boyer
Method of shipment to the Laboratory Hand carried
This form accompanies 2 Septum Vials, ___ Glass Jugs, ___ ____
Containers are marked as follows to indicate preservation:
[ ] NP: No preservation; sample stored at room temperature.
[X] P-Ice Sample stored in an ice bath (not frozen).
[ ] P-$Na_2S_2O_3$; Sample preserved with $Na_2S_2O_3$ to remove chlorine residual.

I (we) certify that this sample was transferred from DV Boyer
to K Marchan at (location) SLD on
6/19/86 - 16:10 (DATE AND TIME) and that the statements in this block are correct.
Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [X] No [ ]
Signatures K Marchan DV Boyer

(we) certify that this sample was transferred from ____
to ____ at (location) ____ on
__/__/__ - __:__ (DATE AND TIME) and that the statements in this block are correct.
Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [ ] No [ ]
Signatures ____ ____

8606051905

ANALYSES REQUESTED — LAB. No.: ORG- 684

PLEASE CHECK THE APPROPRIATE BOXES BELOW TO INDICATE THE TYPE OF ANALYTICAL SCREENS REQUIRED. WHENEVER POSSIBLE LIST SPECIFIC COMPOUNDS SUSPECTED OR REQUIRED.

QUALITATIVE	QUANTITATIVE	PURGEABLE SCREENS	QUALITATIVE	QUANTITATIVE	EXTRACTABLE SCREENS
		ALIPHATIC HYDROCARBON SCREEN			ALIPHATIC HYDROCARBONS
X	X	AROMATIC HYDROCARBON SCREEN			CHLORINATED HYDROCARBON PESTICIDES
X	X	HALOGENATED HYDROCARBON SCREEN			CHLOROPHENOXY ACID HERBICIDES
		GAS CHROMATOGRAPH/MASS SPECTROMETER			HYDROCARBON FUEL SCREEN
					ORGANOPHOSPHATE PESTICIDES
					POLYCHLORINATED BIPHENYLS (PCB's)
					POLYNUCLEAR AROMATIC HYDROCARBONS
					TRIAZINE HERBICIDES
		SPECIFIC COMPOUNDS			SPECIFIC COMPOUNDS

REMARKS:

ANALYTICAL RESULTS

COMPOUND	[PPB]	COMPOUND	[PPB]
Benzene	26000		
Toluene	18000		
Ethylbenzene	1200		
p-Xylene	2200		
m-Xylene	5500		
o-Xylene	3000		
1,2-dichloroethane	49		
$CHCl_3$	50	* DETECTION LIMIT	10 ug/L

REMARKS: Twelve other compounds recorded by the computer were that were not identified.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes X NO ___. Seal(s) broken by: JAF date: 6-27-86

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements in this block and the analytical data on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 6-27-86 6-13-86. Analyst's signature: [signature]

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block. Reviewers signature: [signature]

FOR OCD USE -- Date Owner Notified _____ Phone or letter? _____ Initials _____

8606051905

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

GE[illegible]AL WATER CHEMISTRY
[illegible] NITROGEN ANALYSIS

DATE RECEIVED 6	11 86	LAB NO. 110-2525	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235
Collection DATE 8606105	003-25226	SITE INFORM-ATION ►	Sample location: BURN PIT SEEP
Collection TIME 1905			Collection site description: GIANT BLOOMFIELD REFINERY
Collected by — Person/Agency: Boyer /OCD			

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/well code

Owner

SAMPLING CONDITIONS

☐ Bailed ☒ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type: GRAB
pH (00400): 7	Conductivity (Uncorrected): 1600 µmho	Water Temp. (00010): 21.5 °C	Conductivity at 25°C (00094): µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µm membrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)		µmho	
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☐ Other:			
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☒ Calcium (00915)	164	mg/l	6/13
☒ Magnesium (00925)	14.6	mg/l	"
☒ Sodium (00930)	96	mg/l	"
☒ Potassium (00935)	6	mg/l	"
☒ Bicarbonate (00440)	166	mg/l	6/13
☒ Chloride (00940)	134	mg/l	6/17
☒ Sulfate (00945)	70	mg/l	6/19
☒ Total filterable residue (dissolved) (70300)	1293	mg/l	6/19
☒ Other: CO_3	0		6/13

NF, A-H_2SO_4			
☐ Nitrate-N + Nitrite-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, A-H_2SO_4			
☐ Nitrate-N + Nitrite-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst	Date Reported	Reviewed by
	6/24/86	CE

Laboratory remarks

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505, -2555

GENERAL WATER CHEMISTRY
a NITROGEN ANALYSIS

8600605 1905

DATE RECEIVED 6 10 86	LAB NO WC-2529	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 860605	SITE INFORM-ATION	Sample location BURN PIT SEEP	
Collection TIME 1905		Collection site description GIANT BLOOMFIELD REFINERY	
Collected by — Person/Agency Boyer /OCD			

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

RECEIVED
JUN 9 1986
OIL CONSERVATION DIVISION
SANTA FE

Station/ well code

Owner

SAMPLING CONDITIONS

☐ Bailed ☒ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type GRAB
pH (00400) 7	Conductivity (Uncorrected) 1600 µmho	Water Temp. (00010) 21.5 °C	Conductivity at 25°C (00094) µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☒ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho	
☐ Total non-filterable residue (suspended) (00530)	mg/l	
☐ Other:		
☐ Other:		
☐ Other:		

F, NA	Units	Date analyzed
☒ Calcium (00915)	mg/l	
☒ Magnesium (00925)	mg/l	
☒ Sodium (00930)	mg/l	
☒ Potassium (00935)	mg/l	
☒ Bicarbonate (00440)	mg/l	
☒ Chloride (00940)	mg/l	
☒ Sulfate (00945)	mg/l	
☒ Total filterable residue (dissolved) (70300)	mg/l	
☒ Other: CO_3		

NF, A-H_2SO_4		
☐ Nitrate-N + , Nitrate-N total (00630)	mg/l	
☐ Ammonia-N total (00610)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l	
☐ Chemical oxygen demand (00340)	mg/l	
☐ Total organic carbon ( )	mg/l	
☐ Other:		
☐ Other:		

F, A-H_2SO_4		
☒ Nitrate-N + , Nitrate-N dissolved (00631)		
☒ Ammonia-N dissolved (00608)		
☒ Total Kjeldahl-N ( )	1.26 mg/l	6-23
☐ Other:		

Analyst	Date Reported	Reviewed by

Laboratory remarks

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

8606051905

SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

~~GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS~~

DATE RECEIVED 6 10 86	LAB NO. HW-1079	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 86 06 10 05	SITE INFORM-ATION ►	Sample location BURN PIT SEEP	
Collection TIME 1105		Collection site description GIANT, BLOOMFIELD REFINERY	
Collected by — Person/Agency BOYER /OCD			

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/well code

Owner

SAMPLING CONDITIONS

☐ Bailed ☒ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type GRAB
pH (00400) 7	Conductivity (Uncorrected) 1600 µmho	Water Temp. (00010) 21.5 °C	Conductivity at 25°C (00094) µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☐ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☒ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)		µmho	
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☒ Other: ICAP			
☒ Other: As	0.027		
☒ Other: Hg	<0.0005		

F, NA		Units	Date analyzed
☐ Calcium (00915)		mg/l	
☐ Magnesium (00925)		mg/l	
☐ Sodium (00930)		mg/l	
☐ Potassium (00935)		mg/l	
☐ Bicarbonate (00440)		mg/l	
☐ Chloride (00940)		mg/l	
☐ Sulfate (00945)		mg/l	
☐ Total filterable residue (dissolved) (70300)		mg/l	
☐ Other:			

NF, A-H_2SO_4			
☐ Nitrate-N + , Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, A-H_2SO_4			
☐ Nitrate-N + , Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst	Date Reported	Reviewed by
	7 8 86	J.T. Ashby

Laboratory remarks

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

Lab Number: H 1079

Date Submitted: 6/10/86

By: Boyer

Sample de: Giant Bloomfield Pit Sump 8606051905

Date Analyzed: 6/19/86

Reviewed By: Jim Ashley

Date Reported: 7/8/86

Element	ICAP VALUE(MG/L)	AA VALUE(MG/L)
Aluminum	<0.1	
Barium	0.4	
Beryllium	<0.1	
Boron	5.4	
Cadmium	<0.1	
Calcium	160.	
Chromium	<0.1	
Cobalt	<0.1	
Copper	<0.1	
Iron	24.	
Lead	<0.1	
Magnesium	22.	
Manganese	3.5	
Molybdenum	<0.1	
Nickel	<0.1	
Silicon	30.	
Silver	<0.1	
Strontium	5.9	
Tin	<0.1	
Vanadium	<0.1	
Zinc	0.2	
Arsenic		0.024
Selenium		
Mercury		<0.0005

8606052000

ASSAIGAI ANALYTICAL LABORATORIES

TO: Geoscience Consultants Ltd.
Attn: Randy Hicks
500 Copper NW Suite 325
Albuquerque, NM 87102

DATE: 21 July 1986
0933

SAMPLE ID: 8606052000 GBR-27

ANALYTE	ANALYTICAL RESULTS	NOMINAL DETECTION LIMITS
Fe	<0.3 mg/l	0.3 mg/l
Pb	<0.050 mg/l	0.050 mg/l
Cr	<0.050 mg/l	0.050 mg/l
Napthalene	183.2 ug/l	0.1 ug/l
Acenaphthene	43.2 ug/l	0.1 ug/l
Acenaphthylene	139.7 ug/l	0.1 ug/l
Anthracene	46.1 ug/l	0.1 ug/l
Phenanthrene	46.1 ug/l	0.1 ug/l
Fluoranthene	8.6 ug/l	0.1 ug/l
Pyrene	24.5 ug/l	0.1 ug/l
Benzo(a) anthracene	ND	
Benzo(a) pyrene	ND	
Benzo(b) fluoranthene	ND	
Benzo(ghi)perylene	ND	
Benzo(k)fluoranthene	ND	
Benzo(k)fluoranthene	ND	
Chyrsene	ND	
Dibenz(a,h)anthracenee	ND	
Dibenz(a,h)acridine	ND	
Dibenz(a,j)acridine	ND	
Fluorene	ND	
7H-Dibenzo(c,g)pyrene	ND	
Dibenzo(a,e)pyrene	ND	
Dibenzo(a,h)pyrene	ND	
Dibenzo(a,i)pyrene	ND	
Indeno(1,2,3-cd)pyrene	ND	
3-Methylcholanthrene	ND	

REFERENCE: "Test Methods for Evaluating Solid Waste Physical/Chemical Methods", USEPA, SW 846, EMSL-Cincinnati, 1982

An invoice for services is enclosed. Thank you for contacting Assaigai Laboratories.

Sincerely,

Jennifer V. Smith

Jennifer V. Smith, Ph.D.
Laboratory Director

7300 Jefferson, NE • Albuquerque, New Mexico 87109 • (505) 345-8964

8606052000

754

STATE OF NEW MEXICO
ENVIRONMENT

SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

Purgeable 86-0682-C

REPORT TO: DAVID G. BOYER
PLEASE PRINT
NEW MEXICO OIL CONSERVATION DIV.
P.O. BOX 2088
SANTA FE, NM 87504-2088
PHONE(S): 827-5812

S.L.D. No.: OR-682-17-13
DATE REC.: 06/09/86
SLD PRIORITY #:
USER CODE: 8 2 2 3 5

SUBMITTER: DAVID BOYER
SUBMITTER CODE:

SAMPLE TYPE: WATER [X], SOIL [ ], OTHER
SAMPLE TYPE CODE:

COLLECTED: 86/06/05 (DATE) - 20:00 (TIME) BY DGB (INITIALS)
CODE: Y Y M M D D H H M M I I

SOURCE: GBR-27
CODE: (AQUIFER) (DEPTH)

NEAREST CITY: Bloomfield
CODE:

LOCATION: Giant Bloomfield Refinery
CODE: 2 9 N 1 2 W 2 7 (TOWNSHIP RANGE SECTION) TRACTS

pH= 7 ; Conductivity= 2200 umho/cm at 21 °C; Chlorine Residual=
Dissolved Oxygen= mg/l; Alkalinity= ; Flow Rate=
Sampling Location, Methods and Remarks (i.e. odors, etc.)

Diesel recovery well sample is water from beneath product. Sheen and hydrocarbon odor

I certify that the statements in this block accurately reflect the results of my field analyses, observations and activities. David G. Boyer
Method of shipment to the Laboratory Hand carried
This form accompanies 2 Septum Vials, Glass Jugs,
Containers are marked as follows to indicate preservation:
[ ] NP: No preservation; sample stored at room temperature.
[X] P-Ice Sample stored in an ice bath (not frozen).
[ ] P-$Na_2S_2O_3$; Sample preserved with $Na_2S_2O_3$ to remove chlorine residual.

I (we) certify that this sample was transferred from D.G. Boyer
to K Meyer-Lein at (location) 5-13 on
6/5/86 (DATE AND TIME) - 16:19 and that the statements in this block are correct.
Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [X] No [ ]
Signatures K Meyer-Lein D.G. Boyer

(we) certify that this sample was transferred from
to at (location) on
__/__/__ (DATE AND TIME) - __:__ and that the statements in this block are correct.
Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [ ] No [ ]
Signatures

8606052000

ANALYSES REQUESTED — LAB. No.: ORG- 682

PLEASE CHECK THE APPROPRIATE BOXES BELOW TO INDICATE THE TYPE OF ANALYTICAL SCREENS REQUIRED. WHENEVER POSSIBLE LIST SPECIFIC COMPOUNDS SUSPECTED OR REQUIRED.

QUALITATIVE	QUANTITATIVE	PURGEABLE SCREENS	QUALITATIVE	QUANTITATIVE	EXTRACTABLE SCREENS
		ALIPHATIC HYDROCARBON SCREEN			ALIPHATIC HYDROCARBONS
X	X	AROMATIC HYDROCARBON SCREEN			CHLORINATED HYDROCARBON PESTICIDES
X	X	HALOGENATED HYDROCARBON SCREEN			CHLOROPHENOXY ACID HERBICIDES
		GAS CHROMATOGRAPH/MASS SPECTROMETER			HYDROCARBON FUEL SCREEN
					ORGANOPHOSPHATE PESTICIDES
					POLYCHLORINATED BIPHENYLS (PCB's)
					POLYNUCLEAR AROMATIC HYDROCARBONS
					TRIAZINE HERBICIDES
		SPECIFIC COMPOUNDS			SPECIFIC COMPOUNDS

REMARKS:

ANALYTICAL RESULTS

COMPOUND 682-A	[PPB]	COMPOUND 682-B	[PPB]
benzene	410	benzene	50
Toluene	120	Toluene	74
ethylbenzene	none detected**	ethylbenzene	12
p-Xylene	96	p-Xylene	77
m-Xylene	240	m-Xylene	240
o-Xylene	170	o-Xylene	140
1,2-dichloroethane	trace <50 ppb	1,2-dichloroethane	6
** DETECTION LIMIT (682-A)	50 ug/L	* DETECTION LIMIT (682-B)	5 ug/L

REMARKS: The results between the triplicate samples were different as they are reported here for comparison. Extraneous compounds were detected by the aromatic screen in sample 682-B that were not identified.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes X NO ___. Seal(s) broken by: JAF date: 12/15 June 86

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements in this block and the analytical data on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 12/15 June 86. Analyst's signature: [signature]

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block. Reviewers signature: [signature]

FOR OCD USE -- Date Owner Notified _____ Phone or letter? _____ Initials _____

8606052000

STATE OF NEW MEXICO
ENVIRONMENT

SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

PAH

86-0690-C

REPORT TO: DAVID G. BOYER
PLEASE PRINT
NEW MEXICO OIL CONSERVATION DIV.
P.O. BOX 2088
SANTA FE, NM 87504-2088
PHONE(S): 827-5812

S.L.D. No.: OR-690-H-13
DATE REC.: 6/6/86
SLD PRIORITY #:

USER CODE: 8 2 2 3 5

SUBMITTER: DAVID BOYER
SUBMITTER CODE:

SAMPLE TYPE: WATER ☒, SOIL ☐, OTHER
SAMPLE TYPE CODE:

COLLECTED: 6/6/86 (DATE) - 20:00 (TIME) BY DGB (INITIALS)
CODE: Y Y M M D D H H M M I I I

SOURCE: GBR-27
CODE: AQUIFER DEPTH

NEAREST CITY: Bloomfield
CODE:

LOCATION: Giant Bloomfield Refinery
CODE: 29N 12W 27 1 1 V
TOWNSHIP RANGE SECTION TRACTS

pH= 7 ; Conductivity= 7200 umho/cm at 21 °C; Chlorine Residual=
Dissolved Oxygen= mg/l; Alkalinity= ; Flow Rate=
Sampling Location, Methods and Remarks (i.e. odors, etc.)

Diesel recovery well, sample is water green beneath product sheen & Hydrocarbon odor

I certify that the statements in this block accurately reflect the results of my field analyses, observations and activities. David G Boyer
Method of shipment to the Laboratory Hand Carried
This form accompanies Septum Vials, 2 Glass Jugs,
Containers are marked as follows to indicate preservation:
☐ NP: No preservation; sample stored at room temperature.
☒ P-Ice Sample stored in an ice bath (not frozen).
☐ P-$Na_2S_2O_3$; Sample preserved with $Na_2S_2O_3$ to remove chlorine residual.

I (we) certify that this sample was transferred from DGBoyer
to K Meyerhein at (location) SLD- on
6/3/86 (DATE AND TIME) - 16:24 and that the statements in this block are correct.
Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☐ No ☐
Signatures K Meyerhein DGBoyer

(we) certify that this sample was transferred from
to at (location) on
/ / (DATE AND TIME) - : and that the statements in this block are correct.
Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☐ No ☐
Signatures

8606052000

ANALYSES REQUESTED LAB. I. .: ORG- 690

PLEASE CHECK THE APPROPRIATE BOXES BELOW TO INDICATE THE TYPE OF ANALYTICAL SCREENS REQUIRED. WHENEVER POSSIBLE LIST SPECIFIC COMPOUNDS SUSPECTED OR REQUIRED.

QUALITATIVE	QUANTITATIVE	PURGEABLE SCREENS
		ALIPHATIC HYDROCARBON SCREEN
		AROMATIC HYDROCARBON SCREEN
		HALOGENATED HYDROCARBON SCREEN
		GAS CHROMATOGRAPH/MASS SPECTROMETER
		SPECIFIC COMPOUNDS

QUALITATIVE	QUANTITATIVE	EXTRACTABLE SCREENS
		ALIPHATIC HYDROCARBONS
		CHLORINATED HYDROCARBON PESTICIDES
		CHLOROPHENOXY ACID HERBICIDES
		HYDROCARBON FUEL SCREEN
		ORGANOPHOSPHATE PESTICIDES
		POLYCHLORINATED BIPHENYLS (PCB's)
X	X	POLYNUCLEAR AROMATIC HYDROCARBONS
		TRIAZINE HERBICIDES
		SPECIFIC COMPOUNDS
	X	Total Naphthalene plus Mono-Methyl Naphth
	X	Benzo-a-pyrene

REMARKS:

ANALYTICAL RESULTS

COMPOUND	[PPB]	COMPOUND	[PPB]
Polynuclear Aromatic Hydrocarbons			
Nephthylene	7100		
1-Methylnaphthylene	11000		
2-Methylnaphthylene	2900		
Benzo(a)pyrene	< 10 PPB		
		* DETECTION LIMIT	

REMARKS:

Diesel - 131 ppm chromatographic fingerprint of extract consistent with that of diesel fuel

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes___ NO___. Seal(s) broken by: date:

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements in this block and the analytical data on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 7/1/86; 7/3/86. Analyst's signature: K Negrete; R S Kerr, Jr.

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block. Reviewers signature: K Negrete

FOR OCD USE -- Date Owner Notified _____ Phone or letter? _____ Initials _____

8606052000

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

159

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED: 6 10 86	LAB NO. UC-2517	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE: 86 06 05	SITE INFORM-ATION ►	Sample location: GBR-27	
Collection TIME: 2000		Collection site description: GIANT BLOOMFIELD REFINERY	
Collected by — Person/Agency: Bayer /OCD			

SEND FINAL REPORT TO ►
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/well code:
Owner:

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type: GRAB
pH (00400): 7	Conductivity (Uncorrected): 7200 µmho	Water Temp. (00010): 21 °C	Conductivity at 25°C (00094): µmho

Field comments: DIESEL RECOVERY WELL, SAMPLE IS WATER BENEATH PRODUCT

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)		µmho	
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☐ Other:			
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☒ Calcium (00915)	1100	mg/l	6-11
☒ Magnesium (00925)	141.1	mg/l	"
☒ Sodium (00930)	526.7	mg/l	"
☒ Potassium (00935)	41.7	mg/l	"
☒ Bicarbonate (00440)	350	mg/l	6/13
☒ Chloride (00940)	2816	mg/l	6/17
☒ Sulfate (00945)	1530	mg/l	6/19
☒ Total filterable residue (dissolved) (70300)	9023	mg/l	6/18
☒ Other: CO_3	0		6/13

NF, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst	Date Reported	Reviewed by
	6/24/86	CD

Laboratory remarks:

SLD 726 (12/84)

FOR OCD USE -- Date Owner Notified _____ Phone or letter? _____ Initials

8606052040

ANALYSES REQUESTED LAB. No.: ORG- 686

PLEASE CHECK THE APPROPRIATE BOXES BELOW TO INDICATE THE TYPE OF ANALYTICAL SCREENS REQUIRED. WHENEVER POSSIBLE LIST SPECIFIC COMPOUNDS SUSPECTED OR REQUIRED.

QUALITATIVE	QUANTITATIVE	PURGEABLE SCREENS	QUALITATIVE	QUANTITATIVE	EXTRACTABLE SCREENS
		ALIPHATIC HYDROCARBON SCREEN			ALIPHATIC HYDROCARBONS
X	X	AROMATIC HYDROCARBON SCREEN			CHLORINATED HYDROCARBON PESTICIDES
X	X	HALOGENATED HYDROCARBON SCREEN			CHLOROPHENOXY ACID HERBICIDES
		GAS CHROMATOGRAPH/MASS SPECTROMETER			HYDROCARBON FUEL SCREEN
					ORGANOPHOSPHATE PESTICIDES
					POLYCHLORINATED BIPHENYLS (PCB's)
					POLYNUCLEAR AROMATIC HYDROCARBONS
					TRIAZINE HERBICIDES
		SPECIFIC COMPOUNDS			SPECIFIC COMPOUNDS

REMARKS:

ANALYTICAL RESULTS

COMPOUND	[PPB]	COMPOUND	[PPB]
benzene	680	trichloroethene	trace < 10 ppb
Toluene	690	1,2-dichloroethane	trace < 10 ppb
ethylbenzene	140	tetrachloroethene	trace < 10 ppb
p-Xylene	290	1,2-dibromoethane	trace < 10 ppb
m-Xylene	410		
o-Xylene	190		
		* DETECTION LIMIT	10 ug/L

REMARKS: Twenty compounds were detected by the aromatic screen that were not identified.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ___ NO X. Seal(s) broken by: _____ date: _____

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements in this block and the analytical data on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 6-15-86, 6-24-86, 7-2-86. Analyst's signature: [signature]

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block. Reviewers signature: [signature]

FOR OCD USE -- Date Owner Notified _____ Phone or letter? _____ Initials _____

8606052040

754

STATE OF NM
ENVIRONMENT

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

86- 0686-C

REPORT TO: DAVID G. BOYER
PLEASE PRINT
NEW MEXICO OIL CONSERVATION DIV.
P.O. BOX 2088
SANTA FE, NM 87504-2088

S.L.D. No.: OR-686-B.C
DATE REC. : 6/09/86
SLD PRIORITY #:

PHONE(S): 827-5812
USER CODE: 8|2|2|3|5|

SUBMITTER: DAVID BOYER
SUBMITTER CODE:

SAMPLE TYPE: WATER [X], SOIL [ ], OTHER
SAMPLE TYPE CODE:

COLLECTED: 86/06/06 (DATE) -20:10 (TIME) BY DGB (INITIALS)
CODE: Y Y M M D D H H M M I I

SOURCE: GBR-24
CODE: (AQUIFER) (DEPTH)

NEAREST CITY: Bloomfield
CODE:

LOCATION: Giant Refinery
CODE: 29N/12W/21 (TOWNSHIP RANGE SECTION TRACTS)

pH= ___; Conductivity= ___ umho/cm at ___ °C; Chlorine Residual= ___

Dissolved Oxygen= ___ mg/l; Alkalinity= ___; Flow Rate= ___

Sampling Location, Methods and Remarks (i.e. odors, etc.)

Monitor well - Sample of water beneath gasoline like floating product 1" Thick

I certify that the statements in this block accurately reflect the results of my field analyses, observations and activities. David G. Boyer

Method of shipment to the Laboratory Hand carried

This form accompanies 2 Septum Vials, ___ Glass Jugs, ___

Containers are marked as follows to indicate preservation:

[ ] NP: No preservation; sample stored at room temperature.
[X] P-Ice Sample stored in an ice bath (not frozen).
[ ] P-$Na_2S_2O_3$; Sample preserved with $Na_2S_2O_3$ to remove chlorine residual.

I (we) certify that this sample was transferred from D.G. Boyer NMOCD to ___ at (location) SLD NMOCD on

__/__/__ (DATE AND TIME) -__:__ and that the statements in this block are correct.

Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [ ] No [ ]

Signatures ___ D.G. Boyer NMOCD

(we) certify that this sample was transferred from ___

to ___ at (location) ___ on

__/__/__ (DATE AND TIME) -__:__ and that the statements in this block are correct.

Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [ ] No [ ]

Signatures ___ ___

8607081040

86-0814-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

STATE OF NEW MEXICO ENVIRONMENT

WPA

REPORT TO: David Boyer
N.M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87504-2088

S.L.D. No. OR- 814 - A-B
DATE REC. 7-11-86
PRIORITY

PHONE(S): 827-5812 USER CODE: 8 2 2 3 5

SUBMITTER: David Boyer CODE: 2 6 0

SAMPLE COLLECTION CODE: (YYMMDDHHMMHH) 8 6 0 7 0 8 1 0 4 0 R C A

SAMPLE TYPE: WATER [X], SOIL [ ], FOOD [ ], OTHER: _____ CODE: _____

COUNTY: SAN JUAN ; CITY: BLOOMFIELD CODE: _____

LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N + 1 2 W + 2 7 + _____ (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- [ ] (753) Aliphatic Purgeables (1-3 Carbons)
- [X] (754) Aromatic & Halogenated Purgeables
- [ ] (765) Mass Spectrometer Purgeables
- [ ] (766) Trihalomethanes

Other Specific Compounds or Classes

- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____

EXTRACTABLE SCREENS

- [ ] (751) Aliphatic Hydrocarbons
- [ ] (760) Organochlorine Pesticides
- [ ] (755) Base/Neutral Extractables
- [ ] (758) Herbicides, Chlorophenoxy acid
- [ ] (759) Herbicides, Triazines
- [ ] (760) Organochlorine Pesticides
- [ ] (761) Organophosphate Pesticides
- [ ] (767) Polychlorinated Biphenyls (PCB's)
- [ ] (764) Polynuclear Aromatic Hydrocarbons
- [ ] (762) SDWA Pesticides & Herbicides

Remarks: _____

FIELD DATA:

pH=_____; Conductivity=_____umho/cm at _____°C; Chlorine Residual=_____mg/l

Dissolved Oxygen=_____mg/l; Alkalinity=_____mg/l; Flow Rate_____ _____/_____

Depth to water _____ft.; Depth of well_____ft.; Perforation Interval _____-_____ft.; Casing:_____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

GIANT REFINERY, BLOOMFIELD - RAW WATER POND

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): R. C. Anderson Method of Shipment to the Lab: _____

This form accompanies 2 Septum Vials, _____ Glass Jugs, and/or _____ _____

Samples were preserved as follows:

- [ ] NP: No Preservation; Sample stored at room temperature.
- [X] P-Ice Sample stored in an ice bath (Not Frozen).
- [ ] P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from _____ to _____

at (location) _____ on ____/____/____ - ____:____ and that the statements in this block are correct. Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [ ] No [ ]

Signatures _____ _____

For OCD Use: Date Owner Notified _____ Phone or Letter?_____ Initials _____

8607081040

ANALYSES PERFORMED

LAB. No.: OR- 814

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
aromatic purgeables	ND		
halogenated purgeables	ND		
* DETECTION LIMIT *	5 ppb	+ DETECTION LIMIT +	1 ppb

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: _____

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☐ No ☒ Seal(s) broken by: _____ date: _____

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 15 July Eb Analyst's signature: K Finney

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: K Finney

8607081050

B-0813-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

STATE OF NEW MEXICO ENVIRONMENT

WPU

REPORT TO: David Boyer
N.M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87504-2088

S.L.D. No. OR- 813 A-B-
DATE REC. 2-11-86
PRIORITY

PHONE(S): 827-5812
USER CODE: 82235

SUBMITTER: David Boyer
CODE: 260

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) 860708B1050RCA

SAMPLE TYPE: WATER [X], SOIL [ ], FOOD [ ], OTHER: _____ CODE: _____

COUNTY: San Juan ; CITY: Bloomfield CODE: _____

LOCATION CODE: (Township-Range-Section-Tracts) 29N+12W+27+1111 (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- [ ] (753) Aliphatic Purgeables (1-3 Carbons)
- [X] (754) Aromatic & Halogenated Purgeables
- [ ] (765) Mass Spectrometer Purgeables
- [ ] (766) Trihalomethanes

Other Specific Compounds or Classes

- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____

EXTRACTABLE SCREENS

- [ ] (751) Aliphatic Hydrocarbons
- [ ] (760) Organochlorine Pesticides
- [ ] (755) Base/Neutral Extractables
- [ ] (758) Herbicides, Chlorophenoxy acid
- [ ] (759) Herbicides, Triazines
- [ ] (760) Organochlorine Pesticides
- [ ] (761) Organophosphate Pesticides
- [ ] (767) Polychlorinated Biphenyls (PCB's)
- [ ] (764) Polynuclear Aromatic Hydrocarbons
- [ ] (762) SDWA Pesticides & Herbicides

Remarks: _____

FIELD DATA:

pH= _____; Conductivity= _____ umho/cm at _____ °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ ____/____

Depth to water _____ ft.; Depth of well _____ ft.; Perforation Interval ____-____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

GIANT REFINERY - BLOOMFIELD - GBR-18, BAILED, SAMPLE COLLECTED ON 3rd BAIL - SLIGHT Hydrocarbon odor

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): RC Anderson Method of Shipment to the Lab: _____

This form accompanies 2 Septum Vials, ____ Glass Jugs, and/or ____ _____

Samples were preserved as follows:

- [ ] NP: No Preservation; Sample stored at room temperature.
- [X] P-Ice: Sample stored in an ice bath (Not Frozen).
- [ ] P-$Na_2S_2O_3$: Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from _____ to _____

at (location) _____ on ____/____/____ - ____:____ and that the statements in this block are correct. Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [ ] No [ ]

Signatures _____ _____

45

For OCD Use: Date Owner Notified _____ Phone or Letter? Initials

8607081050

ANALYSES PERFORMED

LAB. No.: OR- 613

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
~~Chlorinated Purgeables~~	~~ND~~		
Halogenated Purgeables	ND		
Benzene	ND		
Toluene	1 ppb		
Ethylbenzene	ND		
p-Xylene	ND		
m-Xylene	ND		
o-Xylene	1 ppb		
* DETECTION LIMIT *	~~1~~ Fifty 1	+ DETECTION LIMIT +	1 ppb

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT
T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)
[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: Ten other compounds were detected by the aromatic screen that were not identified and appeared in trace amounts < 5 ppb.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☐ No ☒ Seal(s) broken by: _____ date: _____

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 15 July 86 16 July 86 Analyst's signature: M Finney

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: K Mayerhofer

8607081100

ANALYSES PERFORMED

LAB. No.: OR- 812

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (755) Mass Spectrometer Purgeables
- ☐ (756) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
aromatic purgeables	ND		
halogenated purgeables	ND		
* DETECTION LIMIT *	5 ppb	+ DETECTION LIMIT +	2 ppb

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: _____

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☐ No ☒ Seal(s) broken by: _____ date: _____

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 15July86 Analyst's signature: _____

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: _____

8607081125

86-0811-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

STATE OF NEW MEXICO ENVIRONMENT

WPC

REPORT TO: McQuillan
EID / Ground Water
P.O. Box 968
Santa Fe, N.M. 87504

S.L.D. No. OR- 811-A-B
DATE REC. 9-11-86
PRIORITY 3

PHONE(S): 827-2912 USER CODE: 5 9 3 0 0

SUBMITTER: McQuillan CODE:

SAMPLE COLLECTION CODE: (YYMMDDHHMMHH) 8 6 0 7 0 8 1 1 2 5

SAMPLE TYPE: WATER ☒, SOIL ☐, FOOD ☐, OTHER: CODE:

COUNTY: San Juan ; CITY: Lee Acres CODE:

LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N + 1 2 W + 2 7 + 1 (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

Remarks: Reynolds Well

RECEIVED
SEP 10 1986
LIQUID WASTE/GROUND WATER SURVEILLANCE

FIELD DATA:

pH= 6.88 ; Conductivity= 4500 umho/cm at 17.8 °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ ____/____

Depth to water 10.81 ft.; Depth of well _____ ft.; Perforation Interval ____-____ ft.; Cas

Sampling Location, Methods and Remarks (i.e. odors, etc.)

sampled at well tap

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): Dennis McQuillan Method of Shipment to the Lab: _____

This form accompanies 2 Septum Vials, ____ Glass Jugs, and/or ____ _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☒ P-Ice Sample stored in an ice bath (Not Frozen). chest
- ☐ P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from _____ to _____

at (location) _____ on ____/____/____ - ____:____ and that

the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☐ No ☐

Signatures _____ _____

8607081125

ANALYSES PERFORMED

LAB. No.: OR- 811

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☒ (755) Mass Spectrometer Purgeables
- ☐ (756) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]
benzene *	9
New remarks:	
The Reynold's Well Sample from last	
time, org-86-425, was run along	
with this sample, org-86-811. The	
results between them were identical.	
The actual quantitation reported	
here is from sample org-86-425.	
* DETECTION LIMIT *	1 ppb

COMPOUND(S) DETECTED	CONC. [PPB]
Cl_2HCCH_3 *	5
Cl_3CCH_3 *	19
cis-1,2-dichloroethene *	3
trichloroethene *	4
tetrachloroethene *	2
1,1-dichloroethene ⊕	ND
+ DETECTION LIMIT + ⊕	20 ppb

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

Cl_2HCCH_3 = 1,1-Dichloroethane

Cl_3CCH_3 = 1,1,1-Trichloroethane

LABORATORY REMARKS: ~~Xylenes & chlorobenzene are absent.~~

Benzene

There is a possible trace of an alkane detected by GC/MS. It is possible that CH_2Cl_2 and/or trans-1,2-dichloroethene may also be present.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☐ No ☐. Seal(s) broken by: _____ date: _____

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 7-16-86, 7-30-86. Analyst's signature: _____

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: _____

8607081345

86-0810-D

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570 WPU

HEALTH ENVIRONMENT — STATE OF NEW MEXICO

REPORT TO: McQuillan
EID / Ground Water
P.O. Box 968
Santa Fe, N.M. 87504.

S.L.D. No. OR- 810 - A-C
DATE REC. 7-11-86
PRIORITY 2

PHONE(S): 827-2912 USER CODE: 5 7 3 0 0

SUBMITTER: McQuillan CODE:

SAMPLE COLLECTION CODE: (YYMMDDHHMMHH) 8 6 0 7 0 8 1 3 4 5

SAMPLE TYPE: WATER ☒, SOIL ☐, FOOD ☐, OTHER: _____ CODE:

COUNTY: San Juan ; CITY: Los Aceves CODE:

LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N + 1 2 W + 2 7 + 1 (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

Remarks: Duggins Well

RECEIVED
SEP 10 1986
LIQUID WASTE/GROUND WATER SURVEILLANCE

FIELD DATA:

pH= 6.87; Conductivity= 3710 umho/cm at 17.9 °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ ____/____

Depth to water _____ ft.; Depth of well _____ ft.; Perforation Interval _____ - _____ ft.; Casing

Sampling Location, Methods and Remarks (i.e. odors, etc.)

organic odor, sampled from front yard tap

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): Dennis McQuillan Method of Shipment to the Lab: _____

This form accompanies 3 Septum Vials, _____ Glass Jugs, and/or _____ _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☒ P-Ice Sample stored in an ice ~~bath~~ chest (Not Frozen).
- ☐ P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from _____ to _____

at (location) _____ on ____/____/____ - ____:____ and that

the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☐ No ☐

Signatures _____ _____

8607061345

ANALYSES PERFORMED

LAB. No.: OR- 810

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (783) Aliphatic Purgeables (1-3 Carbons)
- ☒ (784) Aromatic & Halogenated Purgeables
- ☒ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
Benzene *	44	Cl_2HCCH_3 *	3
Toluene *	1	cis-1,2-dichloro-ethene *	1
ethylbenzene *	1	Trichloroethene *	< 1
p-Xylene *	< 1	1,2-dichloroethane *	3
m-Xylene *	< 1		
o-Xylene *	< 1	1,1-dichloroethane ⊕	ND
* DETECTION LIMIT *	1 ppb	+ DETECTION LIMIT +	20 ppb

Cl_2HCCH_3 = 1,1-Dichloroethane

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: Trace amounts of alkanes and alkenes were also detected by GC/MS. It is possible that CH_2Cl_2 and/or trans-1,2-dichloroethene may also be present.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☐ No ☐ Seal(s) broken by: _____ date: _____

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 7-16-86, 7-20-86 Analyst's signature: [signature]

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: [signature]

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 11 26 86	LAB NO. WC 5435	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 11 25 86	SITE INFORM-ATION ►	Sample location: Giant, Bloomfield Refinery	
Collection TIME 1410		Collection site description: GBR-29	
Collected by — Person/Agency: BOYER / OLSON / OCD			

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/ well code

Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 3550 µmho	Water Temp. (00010) 17 °C	Conductivity at 25°C (00094) µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	3157	µmho	12/16
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☒ Other: pH	6.91		12/8
☐ Other:			
☐ Other:			

NF, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☒ Calcium (00915)	1500	mg/l	12-1
☒ Magnesium (00925)	40.3	mg/l	12-1
☒ Sodium (00930)	979	mg/l	12/4
☒ Potassium (00935)	3.51	mg/l	12/4
☒ Bicarbonate (00440)	693	mg/l	12/8
☒ Chloride (00940)	2819	mg/l	12/2
☒ Sulfate (00945)	1481	mg/l	12/16
☒ Total filterable residue (dissolved) (70300)	5238	mg/l	12/4
☒ Other: CO_3	0		12/8
☒ BR	2.4		12/10

F, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst	Date Reported	Reviewed by
	12/16/86	

Laboratory remarks

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

86- 1377-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

STATE OF NEW MEXICO
ENVIRONMENT

REPORT TO: David Boyer
N.M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87504-2088
PHONE(S): 327-5812
SUBMITTER: David Boyer

S.L.D. No. OR- 1377
DATE REC. 11-26-86
PRIORITY
USER CODE: 32235
CODE: 260

SAMPLE COLLECTION CODE: (YYMMDDHHMMHH) 861120141040

SAMPLE TYPE: WATER [X], SOIL [ ], FOOD [ ], OTHER: _____ CODE: ____

COUNTY: San Juan ; CITY: Lee Acres CODE: _____

LOCATION CODE: (Township-Range-Section-Tracts) 29N+12W+27+113 (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- [ ] (753) Aliphatic Purgeables (1-3 Carbons)
- [X] (754) Aromatic & Halogenated Purgeables
- [ ] (765) Mass Spectrometer Purgeables
- [ ] (766) Trihalomethanes

Other Specific Compounds or Classes

- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____

EXTRACTABLE SCREENS

- [ ] (751) Aliphatic Hydrocarbons
- [ ] (760) Organochlorine Pesticides
- [ ] (755) Base/Neutral Extractables
- [ ] (758) Herbicides, Chlorophenoxy acid
- [ ] (759) Herbicides, Triazines
- [ ] (760) Organochlorine Pesticides
- [ ] (761) Organophosphate Pesticides
- [ ] (767) Polychlorinated Biphenyls (PCB's)
- [ ] (764) Polynuclear Aromatic Hydrocarbons
- [ ] (762) SDWA Pesticides & Herbicides

Remarks: _____

FIELD DATA:

pH= _____; Conductivity= 3550 umho/cm at 17 °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ ____/____

Depth to water _____ ft.; Depth of well _____ ft.; Perforation Interval _____-_____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

GRR-29 Giant Sample product in well, bailed
for organics

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): [signature] Method of Shipment to the Lab: hand carried

This form accompanies 2 Septum Vials, ____ Glass Jugs, and/or ____ _____

Samples were preserved as follows:

- [ ] NP: No Preservation; Sample stored at room temperature.
- [X] P-Ice Sample stored in an ice bath (Not Frozen).
- [ ] P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from [signature] to [signature]

at (location) HED/SLD on 11/26/86 4:01 PM and that the statements in this block are correct. Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [X] No [ ]

Signatures [signature] [signature]

For OCD Use: Date Owner Notified _____ Phone or Letter? _____ Initials _____

ANALYSES PERFORMED

LAB. No.: OR- 1377

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
Benzene	240	1,1-dichloroethane	34
Toluene	72	cis-1,2-dichloroethene	14
Ethylbenzene	98	1,1,1-trichloroethane	8
p-Xylene	340	Trichloroethene	12
m-Xylene	710	dichloromethane	TR
o-Xylene	350		
1,2-dichloroethane	28		
* DETECTION LIMIT *	* 10ppb	+ DETECTION LIMIT +	+

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: Twenty other compounds were detected by the aromatic screen that were not identified.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☒ No ☐. Seal(s) broken by: _____ date: 12-4/12-16-86

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 4+16 Dec 86 Analyst's signature: _____

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: _____

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

Heavy metal
~~GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS~~

DATE RECEIVED 11/26/86	LAB NO. HM 2415	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 86/11/20	SITE INFORMATION ►	Sample location: Giant, Bloomfield Refinery	
Collection TIME 1515		Collection site description: GBR-11	
Collected by — Person/Agency: BOYER/OLSON/OCD			

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/well code:

Owner:

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 2500 µmho	Water Temp. (00010) 12.5 °C	Conductivity at 25°C (00094) µmho

Field comments:

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☐ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☒ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho	
☐ Total non-filterable residue (suspended) (00530)	mg/l	
☒ Other: ICAP		
☒ Other: As		
☐ Other:		

F, NA	Units	Date analyzed
☐ Calcium (00915)	mg/l	
☐ Magnesium (00925)	mg/l	
☐ Sodium (00930)	mg/l	
☐ Potassium (00935)	mg/l	
☐ Bicarbonate (00440)	mg/l	
☐ Chloride (00940)	mg/l	
☐ Sulfate (00945)	mg/l	
☐ Total filterable residue (dissolved) (70300)	mg/l	
☐ Other:		

NF, A-H_2SO_4	Units	Date analyzed
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l	
☐ Ammonia-N total (00610)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l	
☐ Chemical oxygen demand (00340)	mg/l	
☐ Total organic carbon ( )	mg/l	
☐ Other:		
☐ Other:		

F, A-H_2SO_4	Units	Date analyzed
☐ Nitrate-N +, Nitrate-N dissolved (00631)	mg/l	
☐ Ammonia-N dissolved (00608)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l	
☐ Other:		

Analyst	Date Reported	Reviewed by
	1/13/87	Jim Bailey

Laboratory remarks: Sample digested

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

ICAP SCAN

SLD Lab No. HM 2415 Reviewed by: Jim Ashley

Analyst JB Date Reported: 1/13/87

Date Analyzed 12/10/86

ELEMENT	ICAP VALUE(mg/l)	AA VALUE(mg/l)
Aluminum	<0.1	
Barium	0.4	
Beryllium	<0.1	
Boron	0.3	
Cadmium	<0.1	
Calcium	530.	
Chromium	<0.1	
Cobalt	<0.1	
Copper	<0.1	
Iron	2.8	
Lead	<0.1	
Magnesium	57.	
Manganese	5.7	
Molybdenum	<0.1	
Nickel	<0.1	
Silicon	8.5	
Silver	<0.1	
Strontium	9.6	
Tin	<0.1	
Vanadium	<0.1	
Zinc	8.0	
Arsenic		0.013
Selenium		
Mercury		

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

859 - wtr

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 11 26 86	LAB NO. WC 5434	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 11 20 86	SITE INFORMATION ►	Sample location Giant, Bloomfield Refinery	
Collection TIME 1515		Collection site description GBR-11	
Collected by — Person/Agency BOYER / OLSON / OCD			

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/ well code

Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 2500 µmho	Water Temp. (00010) 17.5 °C	Conductivity at 25°C (00094) µmho

Field comments: One inch product

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	4532 µmho	12/16
☐ Total non-filterable residue (suspended) (00530)	mg/l	
☒ Other: pH	7.07	12/8
☐ Other:		
☐ Other:		

F, NA		Units	Date analyzed
☒ Calcium (00915)	476	mg/l	12-1
☒ Magnesium (00925)	134	mg/l	12-1
☒ Sodium (00930)	680.8	mg/l	12-4
☒ Potassium (00935)	6.01	mg/l	12-4
☒ Bicarbonate (00440)	754	mg/l	12/9
☒ Chloride (00940)	1194	mg/l	12/1
☒ Sulfate (00945)	394	mg/l	12/1 12/16
☒ Total filterable residue (dissolved) (70300)	3460	mg/l	12/4
☒ Other: CO_3	0		12/8
☒	2.9		12/10

NF, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst	Date Reported	Reviewed by
	12/16/86	

Laboratory remarks

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

86- 1359-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

STATE OF NEW MEXICO
ENVIRONMENT

REPORT TO: David Boyer
N.M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87504-2088

S.L.D. No. OR- ET 13 59 A/B
DATE REC. 11-26-86
PRIORITY

PHONE(S): 327-5812
USER CODE: 8 2 2 3 5

SUBMITTER: David Boyer
CODE: 2 6 0

SAMPLE COLLECTION CODE: (YYMMDDHHMMHH) 8 6 1 1 2 0 1 5 1 5 2+ 8 3+

SAMPLE TYPE: WATER [X], SOIL [ ], FOOD [ ], OTHER: _____ CODE: _____

COUNTY: San Juan ; CITY: Lee Acres CODE: _____

LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N + 1 2 W + 2 7 + 1 1 3 (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- [ ] (753) Aliphatic Purgeables (1-3 Carbons)
- [X] (754) Aromatic & Halogenated Purgeables
- [ ] (765) Mass Spectrometer Purgeables
- [ ] (766) Trihalomethanes

Other Specific Compounds or Classes

- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____

EXTRACTABLE SCREENS

- [ ] (751) Aliphatic Hydrocarbons
- [ ] (760) Organochlorine Pesticides
- [ ] (755) Base/Neutral Extractables
- [ ] (758) Herbicides, Chlorophenoxy acid
- [ ] (759) Herbicides, Triazines
- [ ] (760) Organochlorine Pesticides
- [ ] (761) Organophosphate Pesticides
- [ ] (767) Polychlorinated Biphenyls (PCB's)
- [ ] (764) Polynuclear Aromatic Hydrocarbons
- [ ] (762) SDWA Pesticides & Herbicides

Remarks: _____

FIELD DATA:

pH= _____; Conductivity= 2500 umho/cm at 17.5 °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ _____/_____

Depth to water _____ ft.; Depth of well _____ ft.; Perforation Interval _____ - _____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

Grant, GBR-11, product in well

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector) D. A. Boyer Jr. Method of Shipment to the Lab: Hand carried

This form accompanies 2 Septum Vials, 1 Glass Jugs, and/or _____ _____

Samples were preserved as follows:

- [ ] NP: No Preservation; Sample stored at room temperature.
- [X] P-Ice Sample stored in an ice bath (Not Frozen).
- [ ] P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Willie Olsen to Mary C. Tolbert

at (location) HED/SLD on 11/26/86 4:12 and that

the statements in this block are correct. Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [X] No [ ]

Signatures Willie Olsen Mary C. Tolbert

For OCD Use: Date Owner Notified _____ Phone or Letter? _____ Initials _____

ANALYSES PERFORMED

LAB. No.: OR- 1359

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
benzene	6500	~~Trichlorofluoromethane~~	TR
toluene	2800		
ethylbenzene	680	trichloroethene	TR
p-xylene	690	tetrachloroethene	TR
m-xylene	1400		
o-xylene	690		
1,2-dichloroethane	170		
* DETECTION LIMIT *	50ppb	+ DETECTION LIMIT +	

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: Six other compounds were detected by the aromatic screen that were not identified.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☒ No ☐. Seal(s) broken by: _____ date: 12-4/12-9-86

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 4+9 Dec 86. Analyst's signature: _____

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: _____

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 11/26/86	LAB NO. WC 5757	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 11/26	SITE INFORMATION ►	Sample location: Giant, Bloom Field Refinery	
Collection TIME 1545		Collection site description: GBR-6	
Collected by — Person/Agency: BOY/GR/OLSON/OCD			

SEND FINAL REPORT TO ►
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088
Attn: David Boyer
Phone: 827-5812

RECEIVED DEC 1 0 1986 OIL CONSERVATION DIVISION SANTA FE

Station/ well code
Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 1650 µmho	Water Temp. (00010) 16 °C	Conductivity at 25°C (00094) µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☒ A: 2 ml H_2SO_4/L added

☐ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho	
☐ Total non-filterable residue (suspended) (00530)	mg/l	
☐ Other:		
☐ Other:		
☐ Other:		

F, NA	Units	Date analyzed
☐ Calcium (00915)	mg/l	
☐ Magnesium (00925)	mg/l	
☐ Sodium (00930)	mg/l	
☐ Potassium (00935)	mg/l	
☐ Bicarbonate (00440)	mg/l	
☐ Chloride (00940)	mg/l	
☐ Sulfate (00945)	mg/l	
☐ Total filterable residue (dissolved) (70300)	mg/l	
☐ Other:		

NF, A-H_2SO_4		
☐ Nitrate-N + , Nitrate-N total (00630)	mg/l	
☐ Ammonia-N total (00610)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l	
☐ Chemical oxygen demand (00340)	mg/l	
☐ Total organic carbon ( )	mg/l	
☐ Other:		
☐ Other:		

F, A-H_2SO_4			
☒ Nitrate-N + , Nitrate-N dissolved (00631)	0.11	mg/l	12/2
☒ Ammonia-N dissolved (00608)	0.31	mg/l	12-9
☒ Total Kjeldahl-N ( )	1.4	mg/l	12-9
☐ Other:			

Analyst	Date Reported	Reviewed by
	12 16 86	

Laboratory remarks

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87108 — (505) 841-2555

857 + wt

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 11 26 86	LAB NO. WC 5933	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 11/12/86	SITE INFORM-ATION	Sample location Giant, Bloomfield Refinery	
Collection TIME 1545		Collection site description GBR-6	
Collected by — Person/Agency BOYER / OLSON / OCD			

SEND FINAL REPORT TO ▶
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088
Attn: David Boyer
Phone: 827-5812

RECEIVED DEC 30 1986 OIL CONSERVATION DIVISION SANTA FE

Station/ well code
Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 1650 µmho	Water Temp. (00010) 16 °C	Conductivity at 25°C (00094) µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	3351	µmho	12/12
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☒ Other: pH	7.32		12/8
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☒ Calcium (00915)	424	mg/l	12-1
☒ Magnesium (00925)	12.1	mg/l	12-1
☒ Sodium (00930)	565	mg/l	12-4
☒ Potassium (00935)	3.40	mg/l	12-4
☒ Bicarbonate (00440)	724	mg/l	12/8
☒ Chloride (00940)	358	mg/l	13/1
☐ Sulfate (00945)		mg/l	
☒ Total filterable residue (dissolved) (70300)	3252	mg/l	12/4
☒ Other: CO_3	0		12/8
☒ BR	1.3		13/10

NF, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst	Date Reported	Reviewed by
	12 12 86	CD

Laboratory remarks

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

86- 1358-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

REPORT TO: David Boyer
N.M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87504-2088

S.L.D. No. OR- 1358 A+B
DATE REC. 11-26-86
PRIORITY

PHONE(S): 827-5812
USER CODE: 3 2 2 3 5

SUBMITTER: David Boyer
CODE: 2 6 0

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) 86 11 20 1 5 4 5 A+B

SAMPLE TYPE: WATER ☒, SOIL ☐, FOOD ☐, OTHER: _____ CODE: ____

COUNTY: San Juan ; CITY: Lee Acres CODE: ____

LOCATION CODE: (Township-Range-Section-Tracts) 29N+12W+27+1 1 3 (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

Remarks: _____

FIELD DATA:

pH= _____; Conductivity= 1650 umho/cm at 16 °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ ____/____

Depth to water _____ ft.; Depth of well _____ ft.; Perforation Interval ____-____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

Grant, GBR-6

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): W. Boyer Method of Shipment to the Lab: Hand carried

This form accompanies 2 Septum Vials, 1 Glass Jugs, and/or ____ ____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☒ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Willie Olson to Mary C. Ellis

at (location) HC D/SLD on 11/26/86 4:11 and that the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☑ No ☐

Signatures Willie Olson Mary C. Ellis

For OCD Use: Date Owner Notified _____ Phone or Letter? _____ Initials _____

ANALYSES PERFORMED

LAB. No.: OR- 1358

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (755) Mass Spectrometer Purgeables
- ☐ (756) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
1,2-dichloroethane	3		
tetrachloroethene	TR		
benzene	70		
p-xylene	1000		
o-xylene	240		
* DETECTION LIMIT *	1ppb	+ DETECTION LIMIT +	

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT
T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)
[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: _____

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☒ No ☐. Seal(s) broken by: _____ date: 12/8/2-86

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 4+9 Dec 86. Analyst's signature: _____

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: _____

858 - 4024

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 11 26 86	LAB NO. WC-5458	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 11/20	SITE INFORM-ATION ►	Sample location: Giant, Bloom field Refinery	
Collection TIME 1615		Collection site description: GBR-7	
Collected by — Person/Agency: ROY ERICKSON / OCD			

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg., P.O. Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

RECEIVED
DEC 30 1986
OIL CONSERVATION DIVISION
SANTA FE

Station/well code:

Owner:

SAMPLING CONDITIONS

☒ Bailed ☐ Pump ☐ Dipped ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 1650 µmho	Water Temp. (00010) 15 °C	Conductivity at 25°C (00094) µmho

Field comments:

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☒ A: 2 ml H_2SO_4/L added

☐ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho	
☐ Total non-filterable residue (suspended) (00530)	mg/l	
☐ Other:		
☐ Other:		
☐ Other:		

F, NA	Units	Date analyzed
☐ Calcium (00915)	mg/l	
☐ Magnesium (00925)	mg/l	
☐ Sodium (00930)	mg/l	
☐ Potassium (00935)	mg/l	
☐ Bicarbonate (00440)	mg/l	
☐ Chloride (00940)	mg/l	
☐ Sulfate (00945)	mg/l	
☐ Total filterable residue (dissolved) (70300)	mg/l	
☐ Other:		

NF, A-H_2SO_4		
☐ Nitrate-N + , Nitrate-N total (00630)	mg/l	
☐ Ammonia-N total (00610)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l	
☐ Chemical oxygen demand (00340)	mg/l	
☐ Total organic carbon ( )	mg/l	
☐ Other:		
☐ Other:		

F, A-H_2SO_4			
☒ Nitrate-N + , Nitrate-N dissolved (00631)	<0.04	mg/l	12/2
☒ Ammonia-N dissolved (00608)	0.65	mg/l	12-7
☒ Total Kjeldahl-N ( )	0.71	mg/l	12-9
☐ Other:			

Analyst	Date Reported	Reviewed by
	12 16 86	CG

Laboratory remarks:

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

8 51 - 150

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED	11 26 86	LAB NO.	WC 5432
USER CODE	☐ 59300 ☐ 59600 ☒ OTHER:	82235	
Collection DATE	8611/20	SITE INFORMATION ►	Sample location: Giant, Bloomfield Refinery
Collection TIME	16 15		Collection site description: GBR 7
Collected by — Person/Agency	BOYER / OLSON / OCD		

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/ well code

Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 1650 µmho	Water Temp. (00010) 15 °C	Conductivity at 25°C (00094) µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	3473	µmho	12/16
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☒ Other: pH	7.20		12/8
☐ Other:			
☐ Other:			

NF, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☒ Calcium (00915)	379.0	mg/l	12-1
☒ Magnesium (00925)	146.1	mg/l	12-1
☒ Sodium (00930)	596	mg/l	12-4
☒ Potassium (00935)	4.29	mg/l	12-4
☒ Bicarbonate (00440)	1185	mg/l	12/8
☒ Chloride (00940)	388	mg/l	12/2
☒ Sulfate (00945)	1143	mg/l	12/5
☒ Total filterable residue (dissolved) (70300)	3303	mg/l	12/4
☒ Other: CO_3	C		12/8
☒ BR	< 0.2		12/10

F, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst	Date Reported	Reviewed by
	12/16/86	

Laboratory remarks

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

86-1365-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

STATE OF NEW MEXICO
ENVIRONMENT

REPORT TO: David Boyer
N.M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87504-2088

S.L.D. No. OR- 13 6 5 H 15
DATE REC. 11-26-86
PRIORITY

PHONE(S): 327-5812
USER CODE: 3 2 2 3 5

SUBMITTER: David Boyer
CODE: 2 6 0

SAMPLE COLLECTION CODE: (YYMMDDHHMMHH) 8 6 1 1 2 0 1 6 1 5 DB BT

SAMPLE TYPE: WATER ☒ SOIL ☐, FOOD ☐, OTHER: _____ CODE: _____

COUNTY: San Juan ; CITY: Los Acres CODE: _____

LOCATION CODE: (Township-Range-Section-Tracts) 29N+12W+27+1113 (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

Remarks: _____

FIELD DATA:

pH= _____; Conductivity= _____ umho/cm at _____ °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ _____/_____

Depth to water _____ ft.; Depth of well _____ ft.; Perforation Interval _____-_____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.): Free Giant, GBR-7, No Product

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): Dell Boyer Method of Shipment to the Lab: Hand carried

This form accompanies 2 Septum Vials, _____ Glass Jugs, and/or _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☒ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Wilma Olson to Mary C. Hill

at (location) HED/SLD on 11/26/86 at 4:07 and that the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☐ No ☐

Signatures Wilma Olson Mary C. Hill

For OCD Use: Date Owner Notified _____ Phone or Letter? _____ Initials _____

ANALYSES PERFORMED

LAB. No.: OR- 1365

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
halogenated purgeables	ND		
benzene	21		
p-Xylene	15		
m-Xylene	14		
* DETECTION LIMIT *	10ppb	+ DETECTION LIMIT +	

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: Five other compounds were detected by the aromatic screen that were not identified.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☒ No ☐. Seal(s) broken by: [illegible] date: 12-4-86

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 4 Dec 86. Analyst's signature: [signature]

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: [signature]

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

Heavy metal
~~GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS~~

DATE RECEIVED 11/26/86	LAB NO. HM 2422	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 86/11/20	SITE INFORM-ATION ►	Sample location Giant, Bloomfield Refinery	
Collection TIME 1640		Collection site description 68R-5	
Collected by — Person/Agency BOYER/OLSON/OCD			

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/ well code

Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 1625 µmho	Water Temp. (00010) 15 °C	Conductivity at 25°C (00094) µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☐ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☒ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho	
☐ Total non-filterable residue (suspended) (00530)	mg/l	
☒ Other: ICAP		
☒ Other: As		
☐ Other:		

F, NA	Units	Date analyzed
☐ Calcium (00915)	mg/l	
☐ Magnesium (00925)	mg/l	
☐ Sodium (00930)	mg/l	
☐ Potassium (00935)	mg/l	
☐ Bicarbonate (00440)	mg/l	
☐ Chloride (00940)	mg/l	
☐ Sulfate (00945)	mg/l	
☐ Total filterable residue (dissolved) (70300)	mg/l	
☐ Other:		

NF, A-H_2SO_4	Units	Date analyzed
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l	
☐ Ammonia-N total (00610)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l	
☐ Chemical oxygen demand (00340)	mg/l	
☐ Total organic carbon ( )	mg/l	
☐ Other:		
☐ Other:		

F, A-H_2SO_4	Units	Date analyzed
☐ Nitrate-N +, Nitrate-N dissolved (00631)	mg/l	
☐ Ammonia-N dissolved (00608)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l	
☐ Other:		

Analyst

Date Reported 1/13/87

Reviewed by Jim Ashley

Laboratory remarks Sample digested

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

ICAP SCAN

SLD Lab No. HM 2422 Reviewed by: Jim Ashby

Analyst JB Date Reported: 1/13/87

Date Analyzed 12/10/86

ELEMENT	ICAP VALUE(mg/l)	AA VALUE(mg/l)
Aluminum	<0.1	
Barium	0.2	
Beryllium	<0.1	
Boron	0.6	
Cadmium	<0.1	
Calcium	570.	
Chromium	<0.1	
Cobalt	<0.1	
Copper	<0.1	
Iron	0.1	
Lead	<0.1	
Magnesium	105.	
Manganese	3.9	
Molybdenum	<0.1	
Nickel	<0.1	
Silicon	16.	
Silver	<0.1	
Strontium	11.	
Tin	<0.1	
Vanadium	<0.1	
Zinc	<0.1	
Arsenic		<0.005
Selenium		
Mercury		

857 WMF

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 11/26/86	LAB NO. WC 5937	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 11/21/86	SITE INFORM-ATION	Sample location Giant, Bloom Field Refinery	
Collection TIME 1640		Collection site description GRR 5	
Collected by — Person/Agency BOYER/OLSON/OCD			

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/well code

Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 1625 µmho	Water Temp. (00010) 15 °C	Conductivity at 25°C (00094) µmho

Field comments Several miles product.

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	3699	µmho	12/12
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☒ Other: pH	7.80		12/8
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☒ Calcium (00915)	340	mg/l	12-1
☒ Magnesium (00925)	154	mg/l	12-1
☒ Sodium (00930)	582	mg/l	12-4
☒ Potassium (00935)	3.51	mg/l	12-4
☒ Bicarbonate (00440)	704	mg/l	12/8
☒ Chloride (00940)	444	mg/l	12/5
☒ Sulfate (00945)	1420	mg/l	12/4
☒ Total filterable residue (dissolved) (70300)	3684	mg/l	12/4
☒ Other: CO_3	0		12/8
☒ BR	0.4		12/10

NF, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, A-H_2SO_4		
☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l
☐ Ammonia-N dissolved (00608)		mg/l
☐ Total Kjeldahl-N ( )		mg/l
☐ Other:		

Analyst	Date Reported	Reviewed by
	12/12/86	CS

Laboratory remarks

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

86- 1370-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

REPORT TO: David Boyer
N.M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87504-2088

S.L.D. No. OR- 1370 11 15
DATE REC. 11-24-86
PRIORITY

PHONE(S): 327-5812
USER CODE: 3 2 2 3 5

SUBMITTER: David Boyer
CODE: 2 6 0

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) 8 6 1 1 2 0 1 6 4 0 2 W 8

SAMPLE TYPE: WATER [X], SOIL [ ], FOOD [ ], OTHER: _____ CODE: _____

COUNTY: San Juan ; CITY: Los Pinos CODE: _____

LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N + 1 2 6 W + 2 7 + 1 1 3 (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- [ ] (753) Aliphatic Purgeables (1-3 Carbons)
- [X] (754) Aromatic & Halogenated Purgeables
- [ ] (765) Mass Spectrometer Purgeables
- [ ] (766) Trihalomethanes

Other Specific Compounds or Classes

- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____

EXTRACTABLE SCREENS

- [ ] (751) Aliphatic Hydrocarbons
- [ ] (760) Organochlorine Pesticides
- [ ] (755) Base/Neutral Extractables
- [ ] (758) Herbicides, Chlorophenoxy acid
- [ ] (759) Herbicides, Triazines
- [ ] (760) Organochlorine Pesticides
- [ ] (761) Organophosphate Pesticides
- [ ] (767) Polychlorinated Biphenyls (PCB's)
- [ ] (764) Polynuclear Aromatic Hydrocarbons
- [ ] (762) SDWA Pesticides & Herbicides

Remarks: _____

FIELD DATA:

pH= _____; Conductivity= 1625 umho/cm at 15 °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ _____/_____

Depth to water _____ ft.; Depth of well _____ ft.; Perforation Interval _____ - _____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

Giant GBR-5, production well

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities (signature collector): D. E. Kaugh Method of Shipment to the Lab: Hand carried

This form accompanies 2 Septum Vials, 1 Glass Jugs, and/or _____ _____

Samples were preserved as follows:

- [ ] NP: No Preservation; Sample stored at room temperature.
- [X] P-Ice Sample stored in an ice bath (Not Frozen).
- [ ] P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Willie Olson to Kathy C. Ellis

at (location) HED/SLD on 11/26/86 - 4:22PM and that the statements in this block are correct. Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [X] No [ ]

Signatures Willie Olson Kathy C. Ellis

For OCD Use: Date Owner Notified _____ Phone or Letter? _____ Initials _____

ANALYSES PERFORMED

LAB. No.: OR- 1370

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
halogenated purgeables	ND		
benzene	210		
toluene	31		
ethylbenzene	700		
p-xylene	550		
m-xylene	1400		
o-xylene	81		
* DETECTION LIMIT *	16ppb	+ DETECTION LIMIT +	

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT
T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)
[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: Eighteen other compounds were detected by the aromatic screen that were not identified.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☒ No ☐ Seal(s) broken by: _____ date: 12-1-86

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 4 Dec 86 Analyst's signature: M Finney

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: _____

859 WW-1

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 11/26/85	LAB NO. WC 5438	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 85/11/20	SITE INFORM-ATION	Sample location Giant, Bloomfield Refinery	
Collection TIME 1711		Collection site description GBR-20	
Collected by — Person/Agency BOYER/OLSON/OCD			

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg., PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/ well code

Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 1400 µmho	Water Temp. (00010) 14.5°C	Conductivity at 25°C (00094) µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	3230	µmho	12/12
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☒ Other: pH	7.60		12/2
☐ Other:			
☐ Other:			

NF, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☒ Calcium (00915)	356	mg/l	12-1
☒ Magnesium (00925)	46.9	mg/l	12-1
☒ Sodium (00930)	627	mg/l	12-4
☒ Potassium (00935)	10.9	mg/l	12-4
☒ Bicarbonate (00440)	655	mg/l	12/8
☒ Chloride (00940)	180	mg/l	12/2
☒ Sulfate (00945)	1537	mg/l	12/3
☒ Total filterable residue (dissolved) (70300)	3074	mg/l	12/4
☒ Other: CO_3	0		12-/8
☒ BR	0.9		12/10

F, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst	Date Reported	Reviewed by
	12 17 85	CL

Laboratory remarks

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

86- 1372-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

STATE OF NEW MEXICO ENVIRONMENT

REPORT TO: David Boyer
N.M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87504-2088
PHONE(S): 327-5812

S.L.D. No. OR- 137211 3
DATE REC. 11-26-86
PRIORITY
USER CODE: 32235
CODE: 260

SUBMITTER: David Boyer

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) 861120171113

SAMPLE TYPE: WATER [X], SOIL [ ], FOOD [ ], OTHER: _____ CODE: _____

COUNTY: San Juan ; CITY: Los Aztec CODE: _____

LOCATION CODE: (Township-Range-Section-Tracts) 29N+12W+27+113 (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- [ ] (753) Aliphatic Purgeables (1-3 Carbons)
- [X] (754) Aromatic & Halogenated Purgeables
- [ ] (765) Mass Spectrometer Purgeables
- [ ] (766) Trihalomethanes

Other Specific Compounds or Classes

- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____

EXTRACTABLE SCREENS

- [ ] (751) Aliphatic Hydrocarbons
- [ ] (760) Organochlorine Pesticides
- [ ] (755) Base/Neutral Extractables
- [ ] (758) Herbicides, Chlorophenoxy acid
- [ ] (759) Herbicides, Triazines
- [ ] (760) Organochlorine Pesticides
- [ ] (761) Organophosphate Pesticides
- [ ] (767) Polychlorinated Biphenyls (PCB's)
- [ ] (764) Polynuclear Aromatic Hydrocarbons
- [ ] (762) SDWA Pesticides & Herbicides

Remarks: _____

FIELD DATA:

pH= _____; Conductivity= 1400 umho/cm at 14.5 °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ ____/____

Depth to water _____ ft.; Depth of well _____ ft.; Perforation Interval _____-_____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.) Free
Giant, GBR-20, No product

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): W.T. Boyer Method of Shipment to the Lab: Hand carried

This form accompanies 2 Septum Vials, ____ Glass Jugs, and/or ____ _____

Samples were preserved as follows:

- [ ] NP: No Preservation; Sample stored at room temperature.
- [X] P-Ice Sample stored in an ice bath (Not Frozen).
- [ ] P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Willie Olson to Mary C. Ellis
at (location) HED/SLD on 11/26/86 4:00PM and that the statements in this block are correct. Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [ ] No [ ]

Signatures Willie Olson Mary C. Ellis

For OCD Use: Date Owner Notified _____ Phone or Letter? _____ Initials _____

ANALYSES PERFORMED

LAB. No.: OR- 1372

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
~~Halogenated Purgeables~~	~~N D~~	{$CHCl_3$}	TR
Benzene	41	{Trichloroethene}	TR
p-Xylene	28	{Tetrachloroethene}	TR
m-Xylene	22		
o-Xylene	TR		
* DETECTION LIMIT *	* 5ppb	+ DETECTION LIMIT +	+

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT
T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)
[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: Six other compounds were detected by the aromatic screen that were not identified. Also a possible ~~three~~ three of the unidentified compounds like Benzene.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☒ No ☐. Seal(s) broken by: _____ date: 12-4-86

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 4 Dec 86. Analyst's signature: M Finney

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: K Meyerhen

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

Heavy Metal
~~GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS~~

DATE RECEIVED 11 26 86	LAB NO. HM 2421	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 11 20 86	SITE INFORMATION ►	Sample location: Giant, Bloomfield Refinery	
Collection TIME 1735		Collection site description: GBR-13	
Collected by — Person/Agency: BOYER/OLSON/OCD			

SEND FINAL REPORT TO ►
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/ well code

Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 29.50 µmho	Water Temp. (00010) 13.5 °C	Conductivity at 25°C (00094) µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☐ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☒ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho	
☐ Total non-filterable residue (suspended) (00530)	mg/l	
☒ Other: ICAP		
☒ Other: As		
☐ Other:		

F, NA	Units	Date analyzed
☐ Calcium (00915)	mg/l	
☐ Magnesium (00925)	mg/l	
☐ Sodium (00930)	mg/l	
☐ Potassium (00935)	mg/l	
☐ Bicarbonate (00440)	mg/l	
☐ Chloride (00940)	mg/l	
☐ Sulfate (00945)	mg/l	
☐ Total filterable residue (dissolved) (70300)	mg/l	
☐ Other:		

NF, A-H_2SO_4	Units	Date analyzed
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l	
☐ Ammonia-N total (00610)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l	
☐ Chemical oxygen demand (00340)	mg/l	
☐ Total organic carbon ( )	mg/l	
☐ Other:		
☐ Other:		

F, A-H_2SO_4	Units	Date analyzed
☐ Nitrate-N +, Nitrate-N dissolved (00631)	mg/l	
☐ Ammonia-N dissolved (00608)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l	
☐ Other:		

Analyst | Date Reported 1 13 87 | Reviewed by Jim Ashley

Laboratory remarks: Sample digested

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

ICAP SCAN

SLD Lab No. HM 2421 Reviewed by: Jim Ashley

Analyst JB Date Reported: 1/13/87

Date Analyzed 12/10/86

ELEMENT	ICAP VALUE(mg/l)	AA VALUE(mg/l)
Aluminum	<0.1	
Barium	0.3	
Beryllium	<0.1	
Boron	0.5	
Cadmium	<0.1	
Calcium	1610.	
Chromium	<0.1	
Cobalt	<0.1	
Copper	<0.1	
Iron	6.5	
Lead	<0.1	
Magnesium	130.	
Manganese	4.0	
Molybdenum	<0.1	
Nickel	0.6	
Silicon	7.0	
Silver	<0.1	
Strontium	30.	
Tin	<0.1	
Vanadium	<0.1	
Zinc	<0.1	
Arsenic		<0.005
Selenium		
Mercury		

857 - cont

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87108 — (505) 841-2555

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 11/26/86	LAB NO. WC 5437	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 8611/20	SITE INFORM-ATION ►	Sample location Giant, Bloom Field Refinery	
Collection TIME 1735		Collection site description GBR-13	
Collected by — Person/Agency BOYER / OLSON / OCD			

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/well code

Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 2950 µmho	Water Temp. (00010) 13.5 °C	Conductivity at 25°C (00094) µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	7332	µmho	12/16
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☒ Other: pH	7.07		12/8
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☒ Calcium (00915)	1410	mg/l	12-1
☒ Magnesium (00925)	170.3	mg/l	12-1
☒ Sodium (00930)	1044	mg/l	12-4
☒ Potassium (00935)	7.41	mg/l	12-4
☒ Bicarbonate (00440)	622	mg/l	12/10
☒ Chloride (00940)	3465	mg/l	12/2
☒ Sulfate (00945)	1644	mg/l	12/10
☒ Total filterable residue (dissolved) (70300)	10020	mg/l	12/11
☒ Other: CO_3	0		12/8
☒ BR	0.6		12/10

NF, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst	Date Reported	Reviewed by
	12/16/86	

Laboratory remarks

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

86- 1366-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

STATE OF NEW MEXICO
ENVIRONMENT

REPORT TO: David Boyer
N.M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87504-2088
PHONE(S): 827-5812

S.L.D. No. OR- 1366 A,B
DATE REC. 11-26-86
PRIORITY
USER CODE: 32235
SUBMITTER: David Boyer
CODE: 260

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) B61126101713SAKIB

SAMPLE TYPE: WATER [X], SOIL [ ], FOOD [ ], OTHER: _____ CODE: _____

COUNTY: San Juan ; CITY: Lee Acres CODE: _____

LOCATION CODE: (Township-Range-Section-Tracts) 29N+12W+27+1113 (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- [ ] (753) Aliphatic Purgeables (1-3 Carbons)
- [X] (754) Aromatic & Halogenated Purgeables
- [ ] (765) Mass Spectrometer Purgeables
- [ ] (766) Trihalomethanes

Other Specific Compounds or Classes

- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____

EXTRACTABLE SCREENS

- [ ] (751) Aliphatic Hydrocarbons
- [ ] (760) Organochlorine Pesticides
- [ ] (755) Base/Neutral Extractables
- [ ] (758) Herbicides, Chlorophenoxy acid
- [ ] (759) Herbicides, Triazines
- [ ] (760) Organochlorine Pesticides
- [ ] (761) Organophosphate Pesticides
- [ ] (767) Polychlorinated Biphenyls (PCB's)
- [ ] (764) Polynuclear Aromatic Hydrocarbons
- [ ] (762) SDWA Pesticides & Herbicides

Remarks: _____

FIELD DATA:

pH= _____; Conductivity= 2350 umho/cm at 13.5 °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ ____/____

Depth to water _____ ft.; Depth of well _____ ft.; Perforation Interval ____-____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

Grant GBR-NB 13

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): D.L. Roof Method of Shipment to the Lab: Hand carried

This form accompanies 2 Septum Vials, ____ Glass Jugs, and/or _____

Samples were preserved as follows:

- [ ] NP: No Preservation; Sample stored at room temperature.
- [X] P-Ice Sample stored in an ice bath (Not Frozen).
- [ ] P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Willie Olson to Gary C. Ellis

at (location) HED/SLD on 11/26/86 4:00 P/AM and that

the statements in this block are correct. Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [X] No [ ]

Signatures Willie Olson Gary C. Ellis

For OCD Use: Date Owner Notified _____ Phone or Letter? _____ Initials _____

ANALYSES PERFORMED

LAB. No.: OR- 1366

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
Benzene	2900	1,1-dichloroethane	44
Toluene	1800	cis-1,2-dichloroethene	23
ethyl benzene	520	1,2-dichloroethane	32
p-Xylene	740	1,1,1-trichloroethane	16
m-Xylene	1500	Trichloroethene	12
O-Xylene	630	tetrachloroethene	19
* DETECTION LIMIT *	5ppb	+ DETECTION LIMIT +	

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT
T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)
[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: Eight other compounds were detected by the aromatic screen that were not identified

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☒ No ☐. Seal(s) broken by: _____ date: 12-4/12-11-86

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 4+10 Dec 86. Analyst's signature: _____

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: _____

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

Heavy Metal
~~GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS~~

DATE RECEIVED: 11/26/86	LAB NO: HM2420	USER CODE: ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE: 86/11/21	SITE INFORMATION ►	Sample location: Giant, Bloomfield Refinery	
Collection TIME: 0820		Collection site description: GBR-9	
Collected by — Person/Agency: BOYER/OLSON/OCD			

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/well code:

Owner:

SAMPLING CONDITIONS

☒ Bailed ☐ Pump ☐ Dipped ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 1325 µmho	Water Temp. (00010) 15 °C	Conductivity at 25°C (00094) µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☐ NA: No acid added ☐ Other-specify: ☐ A: 5ml conc. HNO_3 added ☒ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho	
☐ Total non-filterable residue (suspended) (00530)	mg/l	
☒ Other: ICAP		
☒ Other: As		
☐ Other:		

F, NA	Units	Date analyzed
☐ Calcium (00915)	mg/l	
☐ Magnesium (00925)	mg/l	
☐ Sodium (00930)	mg/l	
☐ Potassium (00935)	mg/l	
☐ Bicarbonate (00440)	mg/l	
☐ Chloride (00940)	mg/l	
☐ Sulfate (00945)	mg/l	
☐ Total filterable residue (dissolved) (70300)	mg/l	
☐ Other:		

NF, A-H_2SO_4	Units	Date analyzed
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l	
☐ Ammonia-N total (00610)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l	
☐ Chemical oxygen demand (00340)	mg/l	
☐ Total organic carbon ( )	mg/l	
☐ Other:		
☐ Other:		

F, A-H_2SO_4	Units	Date analyzed
☐ Nitrate-N +, Nitrate-N dissolved (00631)	mg/l	
☐ Ammonia-N dissolved (00608)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l	
☐ Other:		

Analyst | Date Reported: 1/13/87 | Reviewed by: J.F. Ashley

Laboratory remarks: Sample digested

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

ICAP SCAN

SLD Lab No. HM 2420 Reviewed by: Jim Ashley

Analyst JB Date Reported: 1/13/87

Date Analyzed 12/10/86

ELEMENT	ICAP VALUE(mg/l)	AA VALUE(mg/l)
Aluminum	<0.1	
Barium	<0.1	
Beryllium	<0.1	
Boron	0.3	
Cadmium	<0.1	
Calcium	520.	
Chromium	<0.1	
Cobalt	<0.1	
Copper	<0.1	
Iron	<0.1	
Lead	<0.1	
Magnesium	36.	
Manganese	1.1	
Molybdenum	<0.1	
Nickel	<0.1	
Silicon	6.3	
Silver	<0.1	
Strontium	10.	
Tin	<0.1	
Vanadium	<0.1	
Zinc	<0.1	
Arsenic		<0.005
Selenium		
Mercury		

859 WTF

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87108 — (505) 841-2555

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 11/26/86	LAB NO. WC5436	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 86/11/21	SITE INFORM-ATION ►	Sample location: Giant, Bloomfield Refinery	
Collection TIME 0845	0820	Collection site description: GBR-9	
Collected by — Person/Agency: BOYER/OLSON/OCD			

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/well code:

Owner:

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 1900 µmho	Water Temp. (00010) 15.7 °C	Conductivity at 25°C (00094) µmho

Field comments: 2' product

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	3645	µmho	12/17
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☒ Other: pH	7.70		12/8
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☒ Calcium (00915)	520	mg/l	12-1
☒ Magnesium (00925)	104	mg/l	12-1
☒ Sodium (00930)	519	mg/l	12-8
☒ Potassium (00935)	15.7	mg/l	12-8
☒ Bicarbonate (00440)	245	mg/l	12/8
☒ Chloride (00940)	259	mg/l	12/2
☒ Sulfate (00945)	1562	mg/l	12/16
☒ Total filterable residue (dissolved) (70300)	3536	mg/l	12/4
☒ Other: CO_3	0		12/5
☒ BR	0.7		12/10

NF, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst	Date Reported	Reviewed by
	12/15/86	

Laboratory remarks:

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

86- 1354-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT — STATE OF NEW MEXICO

REPORT TO: David Boyer
N.M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87504-2088
PHONE(S): 327-5812

S.L.D. No. OR- 1354 A+B
DATE REC. 11/26/81
PRIORITY
USER CODE: 3 2 2 3 5

SUBMITTER: David Boyer
CODE: 2 6 0

SAMPLE COLLECTION CODE: (YYMMDDHHMMHH) 8 1 1 1 2 1 0 8 2 0 A+B

SAMPLE TYPE: WATER [X], SOIL [ ], FOOD [ ], OTHER: _____ CODE: _____

COUNTY: San Juan; CITY: Los Pozos CODE: _____

LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N + 1 2 W + 2 7 + 1 1 3 (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- [ ] (753) Aliphatic Purgeables (1-3 Carbons)
- [X] (754) Aromatic & Halogenated Purgeables
- [ ] (765) Mass Spectrometer Purgeables
- [ ] (766) Trihalomethanes

Other Specific Compounds or Classes

- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____

EXTRACTABLE SCREENS

- [ ] (751) Aliphatic Hydrocarbons
- [ ] (760) Organochlorine Pesticides
- [ ] (755) Base/Neutral Extractables
- [ ] (758) Herbicides, Chlorophenoxy acid
- [ ] (759) Herbicides, Triazines
- [ ] (760) Organochlorine Pesticides
- [ ] (761) Organophosphate Pesticides
- [ ] (767) Polychlorinated Biphenyls (PCB's)
- [ ] (764) Polynuclear Aromatic Hydrocarbons
- [ ] (762) SDWA Pesticides & Herbicides

Remarks: _____

FIELD DATA:

pH= _____; Conductivity= 1325 umho/cm at 15 °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ ____/____

Depth to water _____ ft.; Depth of well _____ ft.; Perforation Interval _____-_____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

Giant, GBR-9 No Free product

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): D. W. Boyer Method of Shipment to the Lab: Hand Carried

This form accompanies 2 Septum Vials, ____ Glass Jugs, and/or ____ _____

Samples were preserved as follows:

- [ ] NP: No Preservation; Sample stored at room temperature.
- [X] P-Ice Sample stored in an ice bath (Not Frozen).
- [ ] P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Willie Olson to Kathy A. Gibson

at (location) NED/SLD on 11/26/81 - 4:16 and that the statements in this block are correct. Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [X] No [ ]

Signatures Willie Olson Kathy A. Gibson

For OCD Use: Date Owner Notified _____ Phone or Letter? _____ Initials _____

ANALYSES PERFORMED

LAB. No.: OR- 1354

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
benzene	49	1,1-dichloroethane	4
p-Xylene	1	cis-1,2-dichloroethene	TR
o-Xylene	1	1,2-dichloroethane	6
		1,1,1-trichloroethane	TR
		Trichloroethene	TR
		Tetrachloroethene	TR
		1,4-dichlorobenzene	TR
* DETECTION LIMIT *	1 ppb	+ DETECTION LIMIT +	

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT
T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)
[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: Twelve other compounds were detected by the aromatic screen that were not identified.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☒ No ☐. Seal(s) broken by: [illegible] date: 12-4/12-10-86

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 4+10 Dec 86. Analyst's signature: D. Finney

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: Richard P. Pepin

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

851 2000-6 001

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 11/26/96	LAB NO. WC 5445	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 11/21	SITE INFORMATION ►	Sample location: Giant, Bloomfield Refinery	
Collection TIME 0845		Collection site description: GBR 10	
Collected by — Person/Agency: BOYER/OLSON/OCD			

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/ well code:

Owner:

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 1900 µmho	Water Temp. (00010) 15.7 °C	Conductivity at 25°C (00094) µmho

Field comments:

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	4557	µmho	12/16
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☒ Other: pH	7.35		12/8
☐ Other:			
☐ Other:			

NF, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☒ Calcium (00915)	410	mg/l	12-1
☒ Magnesium (00925)	70.5	mg/l	12-1
☒ Sodium (00930)	678	mg/l	12/4
☒ Potassium (00935)	5.85	mg/l	12/4
☒ Bicarbonate (00440)	597	mg/l	12/8
☒ Chloride (00940)	1149	mg/l	12/5
☒ Sulfate (00945)	465	mg/l	12/13 12/18
☒ Total filterable residue (dissolved) (70300)	3332	mg/l	12/4
☒ Other: CO_3	0		12/8
☒ BR	1.3		12/10

F, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst	Date Reported	Reviewed by
	12 / 16 / 96	

Laboratory remarks:

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED: 11/26/96	LAB NO. WC 5445	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE: 11/21	SITE INFORM-ATION ►	Sample location: Giant, Bloomfield Refinery	
Collection TIME: 0845		Collection site description: GBR 10	
Collected by — Person/Agency: BOYER/OLSON/OCD			

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/well code:

Owner:

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected): 1900 µmho	Water Temp. (00010): 15.7 °C	Conductivity at 25°C (00094): µmho

Field comments:

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	4557	µmho	12/16
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☒ Other: pH	7.35		12/8
☐ Other:			
☐ Other:			

NF, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☒ Calcium (00915)	410	mg/l	12-1
☒ Magnesium (00925)	90.5	mg/l	12-1
☒ Sodium (00930)	638	mg/l	12/4
☒ Potassium (00935)	5.85	mg/l	12/4
☒ Bicarbonate (00440)	597	mg/l	12/8
☒ Chloride (00940)	1149	mg/l	12/5
☒ Sulfate (00945)	46.5	mg/l	12/18 12/19
☒ Total filterable residue (dissolved) (70300)	3332	mg/l	12/4
☒ Other: CO_3	0		12/8
☒ BR	1.3		12/10

F, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst	Date Reported	Reviewed by
	12 | 16 | 96	

Laboratory remarks:

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

ANALYSES PERFORMED

LAB. No.: OR-1353

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
benzene	9500		
toluene	1100		
ethylbenzene	670		
p-Xylene	940		
m-Xylene	1600		
o-Xylene	590		
1,2-dichloroethane	150		
1,3-dichlorobenzene	TR		
* DETECTION LIMIT *	5Cppb	+ DETECTION LIMIT +	

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT
T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)
[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: Four other compounds were detected by the aromatic screen that were not identified.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☒ No ☐. Seal(s) broken by: _____ date: 12-4-86

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 4Dec.8. Analyst's signature: _____

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: _____

86- 1353-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

STATE OF NEW MEXICO
ENERGY, MINERALS & NATURAL RESOURCES DEPARTMENT

REPORT TO: David Boyer
N.M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87504-2088

S.L.D. No. OR- 1353 A+B
DATE REC. P 86-11-26
PRIORITY

PHONE(S): 827-5812
USER CODE: 8 2 2 3 5
SUBMITTER: David Boyer
CODE: 2 6 0

SAMPLE COLLECTION CODE: (YYMMDDHHMMHH) 8 6 1 1 2 1 1 0 8 4 5 A & B

SAMPLE TYPE: WATER ☒ SOIL ☐, FOOD ☐, OTHER: _____ CODE: _____

COUNTY: San Juan ; CITY: Lee Acres CODE: _____

LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N + 1 2 W + 2 7 + 1 1 3 (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

Remarks: _____

FIELD DATA:

pH= _____; Conductivity= 1900 umho/cm at 15.7 °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ ____/____

Depth to water _____ ft.; Depth of well _____ ft.; Perforation Interval ____-____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

Grant, GRR-10 25% product

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): D. C. Boyer Method of Shipment to the Lab: Hand Carried

This form accompanies 2 Septum Vials, ____ Glass Jugs, and/or ____ _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☒ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Willie Olson to Ray C. Olson

at (location) HED/SLD on 11/26/86 at 4:15 and that the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☑ No ☐

Signatures Willie Olson Ray C. Olson

For OCD Use: Date Owner Notified _____ Phone or Letter? _____ Initials _____

ICAP SCAN

SLD Lab No. HM 2419 Reviewed by: Jim Ashby

Analyst JB Date Reported: 1/13/87

Date Analyzed 12/10/86

ELEMENT	ICAP VALUE(mg/l)	AA VALUE(mg/l)
Aluminum	<0.1	
Barium	<0.1	
Beryllium	<0.1	
Boron	0.3	
Cadmium	<0.1	
Calcium	190.	
Chromium	<0.1	
Cobalt	<0.1	
Copper	<0.1	
Iron	<0.1	
Lead	<0.1	
Magnesium	15.	
Manganese	2.2	
Molybdenum	<0.1	
Nickel	<0.1	
Silicon	7.8	
Silver	<0.1	
Strontium	3.4	
Tin	<0.1	
Vanadium	<0.1	
Zinc	<0.1	
Arsenic		<0.005
Selenium		
Mercury		

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87108 — (505) 841-2555

Heavy Metal
~~GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS~~

DATE RECEIVED: 11/26/86	LAB NO. HM2419	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE: 86/11/21	SITE INFORMATION ►	Sample location: Giant, Bloomfield Refinery	
Collection TIME: 0930		Collection site description: GBR-30	
Collected by — Person/Agency: BOYER/OLSON/OCD			

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/ well code:
Owner:

SAMPLING CONDITIONS

☒ Bailed ☐ Pump ☐ Dipped ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 875 µmho	Water Temp. (00010) 16 °C	Conductivity at 25°C (00094) µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☐ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☒ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho	
☐ Total non-filterable residue (suspended) (00530)	mg/l	
☒ Other: ICAP		
☒ Other: As		
☐ Other:		

F, NA	Units	Date analyzed
☐ Calcium (00915)	mg/l	
☐ Magnesium (00925)	mg/l	
☐ Sodium (00930)	mg/l	
☐ Potassium (00935)	mg/l	
☐ Bicarbonate (00440)	mg/l	
☐ Chloride (00940)	mg/l	
☐ Sulfate (00945)	mg/l	
☐ Total filterable residue (dissolved) (70300)	mg/l	
☐ Other:		

NF, A-H_2SO_4	Units	Date analyzed
☐ Nitrate-N + , Nitrate-N total (00630)	mg/l	
☐ Ammonia-N total (00610)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l	
☐ Chemical oxygen demand (00340)	mg/l	
☐ Total organic carbon ( )	mg/l	
☐ Other:		
☐ Other:		

F, A-H_2SO_4	Units	Date analyzed
☐ Nitrate-N + , Nitrate-N dissolved (00631)	mg/l	
☐ Ammonia-N dissolved (00608)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l	
☐ Other:		

Analyst | Date Reported: 1/13/87 | Reviewed by: Jim Ashley

Laboratory remarks: Sample digested

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 11 26 86 | LAB NO. WC 5443 | USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235

Collection DATE 86/11/21 | Collection TIME 0930 | Collected by — Person/Agency BOYER/OLSON/OCD

SITE INFORMATION ►

Sample location: Giant, Bloomfield Refinery

Collection site description: GBR-30

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

RECEIVED DEC 5 1986 OIL CONSERVATION DIVISION SANTA FE

Station/ well code

Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 87.5 µmho	Water Temp. (00010) 16 °C	Conductivity at 25°C (00094) µmho

Field comments: 4 1" product

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	1715	µmho	12/12
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☒ Other: pH	7.85		12/8
☐ Other:			
☐ Other:			

NF, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☒ Calcium (00915)	180	mg/l	12-1
☒ Magnesium (00925)	36.4	mg/l	12-1
☒ Sodium (00930)	27	mg/l	12-1
☒ Potassium (00935)	1.75	mg/l	
☒ Bicarbonate (00440)	554	mg/l	12/8
☒ Chloride (00940)	133	mg/l	12/5
☒ Sulfate (00945)	3.9	mg/l	12/5
☒ Total filterable residue (dissolved) (70300)	1308	mg/l	12/4
☒ Other: CO_3	0		12/8
☒ BR	0.4		12/10

F, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst	Date Reported	Reviewed by
	12 12 86	

Laboratory remarks:

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

ANALYSES PERFORMED

LAB. No.: OR- 1361

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
p-Xylene	52		
m-Xylene	28		
o-Xylene	9		
Trichloroethene	TR		
tetrachloroethene	TR		
* DETECTION LIMIT *	5ppb	+ DETECTION LIMIT +	

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT
T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)
[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: Eight other compounds were identified by the aromatic screen that were not identified.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☒ No ☐. Seal(s) broken by: [illegible] date: 12-4-1986

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 4+9Dec86. Analyst's signature: JJ Finney

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: [illegible]

86- 1361-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

STATE OF NEW MEXICO
ENVIRONMENT

REPORT TO: David Boyer
N.M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87504-2088

S.L.D. No. OR- 1361 A, B
DATE REC. 11-26-86
PRIORITY

PHONE(S): 327-5812
USER CODE: 32235

SUBMITTER: David Boyer
CODE: 260

SAMPLE COLLECTION CODE: (YYMMDDHHMMHH) 861126101930AA

SAMPLE TYPE: WATER ☐, SOIL ☐, FOOD ☐, OTHER: _____ CODE: _____

COUNTY: San Juan ; CITY: Lee Acres CODE: _____

LOCATION CODE: (Township-Range-Section-Tracts) 29N+12W+27+1111 (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

Remarks: _____

FIELD DATA:

pH= _____; Conductivity= 875 umho/cm at 16 °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ _____/_____

Depth to water _____ ft.; Depth of well _____ ft.; Perforation Interval _____-_____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

Grant, GBR 30, 41" product

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): W Boyer Method of Shipment to the Lab: Hand carried

This form accompanies 2 Septum Vials, 4 Glass Jugs, and/or _____ _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☒ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Willie Olson to Mary C. Ellen

at (location) HED/SLD on 11/26/86 at 4:12 and that the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☒ No ☐

Signatures Willie Olson Mary C. Ellen

For OCD Use: Date Owner Notified _____ Phone or Letter? _____ Initials _____

ICAP SCAN

SLD Lab No. #M 2426 Reviewed by: Jim Ashby

Analyst JB Date Reported: 1/13/87

Date Analyzed 12/5/86

ELEMENT	ICAP VALUE(mg/l)	AA VALUE(mg/l)
Aluminum	<0.1	
Barium	<0.1	
Beryllium	<0.1	
Boron	0.2	
Cadmium	<0.1	
Calcium	630.	
Chromium	<0.1	
Cobalt	<0.1	
Copper	<0.1	
Iron	<0.1	
Lead	<0.1	
Magnesium	68.	
Manganese	4.4	
Molybdenum	<0.1	
Nickel	<0.1	
Silicon	6.0	
Silver	<0.1	
Strontium	12.	
Tin	<0.1	
Vanadium	<0.1	
Zinc	<0.1	
Arsenic		<0.005
Selenium		
Mercury		

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

Heavy Metal
~~GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS~~

DATE RECEIVED 11 26 86	LAB NO. HM 2426	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 86 11 21	SITE INFORM-ATION ►	Sample location: Giant, Bloomfield Refinery	
Collection TIME 0945		Collection site description: GBR-24 Shallow	
Collected by — Person/Agency: BOYER/OLSON/OCD			

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/ well code

Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Pump ☐ Dipped ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 1775 µmho	Water Temp. (00010) 15 °C	Conductivity at 25°C (00094) µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☐ NA: No acid added ☐ Other-specify: ☐ A: 5ml conc. HNO_3 added ☒ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho	
☐ Total non-filterable residue (suspended) (00530)	mg/l	
☒ Other: ICAP		
☒ Other: As		
☐ Other:		

F, NA	Units	Date analyzed
☐ Calcium (00915)	mg/l	
☐ Magnesium (00925)	mg/l	
☐ Sodium (00930)	mg/l	
☐ Potassium (00935)	mg/l	
☐ Bicarbonate (00440)	mg/l	
☐ Chloride (00940)	mg/l	
☐ Sulfate (00945)	mg/l	
☐ Total filterable residue (dissolved) (70300)	mg/l	
☐ Other:		

NF, A-H_2SO_4	Units	Date analyzed
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l	
☐ Ammonia-N total (00610)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l	
☐ Chemical oxygen demand (00340)	mg/l	
☐ Total organic carbon ( )	mg/l	
☐ Other:		
☐ Other:		

F, A-H_2SO_4	Units	Date analyzed
☐ Nitrate-N +, Nitrate-N dissolved (00631)	mg/l	
☐ Ammonia-N dissolved (00608)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l	
☐ Other:		

Analyst	Date Reported	Reviewed by
	1 13 87	JFA

Laboratory remarks

FOR OCD USE -- Date Owner Notified_____ Phone or Letter?_____ Initals_____

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

857 WF

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 11 26 86 | LAB NO. WC 5492 | USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235

Collection DATE 86 11 21 | Collection TIME 0945 | Collected by — Person/Agency BOYER/OLSON/OCD

SITE INFORMATION

Sample location: Giant, Bloom Field Refinery

Collection site description: GBR-24 Shallow

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

RECEIVED DEC 1 0 1986 OIL CONSERVATION DIVISION Santa Fe, N.M.

Attn: David Boyer

Phone: 827-5812

Station/well code

Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 1775 µmho	Water Temp. (00010) 15 °C	Conductivity at 25°C (00094) µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	4645	µmho	12/12
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☒ Other: pH	8.01		12/8
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☒ Calcium (00915)	620.	mg/l	12-1
☒ Magnesium (00925)	93.8	mg/l	12-1
☒ Sodium (00930)	634	mg/l	12/4
☒ Potassium (00935)	5.25	mg/l	12/4
☒ Bicarbonate (00440)	273	mg/l	12/8
☒ Chloride (00940)	667 719	mg/l	12/5
☒ Sulfate (00945)	1405	mg/l	12/5
☒ Total filterable residue (dissolved) (70300)	3958	mg/l	12/4
☒ Other: CO_3	0		12/8
☒ BR	2.4		12/11

NF, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst	Date Reported	Reviewed by
	12 12 86	

Laboratory remarks

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

ANALYSES PERFORMED

LAB. No.: OR- 1364

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
benzene	580	tetrachloroethene	TR
toluene	200	1,2-dichlorobenzene	TR
ethylbenzene	300	trichloroethene	TR
p-xylene	270		
m-xylene	150		
o-xylene	75		
1,2-dichloroethane	60		
1,2-dibromoethane	11		
* DETECTION LIMIT *	* 10ppb	+ DETECTION LIMIT +	+

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: Several other compounds were detected by the aromatic screen that were not identified.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☒ No ☐. Seal(s) broken by: [illegible] date: 12-4-96

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 4 Dec 96. Analyst's signature: M Finney

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: K Meyerhen

86- 1364-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

STATE OF NEW MEXICO ENVIRONMENT

REPORT TO: David Boyer
N.M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87504-2088
PHONE(S): 327-5812
SUBMITTER: David Boyer

S.L.D. No. OR- 1364 A,B
DATE REC. 11-26-86
PRIORITY
USER CODE: 32235
CODE: 260

SAMPLE COLLECTION CODE: (YYMMDDHHMMHH) 861121094515 W/P

SAMPLE TYPE: WATER ☒, SOIL ☐, FOOD ☐, OTHER: _____ CODE: ____

COUNTY: San Juan ; CITY: Los Acres CODE: ____

LOCATION CODE: (Township-Range-Section-Tracts) 29N12W27+1111 (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

Remarks: _____

FIELD DATA:

pH=____; Conductivity= 1775 umho/cm at 15 °C; Chlorine Residual=____mg/l

Dissolved Oxygen=____mg/l; Alkalinity=____mg/l; Flow Rate____ ____/____

Depth to water ____ft.; Depth of well____ft.; Perforation Interval ____-____ft.; Casing:____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

Grant, GBR-24 Shallow

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): D. G. Boyer Method of Shipment to the Lab: Hand carried

This form accompanies 2 Septum Vials, ____ Glass Jugs, and/or ____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☒ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from William Olson to Mary C. Gibson

at (location) HED/SLD on 11/26/86 @ 4:14 and that the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☐ No ☐

Signatures William Olson Mary C. Gibson

For OCD Use: Date Owner Notified _____ Phone or Letter?_____ Initials ____

ICAP SCAN

SLD Lab No. HM 2425 Reviewed by: Jim Ashby

Analyst JB Date Reported: 1/13/87

Date Analyzed 12/10/86

ELEMENT	ICAP VALUE(mg/l)	AA VALUE(mg/l)
Aluminum	<0.1	
Barium	0.1	
Beryllium	<0.1	
Boron	0.3	
Cadmium	<0.1	
Calcium	330.	
Chromium	<0.1	
Cobalt	<0.1	
Copper	<0.1	
Iron	<0.1	
Lead	<0.1	
Magnesium	43.	
Manganese	0.6	
Molybdenum	<0.1	
Nickel	<0.1	
Silicon	7.5	
Silver	<0.1	
Strontium	7.1	
Tin	<0.1	
Vanadium	<0.1	
Zinc	<0.1	
Arsenic		<0.005
Selenium		
Mercury		

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

Heavy metal
~~GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS~~

DATE RECEIVED 11/26/86	LAB NO. HM 2425	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 86/11/21	SITE INFORMATION ►	Sample location: Giant, Bloomfield Refinery	
Collection TIME 1105		Collection site description: GBR-24 KnBA - Deep	
Collected by — Person/Agency: BOYER/OLSON/OCD			

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/ well code

Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Pump ☐ Dipped ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 1675 µmho	Water Temp. (00010) 18.5 °C	Conductivity at 25°C (00094) µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☐ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☒ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho	
☐ Total non-filterable residue (suspended) (00530)	mg/l	
☒ Other: ICAP		
☒ Other: As		
☐ Other:		

F, NA	Units	Date analyzed
☐ Calcium (00915)	mg/l	
☐ Magnesium (00925)	mg/l	
☐ Sodium (00930)	mg/l	
☐ Potassium (00935)	mg/l	
☐ Bicarbonate (00440)	mg/l	
☐ Chloride (00940)	mg/l	
☐ Sulfate (00945)	mg/l	
☐ Total filterable residue (dissolved) (70300)	mg/l	
☐ Other:		

NF, A-H_2SO_4		
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l	
☐ Ammonia-N total (00610)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l	
☐ Chemical oxygen demand (00340)	mg/l	
☐ Total organic carbon ( )	mg/l	
☐ Other:		
☐ Other:		

F, A-H_2SO_4		
☐ Nitrate-N +, Nitrate-N dissolved (00631)	mg/l	
☐ Ammonia-N dissolved (00608)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l	
☐ Other:		

Analyst	Date Reported	Reviewed by
	1/13/87	

Laboratory remarks: Sample digested

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

$5.9 cmf

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 11/26/86 | LAB NO. WC 5441 | USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235

Collection DATE 86/11/21 | Collection TIME 1105 | SITE INFORMATION ► | Sample location Giant, Bloomfield Refinery

Collected by — Person/Agency BOYER/OLSON/OCD | Collection site description GBR-24 Deep

SEND FINAL REPORT TO ►
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088
Attn: David Boyer
Phone: 827-5812

RECEIVED DEC 30 1986 OIL CON. DIV. SANTA FE

Station/well code

Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 1675 µmho	Water Temp. (00010) 18.5°C	Conductivity at 25°C (00094) µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted 1 | ☐ NF: Whole sample (Non-filtered) | ☒ F: Filtered in field with 0.45 µ membrane filter | ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	3807	µmho	12/12
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☒ Other: pH	7.86		12/8
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☒ Calcium (00915)	520	mg/l	12-1
☒ Magnesium (00925)	65.4	mg/l	12-1
☒ Sodium (00930)	654	mg/l	12/4
☒ Potassium (00935)	5.85	mg/l	12/4
☒ Bicarbonate (00440)	434	mg/l	12/8
☒ Chloride (00940)	618	mg/l	12/2
☒ Sulfate (00945)	943	mg/l	12/3
☒ Total filterable residue (dissolved) (70300)	2526	mg/l	12/4
☒ Other: CO_3	0		12/8
☒ BR	< 0.2		12/10

NF, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst | Date Reported 12/17/86 | Reviewed by

Laboratory remarks

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

86-1375-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

STATE OF NEW MEXICO
ENVIRONMENT

REPORT TO: David Boyer
N.M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87504-2088

S.L.D. No. OR- 1376, 11, 15
DATE REC. 11-26-86
PRIORITY

PHONE(S): 327-5812
USER CODE: 8 2 2 3 5

SUBMITTER: David Boyer
CODE: 2 6 0

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) 8 6 1 1 2 1 1 1 0 5 B W 0 3

SAMPLE TYPE: WATER ☒, SOIL ☐, FOOD ☐, OTHER: _____ CODE: _____

COUNTY: San Juan ; CITY: Los Acres CODE: _____

LOCATION CODE: (Township-Range-Section-Tracts) 29N+12W+27+1 1 1 (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

Remarks: _____

FIELD DATA:

pH= _____ Conductivity= 1675 umho/cm at 18.5 °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ _____/_____

Depth to water _____ ft.; Depth of well _____ ft.; Perforation Interval _____ - _____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

Guest, GBR-24 deep

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): T. L. Boyd Method of Shipment to the Lab: Hand carried

This form accompanies 2 Septum Vials, _____ Glass Jugs, and/or _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☒ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Willie Olson to Mary C. Eblen

at (location) HED/SLD on 11/26/86 @ 4:03PM and that

the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☐ No ☐

Signatures Willie Olson Mary C. Eblen

For OCD Use: Date Owner Notified _____ Phone or Letter? _____ Initials _____

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 11 26 86 | LAB NO. WC 5447 | USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235

Collection DATE 86/11/21 | Collection TIME 1135 | Collected by — Person/Agency ROYER/OLSON/OCD

SITE INFORMATION ▶ Sample location: Giant, Bloomfield Refinery

Collection site description: GBR - #14

SEND FINAL REPORT TO ▶
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, P.O. Box 2088
Santa Fe, NM 87504-2088
Attn: David Boyer
Phone: 827-5812

Station/well code:
Owner:

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 1250 µmho	Water Temp. (00010) 16.5 °C	Conductivity at 25°C (00094) µmho

Field comments:

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	2769	µmho	12/12
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☒ Other: pH	7.94		12/8
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☒ Calcium (00915)	300	mg/l	12-1
☒ Magnesium (00925)	12.2	mg/l	12-1
☒ Sodium (00930)	531	mg/l	12/4
☒ Potassium (00935)	3.70	mg/l	12/4
☒ Bicarbonate (00440)	366	mg/l	12/8
☒ Chloride (00940)	262	mg/l	12/5
☒ Sulfate (00945)	1122	mg/l	12/6
☒ Total filterable residue (dissolved) (70300)	2442	mg/l	12/4
☒ Other: CO_3	0		12/8
☒ BR	1.06		12/10

NF, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst | Date Reported 12 12 86 | Reviewed by

Laboratory remarks:

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

ANALYSES PERFORMED

LAB. No.: OR- 1375

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
benzene	230	tetrachloroethene	TR
toluene	5	1,2-dichlorobenzene	TR
ethylbenzene	180		
p-xylene	140		
m-xylene	ND		
o-xylene	7		
1,2-dichloroethane	69		
1,2-dibromoethane	TR		
* DETECTION LIMIT *	* 5ppb	+ DETECTION LIMIT +	+

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT
T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)
[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: Twelve other compounds were detected by the aromatic screen that were not identified.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☒ No ☐. Seal(s) broken by: JLT date: 12-4-86

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 4 Dec 86. Analyst's signature: M Tierney

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: K Moynihan

86- 1362-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

STATE OF NEW MEXICO
ENERGY, MINERALS & NATURAL RESOURCES DEPARTMENT

REPORT TO: David Boyer
N.M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87504-2088

S.L.D. No. OR- 1362 A, B
DATE REC. 11-26-86
PRIORITY

PHONE(S): 827-5812
USER CODE: 8 2 2 3 5

SUBMITTER: David Boyer
CODE: 2 6 0

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) 8 6 1 1 2 4 1 1 3 5 BK R

SAMPLE TYPE: WATER ☒, SOIL ☐, FOOD ☐, OTHER: _____ CODE: _____

COUNTY: San Juan ; CITY: Lee Acres CODE: _____

LOCATION CODE: (Township-Range-Section-Tracts) 29N+12W+27+1111 (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (755) Mass Spectrometer Purgeables
- ☐ (756) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

Remarks: _____

FIELD DATA:

pH= _____; Conductivity= 1250 umho/cm at 16.5 °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ ____/____

Depth to water _____ ft.; Depth of well _____ ft.; Perforation Interval ____-____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

Giant, GBR-4, Recovery well

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): W V Boyer Method of Shipment to the Lab: Hand carried

This form accompanies 2 Septum Vials, 1 Glass Jugs, and/or _____ _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☒ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Willa Olson to Mary C. Gilbert

at (location) HED/SLD on 11/26/86 at 4:15 and that the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☒ No ☐

Signatures Willa Olson Mary C. Gilbert

For OCD Use: Date Owner Notified _____ Phone or Letter? _____ Initials _____

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

Heavy Metal
~~GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS~~

DATE RECEIVED 11/26/86	LAB NO. HM 2424	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 86/11/21	SITE INFORMATION ▶	Sample location Giant, Bloomfield Refinery	
Collection TIME 1205		Collection site description 6BR-31	
Collected by — Person/Agency BOYER/OLSON/OCD			

SEND FINAL REPORT TO ▶
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088
Attn: David Boyer
Phone: 827-5812

Station/ well code
Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 3150 µmho	Water Temp. (00010) 17 °C	Conductivity at 25°C (00094) µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☐ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☒ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed	F, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho		☐ Calcium (00915)	mg/l	
☐ Total non-filterable residue (suspended) (00530)	mg/l		☐ Magnesium (00925)	mg/l	
☒ Other: ICAP			☐ Sodium (00930)	mg/l	
☒ Other: As			☐ Potassium (00935)	mg/l	
☐ Other:			☐ Bicarbonate (00440)	mg/l	
			☐ Chloride (00940)	mg/l	
			☐ Sulfate (00945)	mg/l	
			☐ Total filterable residue (dissolved) (70300)	mg/l	
			☐ Other:		
NF, A-H_2SO_4			**F, A-H_2SO_4**		
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l		☐ Nitrate-N +, Nitrate-N dissolved (00631)	mg/l	
☐ Ammonia-N total (00610)	mg/l		☐ Ammonia-N dissolved (00608)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l		☐ Total Kjeldahl-N ( )	mg/l	
☐ Chemical oxygen demand (00340)	mg/l		☐ Other:		
☐ Total organic carbon ( )	mg/l				
☐ Other:					
☐ Other:					

Analyst | Date Reported 1/13/87 | Reviewed by Jim Ashley

Laboratory remarks: Sample digested

FOR OCD USE -- Date Owner Notified_____ Phone or Letter?_____ Initals_____

ANALYSES PERFORMED

LAB. No.: OR- 1362

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
aromatic purgeables	ND		
1,2-dichloroethane	9		
* DETECTION LIMIT *	1ppb	+ DETECTION LIMIT +	

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: _____

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☒ No ☐. Seal(s) broken by: KT date: 12-4-86

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 4 Dec 86. Analyst's signature: M. Feeney

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: K Meyerhein

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

859 10W-T

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 11 26 86 | LAB NO. WC 5446 | USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235

Collection DATE 26/11/21 | SITE INFORMATION ▶ Sample location: Giant, Bloom Field Refinery

Collection TIME 13:05 | Collection site description: GBR-31

Collected by — Person/Agency: BOYER / OLSON / OCD

SEND FINAL REPORT TO ▶
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088
Attn: David Boyer
Phone: 827-5812

Station/ well code:
Owner:

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 3150 µmho	Water Temp. (00010) 17 °C	Conductivity at 25°C (00094) µmho

Field comments:

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	9341	µmho	12/16
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☒ Other: pH	7.33		12/2
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☒ Calcium (00915)	1460	mg/l	12-1
☒ Magnesium (00925)	146	mg/l	12-1
☒ Sodium (00930)	1280	mg/l	12/4
☒ Potassium (00935)	5.07	mg/l	12/4
☒ Bicarbonate (00440)	565	mg/l	12-3
☒ Chloride (00940)	2901	mg/l	12/5
☒ Sulfate (00945)	2249	mg/l	12/9
☒ Total filterable residue (dissolved) (70300)	9677	mg/l	12/4
☒ Other: CO_3	0		12/8
☒ BR	0.7		12/10

NF, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst | Date Reported 1 5 87 | Reviewed by (CS)

Laboratory remarks:

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

47

ICAP SCAN

SLD Lab No. HM 2424 Reviewed by: Jim Ashby

Analyst JB Date Reported: 1/13/87

Date Analyzed 12/10/86

ELEMENT	ICAP VALUE(mg/l)	AA VALUE(mg/l)
Aluminum	<0.1	
Barium	<0.1	
Beryllium	<0.1	
Boron	0.5	
Cadmium	<0.1	
Calcium	1280.	
Chromium	<0.1	
Cobalt	0.3	
Copper	<0.1	
Iron	0.2	
Lead	<0.1	
Magnesium	105.	
Manganese	2.3	
Molybdenum	<0.1	
Nickel	0.6	
Silicon	7.3	
Silver	<0.1	
Strontium	26	
Tin	<0.1	
Vanadium	<0.1	
Zinc	<0.1	
Arsenic		<0.005
Selenium		
Mercury		

86-1356-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

STATE OF NEW MEXICO
ENVIRONMENT

REPORT TO: David Boyer
N.M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87504-2088
PHONE(S): 827-5812

S.L.D. No. OR- 1356 A+B
DATE REC. 11-26-86
PRIORITY
USER CODE: 8 2 2 3 5
SUBMITTER: David Boyer
CODE: 2 6 0

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) 8 6 1 1 2 4 1 1 2 0 5 A R S

SAMPLE TYPE: WATER [X] SOIL [ ], FOOD [ ], OTHER: _____ CODE: _____

COUNTY: San Juan ; CITY: Lee Acres CODE: _____

LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N + 1 2 W + 2 7 + _ _ _ (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- [ ] (753) Aliphatic Purgeables (1-3 Carbons)
- [X] (754) Aromatic & Halogenated Purgeables
- [ ] (765) Mass Spectrometer Purgeables
- [ ] (766) Trihalomethanes

Other Specific Compounds or Classes

- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____

EXTRACTABLE SCREENS

- [ ] (751) Aliphatic Hydrocarbons
- [ ] (760) Organochlorine Pesticides
- [ ] (755) Base/Neutral Extractables
- [ ] (758) Herbicides, Chlorophenoxy acid
- [ ] (759) Herbicides, Triazines
- [ ] (760) Organochlorine Pesticides
- [ ] (761) Organophosphate Pesticides
- [ ] (767) Polychlorinated Biphenyls (PCB's)
- [ ] (764) Polynuclear Aromatic Hydrocarbons
- [ ] (762) SDWA Pesticides & Herbicides

Remarks: _____

FIELD DATA:

pH= _____; Conductivity= 3150 umho/cm at 17 °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ _____/_____

Depth to water _____ ft.; Depth of well _____ ft.; Perforation Interval _____-_____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

Giant GBR-31, Naproduct

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): W. H. Boyer Method of Shipment to the Lab: Hand Carried

This form accompanies 2 Septum Vials, _____ Glass Jugs, and/or _____ _____

Samples were preserved as follows:

- [ ] NP: No Preservation; Sample stored at room temperature.
- [X] P-Ice Sample stored in an ice bath (Not Frozen).
- [ ] P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Willie Olson to Mary C. Ellis

at (location) HED/SCD on 11 26 86 at 4:15 and that the statements in this block are correct. Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [X] No [ ]

Signatures Willie Olson Mary C. Ellis

For OCD Use: Date Owner Notified _____ Phone or Letter? _____ Initials _____

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

Heavy Metal
~~GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS~~

DATE RECEIVED 11 26 86	LAB NO. HM 2423	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 26 10 21	SITE INFORM-ATION ►	Sample location: Giant, Bloomfield Refinery	
Collection TIME 1220		Collection site description: GBR-27	
Collected by — Person/Agency: BOYER/OLSON/OCD			

SEND FINAL REPORT TO ►
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088
Attn: David Boyer
Phone: 827-5812

Station/well code
Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Pump ☐ Dipped ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 2300 µmho	Water Temp. (00010) 19 °C	Conductivity at 25°C (00094) µmho
Field comments			

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☐ NA: No acid added ☐ Other-specify: ☐ A: 5ml conc. HNO_3 added ☒ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho	
☐ Total non-filterable residue (suspended) (00530)	mg/l	
☒ Other: ICAP		
☒ Other: AS		
☐ Other:		

F, NA	Units	Date analyzed
☐ Calcium (00915)	mg/l	
☐ Magnesium (00925)	mg/l	
☐ Sodium (00930)	mg/l	
☐ Potassium (00935)	mg/l	
☐ Bicarbonate (00440)	mg/l	
☐ Chloride (00940)	mg/l	
☐ Sulfate (00945)	mg/l	
☐ Total filterable residue (dissolved) (70300)	mg/l	
☐ Other:		

NF, A-H_2SO_4	Units	Date analyzed
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l	
☐ Ammonia-N total (00610)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l	
☐ Chemical oxygen demand (00340)	mg/l	
☐ Total organic carbon ( )	mg/l	
☐ Other:		
☐ Other:		

F, A-H_2SO_4	Units	Date analyzed
☐ Nitrate-N +, Nitrate-N dissolved (00631)	mg/l	
☐ Ammonia-N dissolved (00608)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l	
☐ Other:		

Analyst	Date Reported	Reviewed by
	1 13 87	J.T. Ashley

Laboratory remarks: Sample digested

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

ANALYSES PERFORMED

LAB. No.: OR- 1356

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
aromatic purgeables	ND	{1-bromo-2-chloroethane	approx. 10
dichloromethane	TR⊕	{1,2-dichloropropane	TR
1,1-dichloroethane	22		
cis-1,2-dichloroethene	23		
1,2-dichloroethane	TR		
1,1,1-trichloroethane	12		
trichloroethene	12		
tetrachloroethene	16		
* DETECTION LIMIT *	1 ppb	⊕ DETECTION LIMIT ⊕	20 ppb

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT
T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)
[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: Four other compounds were detected by the aromatic screen that were not identified.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☒ No ☐. Seal(s) broken by: _____ date: 12-4/12-11-86

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 4+10 Dec 86 Analyst's signature: _____

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: _____

859 unt

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 11/26/86 | LAB NO. WC 5444 | USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235

Collection DATE 8611/24 | Collection TIME 1350 | SITE INFORM-ATION ► Sample location: Giant, Bloomfield Refinery

Collected by — Person/Agency: BOYER / OLSON / OCD

Collection site description: GBR-27

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/well code:

Owner:

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 2300 µmho	Water Temp. (00010) 19 °C	Conductivity at 25°C (00094) µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	4872	µmho	12/16
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☒ Other: pH	7.71		12/8
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☒ Calcium (00915)	640	mg/l	12-1
☒ Magnesium (00925)	24.4	mg/l	12-1
☒ Sodium (00930)	784	mg/l	12-4
☒ Potassium (00935)	4.29	mg/l	12-4
☒ Bicarbonate (00440)	291	mg/l	12/12
☒ Chloride (00940)	777	mg/l	12/5
☒ Sulfate (00945)	1997	mg/l	12/5 12/16
☒ Total filterable residue (dissolved) (70300)	4616	mg/l	12/4
☒ Other: CO_3	0		12/8
☒ BR	1.4		12/10

NF, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst | Date Reported 12/16/86 | Reviewed by EQ

Laboratory remarks

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

ICAP SCAN

SLD Lab No. HM 2423 Reviewed by: Jim Ashley

Analyst JB Date Reported: 1/13/87

Date Analyzed 10/12/86

ELEMENT	ICAP VALUE(mg/l)	AA VALUE(mg/l)
Aluminum	<0.1	
Barium	<0.1	
Beryllium	<0.1	
Boron	0.5	
Cadmium	<0.1	
Calcium	650.	
Chromium	<0.1	
Cobalt	<0.1	
Copper	<0.1	
Iron	<0.1	
Lead	<0.1	
Magnesium	55.	
Manganese	4.3	
Molybdenum	<0.1	
Nickel	<0.1	
Silicon	6.6	
Silver	<0.1	
Strontium	12.	
Tin	<0.1	
Vanadium	<0.1	
Zinc	<0.1	
Arsenic		<0.005
Selenium		
Mercury		

86- 1360-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

HEALTH ENVIRONMENT — STATE OF NEW MEXICO

REPORT TO: David Boyer
N.M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87504-2088

S.L.D. No. OR- 1360 B,C
DATE REC. 11-26-86
PRIORITY

PHONE(S): 827-5812
USER CODE: 8 2 2 3 5
SUBMITTER: David Boyer
CODE: 2 6 0

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) 861121121212B0B

SAMPLE TYPE: WATER ☒ SOIL ☐, FOOD ☐, OTHER: _____ CODE: _____

COUNTY: San Juan ; CITY: Lee Acres CODE: _____

LOCATION CODE: (Township-Range-Section-Tracts) 29W+12W+17+1111 (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

Remarks: _____

FIELD DATA:

pH= _____; Conductivity= 2300 umho/cm at 19 °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ _____/_____

Depth to water _____ ft.; Depth of well _____ ft.; Perforation Interval _____-_____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

Grant, GBR-27, Recovery Well

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): W. T. Roy Method of Shipment to the Lab: Hand carried

This form accompanies 2 Septum Vials, _____ Glass Jugs, and/or _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☒ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Willie Olson to Mary C. Ellis

at (location) HED/SLD on 11/26/86 4:10 and that the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☒ No ☐

Signatures Willie Olson Mary C. Ellis

For OCD Use: Date Owner Notified _____ Phone or Letter? _____ Initials _____

86- 1378-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106, 841-2570

STATE OF NEW MEXICO
HEALTH & ENVIRONMENT

REPORT TO: David Boyer
N.M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87504-2088

S.L.D. No. OR- 1378 A,B
DATE REC. 11-26-86
PRIORITY 2

PHONE(S): 827-5812
USER CODE: 3 2 2 3 5
SUBMITTER: David Boyer
CODE: 2 6 0

SAMPLE COLLECTION CODE: (YYMMDDHHMMHH) 8 6 1 1 2 1 1 3 0 2 D W B

SAMPLE TYPE: WATER ☒, SOIL ☐, FOOD ☐, OTHER: _____ CODE: _____

COUNTY: San Juan ; CITY: Los Pinos CODE: _____

LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N 1 2 W 2 8 4 2 1 (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (755) Mass Spectrometer Purgeables
- ☐ (756) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

Remarks: _____

FIELD DATA:

pH= _____; Conductivity= _____ umho/cm at _____ °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ ___/____

Depth to water _____ ft.; Depth of Well _____ ft.; Perforation Interval _____ - _____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

M Mulliken - Strong septic odor, Black sediment
Sample from B. Yard Top near well

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): D W Boyer Method of Shipment to the Lab: Hand Carried

This form accompanies 2 Septum Vials, ____ Glass Jugs, and/or ____ _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☒ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Willie Olson to Mary C. Ellis

at (location) HED/SLD on 11/26/86 - 4:00 PM and that the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☒ No ☐

Signatures Willie Olson Mary C. Ellis

For OCD Use: Date Owner Notified _____ Phone or Letter? _____ Initials _____

ANALYSES PERFORMED

LAB. No.: OR- 1360

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
aromatic purgeables	ND*		
1,2-dichloroethane	5		
* DETECTION LIMIT *	5ppb	+ DETECTION LIMIT +	

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT
T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)
[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: * Several other compounds were detected by the aromatic screen that were not identified.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☒ No ☐. Seal(s) broken by: _____ date: 12-4/12-9-86

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 4+9 Dec 86. Analyst's signature: _____

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: _____

86- 1371-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

STATE OF NEW MEXICO
ENVIRONMENT

REPORT TO: David Boyer
N.M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87504-2088
PHONE(S): 827-5812

S.L.D. No. OR- 1371 A-5
DATE REC. 11-26-86
PRIORITY 2
USER CODE: 82235

SUBMITTER: David Boyer
CODE: 260

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) 861126131000 RB

SAMPLE TYPE: WATER ☒ SOIL ☐, FOOD ☐, OTHER: _____ CODE: _____

COUNTY: San Juan ; CITY: Los Acres CODE: _____

LOCATION CODE: (Township-Range-Section-Tracts) 029N+012W+2703+1313 (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☒ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

Remarks: _____

FIELD DATA:

pH= — ; Conductivity= — umho/cm at _____ °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ _____/_____

Depth to water _____ ft.; Depth of well _____ ft.; Perforation Interval _____-_____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

T. Baldwin - Samples From Sub. pump after small pressure Tank purged, slow recovery, No odor

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): T. Baldwin Method of Shipment to the Lab: Hand Carried

This form accompanies 2 Septum Vials, _____ Glass Jugs, and/or _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☒ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Willie Olson to Mary C. Eckstein

at (location) HED/SLD on 11/26/86 @ 4:00 PM and that the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☒ No ☐

Signatures Willie Olson Mary C. Eckstein

For OCD Use: Date Owner Notified _____ Phone or Letter? _____ Initials _____

ANALYSES PERFORMED

LAB. No.: OR- 1378

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
aromatic purgeables	N.D		
1,2-dichloroethane	3		
* DETECTION LIMIT *	* 1 ppb	+ DETECTION LIMIT +	+

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: _____

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☒ No ☐. Seal(s) broken by: _____ date: 12-2-06

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 2 Dec 06. Analyst's signature: _____

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: _____

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

Heavy Metals
~~GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS~~

DATE RECEIVED 1/26/86	LAB NO. HM 2427	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 6/1/21	SITE INFORMATION ▶	Sample location Douglas Harmon	
Collection TIME 1330		Collection site description (AKA Luggin Harmon)	
Collected by — Person/Agency Boyer/OCD/OCD			

SEND FINAL REPORT TO ▶
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088
Attn: David Boyer
Phone: 827-5812

Station/ well code
Owner

SAMPLING CONDITIONS

☐ Bailed ☒ Pump ☐ Dipped ☐ Tap	Water level ~27 FT	Discharge	Sample type GRAB
pH (00400)	Conductivity (Uncorrected) 1300 µmho	Water Temp. (00010) 12 °C	Conductivity at 25°C (00094) µmho

Field comments: Pumped 10 minutes, Faint odor
TD ~87 FT, Age 4 yrs

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☒ NF: Whole sample (Non-filtered) ☐ F: Filtered in field with 0.45 µm membrane filter ☐ A: 2 ml H_2SO_4/L added

☐ NA: No acid added ☐ Other-specify: ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho	
☐ Total non-filterable residue (suspended) (00530)	mg/l	
☒ Other: ICAP		
☒ Other: AS		
☒ Other: Hg		

F, NA	Units	Date analyzed
☐ Calcium (00915)	mg/l	
☐ Magnesium (00925)	mg/l	
☐ Sodium (00930)	mg/l	
☐ Potassium (00935)	mg/l	
☐ Bicarbonate (00440)	mg/l	
☐ Chloride (00940)	mg/l	
☐ Sulfate (00945)	mg/l	
☐ Total filterable residue (dissolved) (70300)	mg/l	
☐ Other:		

NF, A-H_2SO_4	Units	Date analyzed
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l	
☐ Ammonia-N total (00610)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l	
☐ Chemical oxygen demand (00340)	mg/l	
☐ Total organic carbon ( )	mg/l	
☐ Other:		
☐ Other:		

F, A-H_2SO_4	Units	Date analyzed
☐ Nitrate-N +, Nitrate-N dissolved (00631)	mg/l	
☐ Ammonia-N dissolved (00608)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l	
☐ Other:		

Analyst | Date Reported 1/13/87 | Reviewed by JTA

Laboratory remarks

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

ANALYSES PERFORMED

LAB. No.: OR- 1371

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
aromatic purgeables	ND		
halogenated purgeables	ND		
* DETECTION LIMIT *	1 ppb	+ DETECTION LIMIT +	

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: _____

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☒ No ☐. Seal(s) broken by: _____ date: 2 Dec 86

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 2 Dec 86. Analyst's signature: _____

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: _____

851 wm

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 11 26 86	LAB NO. WC 5456	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 86/11/21	SITE INFORM-ATION ►	Sample location Douglas Harmon	
Collection TIME 1330		Collection site description (AKA Duggin Harmon)	
Collected by — Person/Agency Boyer/OCD			

SEND FINAL REPORT TO ►
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088
Attn: David Boyer
Phone: 827-5812

Station/ well code
Owner

SAMPLING CONDITIONS

☐ Bailed ☒ Pump ☐ Dipped ☐ Tap	Water level ~275 ft	Discharge	Sample type GRAB
pH (00400)	Conductivity (Uncorrected) 1300 µmho	Water Temp. (00010) 12 °C	Conductivity at 25°C (00094) µmho
Field comments	Pumped 10 minutes, faint odor TD ~875 ft, Dge 4 yrs		

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted 1

☒ NF: Whole sample (Non-filtered) ☐ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	4219	µmho	12/11
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☒ Other: pH	E.P.		12/2
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☒ Calcium (00915)	420	mg/l	12-1
☒ Magnesium (00925)	36.6	mg/l	12-1
☒ Sodium (00930)	576	mg/l	12-31
☒ Potassium (00935)	5.85	mg/l	12-31
☒ Bicarbonate (00440)	215	mg/l	12/2
☒ Chloride (00940)	SC-1 151	mg/l	12/5
☒ Sulfate (00945)	1123	mg/l	12/9
☒ Total filterable residue (dissolved) (70300)	3736	mg/l	12/9
☒ Other: CO_3	0		12/8
X BR	< 0.2		12/10

NF, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, A-H_2SO_4		
☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l
☐ Ammonia-N dissolved (00608)		mg/l
☐ Total Kjeldahl-N ( )		mg/l
☐ Other:		

Analyst	Date Reported	Reviewed by
	1/5/87	

Laboratory remarks

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

ICAP SCAN

SLD Lab No. HM2427 Reviewed by: Jim Ashby

Analyst JB Date Reported: 1/13/87

Date Analyzed 12/5/86

ELEMENT	ICAP VALUE(mg/l)	AA VALUE(mg/l)
Aluminum	<0.1	
Barium	<0.1	
Beryllium	<0.1	
Boron	0.3	
Cadmium	<0.1	
Calcium	560.	
Chromium	<0.1	
Cobalt	<0.1	
Copper	<0.1	
Iron	1.0	
Lead	<0.1	
Magnesium	30.	
Manganese	0.52	
Molybdenum	<0.1	
Nickel	<0.1	
Silicon	7.5	
Silver	<0.1	
Strontium	10.	
Tin	<0.1	
Vanadium	<0.1	
Zinc	0.9	
Arsenic		<0.005
Selenium		
Mercury		<0.0005

86-1373-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

STATE OF NEW MEXICO
ENERGY, MINERALS & NATURAL RESOURCES DEPARTMENT

REPORT TO: David Boyer
N.M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87504-2088
PHONE(S): 827-5812

S.L.D. No. OR- 13733 A, B
DATE REC. 11-26-86
PRIORITY 2
USER CODE: 8 2 2 3 5

SUBMITTER: David Boyer
CODE: 2 6 0

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) 8 6 1 1 2 1 1 3 3 0 A B

SAMPLE TYPE: WATER ☒, SOIL ☐, FOOD ☐, OTHER: _____ CODE: _____

COUNTY: San Juan ; CITY: Bloomfield CODE: _____

LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N + 1 2 W + 2 7 + 1 3 1 (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- ☐ (783) Aliphatic Purgeables (1-3 Carbons)
- ☒ (784) Aromatic & Halogenated Purgeables
- ☐ (785) Mass Spectrometer Purgeables
- ☐ (786) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

Remarks: Douglas Harmon Well (aka Duggin-Harmon) aka Duggin)

FIELD DATA:

pH= ~ ; Conductivity= 1300 umho/cm at 12 °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ / _____

Depth to water 27 ft.; Depth of well 80 ft.; Perforation Interval _____ - _____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

Faint odor of hydrocarbon - Location 100' East of M. Duggin well, Low Acres

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): [signature] Method of Shipment to the Lab: Hand carried

This form accompanies 2 Septum Vials, _____ Glass Jugs, and/or _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☒ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Willie Olson to Mary C. Eblen

at (location) HED/SLD on 11/26/86 at 4:05 PM and that the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☒ No ☐

Signatures Willie Olson Mary C. Eblen

For OCD Use: Date Owner Notified _____ Phone or Letter? _____ Initials _____

86-1368-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

STATE OF NEW MEXICO
ENVIRONMENT

REPORT TO: David Boyer
N.M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87504-2088

S.L.D. No. OR- 13688,13
DATE REC. 11-26-86
PRIORITY

PHONE(S): 827-5812
USER CODE: 8 2 2 3 5
SUBMITTER: David Boyer
CODE: 2 6 0

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) 8 6 1 1 2 1 1 3 5 0 A 1 8

SAMPLE TYPE: WATER ☒, SOIL ☐, FOOD ☐, OTHER: _____ CODE: _____

COUNTY: San Juan; CITY: Lee Acres CODE: _____

LOCATION CODE: (Township-Range-Section-Tracts) 29N 12W 27 + 13 (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (755) Mass Spectrometer Purgeables
- ☐ (756) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

Remarks: _____

FIELD DATA:

pH= _____; Conductivity= 3000 umho/cm at 16 °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ ____/____

Depth to water _____ ft.; Depth of well _____ ft.; Perforation Interval ____-____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

M. Duggin Well (100' W of Duggin Harmon)
Yellowish-orange color, strong Hydrocarbon odor

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): D.H. Boyer Method of Shipment to the Lab: Hand

This form accompanies 2 Septum Vials, ____ Glass Jugs, and/or ____ _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☒ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Willie Olson to Mary C. Tobin

at (location) HED/SLD on 11/26/86 4:05PM and that the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☒ No ☐

Signatures Willie Olson Mary C. Tobin

For OCD Use: Date Owner Notified _____ Phone or Letter? _____ Initials _____

ANALYSES PERFORMED

LAB. No.: OR- 1373

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
~~Et~~			
1,1-dichloroethane	2		
cis-1,2-dichloroethene	1		
1,2-dichloroethane	3		
Trichloroethene	TR		
Benzene	8		
* DETECTION LIMIT *	* 1 ppb	+ DETECTION LIMIT +	+

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: _____

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☒ No ☐. Seal(s) broken by: JCT date: 12+2 Dec 86

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 2+10 Dec 86 Analyst's signature: [signature]

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: [signature]

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 11 26 84	LAB NO. WC-57454	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 8611121	SITE INFORMATION ▶	Sample location M. Duggin	
Collection TIME 1350		Collection site description (100' W of Duggin Hobbson well)	
Collected by — Person/Agency RAYR / OLSEN / OCD			

SEND FINAL REPORT TO ▶
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088
Attn: David Boyer
Phone: 827-5812

Station/ well code
Owner

SAMPLING CONDITIONS

☐ Bailed ☒ Pump ☐ Dipped ☐ Tap	Water level ~27	Discharge	Sample type GRAB
pH (00400)	Conductivity (Uncorrected) 3000 µmho	Water Temp. (00010) 16 °C	Conductivity at 25°C (00094) µmho

Field comments Age Approx 3-9 yrs, TD~58 FT
Pumped approx 1.5 Minutes

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted 1

☒ NF: Whole sample (Non-filtered) ☐ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-specify: ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	8110	µmho	12/16
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☒ Other: pH	7.51		12/8
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☒ Calcium (00915)	1070	mg/l	12-1
☒ Magnesium (00925)	40.2	mg/l	12-1
☒ Sodium (00930)	846	mg/l	12-21
☒ Potassium (00935)	3.51	mg/l	12-21
☒ Bicarbonate (00440)	613	mg/l	12/8
☒ Chloride (00940)	2162	mg/l	12/5
☒ Sulfate (00945)	1949	mg/l	12/16
☒ Total filterable residue (dissolved) (70300)	6724	mg/l	12/16
☒ Other: CO_3	0		12/8
☒ BR	5.0		12/10

NF, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst	Date Reported	Reviewed by
	1 7 85	

Laboratory remarks

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

ANALYSES PERFORMED

LAB. No.: OR- 1368

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
benzene	560	1,1-dichloroethane	43
toluene	4	cis-1,2-dichloroethene	16
ethylbenzene	ND	1,2-dichloroethane	23
p-Xylene	4	~~chloroform~~	~~TR~~
m-Xylene	ND	1,1,1-trichloroethane	6
o-Xylene	32	trichloroethene	11
		[1-bromo-2-Cl-ethane]	approx 3
1,2-dichlorobenzene	TR		
dichloromethane	TR⊕	[1,2-dichloropropane]	TR
* DETECTION LIMIT *	* 1 ppb	⊕ DETECTION LIMIT ⊕	20 ppb

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT
T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)
[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: Ten other compounds were detected by the aromatic screen that were not identified.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☒ No ☐. Seal(s) broken by: [illegible] date: 12-4 & 12-10-86

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 4 + 10 Dec 86 Analyst's signature: [signature]

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: [signature]

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

Heavy Metals
~~GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS~~

DATE RECEIVED 11 26 86	LAB NO. HM 2417	USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235	
Collection DATE 86 11 21	SITE INFORMATION ▶	Sample location M. Duggin	
Collection TIME 1350		Collection site description (100' W of Duggin Hormon Well)	
Collected by — Person/Agency Boyer / Olson / OCD			

SEND FINAL REPORT TO ▶
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088
Attn: David Boyer
Phone: 827-5812

Station/well code
Owner

SAMPLING CONDITIONS

☐ ~~Drained~~ ☐ Dipped ☒ Pump ☐ Tap	Water level ~27	Discharge	Sample type GRAB
pH (00400)	Conductivity (Uncorrected) 3000 µmho	Water Temp. (00010) 16 °C	Conductivity at 25°C (00094) µmho

Field comments Age Approx 8-9 yrs, TD ~ 58 ft
Pumped approx 15 minutes

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted 1

☐ NF: Whole sample (Non-filtered) (☒ F: Filtered in field with 0.45 µm membrane filter) ☐ A: 2 ml H_2SO_4/L added

☐ NA: No acid added ☐ Other-specify: ☐ A: 5ml conc. HNO_3 added ☒ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed	F, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho		☐ Calcium (00915)	mg/l	
☐ Total non-filterable residue (suspended) (00530)	mg/l		☐ Magnesium (00925)	mg/l	
☒ Other: ICAP			☐ Sodium (00930)	mg/l	
☒ Other: As			☐ Potassium (00935)	mg/l	
☒ Other: Hg			☐ Bicarbonate (00440)	mg/l	
			☐ Chloride (00940)	mg/l	
			☐ Sulfate (00945)	mg/l	
			☐ Total filterable residue (dissolved) (70300)	mg/l	
			☐ Other:		

NF, A-H_2SO_4	Units	Date analyzed	F, A-H_2SO_4	Units	Date analyzed
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l		☐ Nitrate-N +, Nitrate-N dissolved (00631)	mg/l	
☐ Ammonia-N total (00610)	mg/l		☐ Ammonia-N dissolved (00608)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l		☐ Total Kjeldahl-N ( )	mg/l	
☐ Chemical oxygen demand (00340)	mg/l		☐ Other:		
☐ Total organic carbon ( )	mg/l				
☐ Other:					
☐ Other:					

Analyst | Date Reported 1 13 87 | Reviewed by Jim Ashley

Laboratory remarks Sample digested

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

Heavy Metal
~~GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS~~

DATE RECEIVED 11 26 86 | LAB NO. HM 2416 | USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235

Collection DATE 8 11 21 | SITE INFORMATION ▶ | Sample location M. Duggin

Collection TIME 1350 | Collection site description 1000' W of Duggin Harmon Well

Collected by — Person/Agency BAKER / OLSEN / OCD

SEND FINAL REPORT TO ▶
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/well code

Owner

SAMPLING CONDITIONS

~~☒ Bailed~~ ☒ Pump ☐ Dipped ☐ Tap | Water level ~27 | Discharge | Sample type GRAB

pH (00400) | Conductivity (Uncorrected) 3000 µmho | Water Temp. (00010) 16 °C | Conductivity at 25°C (00094) µmho

Field comments Age Approx 3-9 yrs, TD ~58 FT
Pumped approx 15 Minutes

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted 1 | ☒ NF: Whole sample (Non-filtered) | ☐ F: Filtered in field with 0.45 µmembrane filter | ☐ A: 2 ml H_2SO_4/L added

☐ NA: No acid added ☐ Other-*specify:* | ☐ A: 5ml conc. HNO_3 added | ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)		µmho	
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☒ Other: Icap			
☒ Other: As			
☒ Other: Hg			

F, NA		Units	Date analyzed
☐ Calcium (00915)		mg/l	
☐ Magnesium (00925)		mg/l	
☐ Sodium (00930)		mg/l	
☐ Potassium (00935)		mg/l	
☐ Bicarbonate (00440)		mg/l	
☐ Chloride (00940)		mg/l	
☐ Sulfate (00945)		mg/l	
☐ Total filterable residue (dissolved) (70300)		mg/l	
☐ Other:			

NF, A-H_2SO_4

☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, A-H_2SO_4

☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst | Date Reported 1 13 87 | Reviewed by Jim Ashley

Laboratory remarks Sample digested

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

ICAP SCAN

SLD Lab No. HM2417 Reviewed by: Jim Ashley

Analyst JB Date Reported: 1/13/87

Date Analyzed 12/10/86

ELEMENT	ICAP VALUE(mg/l)	AA VALUE(mg/l)
Aluminum	<0.1	
Barium	<0.1	
Beryllium	<0.1	
Boron	0.4	
Cadmium	<0.1	
Calcium	1110.	
Chromium	<0.1	
Cobalt	<0.1	
Copper	<0.1	
Iron	0.2	
Lead	<0.1	
Magnesium	104.	
Manganese	4.8	
Molybdenum	<0.1	
Nickel	0.4	
Silicon	7.6	
Silver	<0.1	
Strontium	21.	
Tin	<0.1	
Vanadium	<0.1	
Zinc	<0.1	
Arsenic		<0.005
Selenium		
Mercury		<0.0005

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

859 WNW

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 11/26/86 | LAB NO. WC 5455 | USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235

Collection DATE 86/11/21 | SITE INFORMATION ▶ | Sample location: Giant, Bloom Field Refinery

Collection TIME 1435 | Collection site description: GBR-18

Collected by — Person/Agency: BOYER/OLSON/OCD

SEND FINAL REPORT TO ▶
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088
Attn: David Boyer
Phone: 827-5812

Station/well code:
Owner:

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 1950 µmho	Water Temp. (00010) 16.5 °C	Conductivity at 25°C (00094) µmho

Field comments:

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☒ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-*specify*: ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	4586	µmho	12/16
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☒ Other: pH	7.79		12/2
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☒ Calcium (00915)	460	mg/l	12-1
☒ Magnesium (00925)	17.6	mg/l	12-1
☒ Sodium (00930)	990	mg/l	12-21
☒ Potassium (00935)	15.6	mg/l	12-21
☒ Bicarbonate (00440)	163	mg/l	12/8
☒ Chloride (00940)	241/245	mg/l	12/5
☒ Sulfate (00945)	2836	mg/l	12/16
☒ Total filterable residue (dissolved) (70300)	4335	mg/l	12/9
☒ Other: CO_3	0		12/8
☒ BR	< 0.2		12/10

NF, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst | Date Reported 1/5/87 | Reviewed by CD

Laboratory remarks:

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

ICAP SCAN

SLD Lab No. HM 2416 Reviewed by: Jim Ashley

Analyst GB Date Reported: 1/13/87

Date Analyzed 12/10/86

ELEMENT	ICAP VALUE(mg/l)	AA VALUE(mg/l)
Aluminum	<0.1	
Barium	<0.1	
Beryllium	<0.1	
Boron	0.4	
Cadmium	<0.1	
Calcium	1110.	
Chromium	<0.1	
Cobalt	<0.1	
Copper	<0.1	
Iron	20.	
Lead	<0.1	
Magnesium	104.	
Manganese	4.9	
Molybdenum	<0.1	
Nickel	0.4	
Silicon	8.8	
Silver	<0.1	
Strontium	21.	
Tin	<0.1	
Vanadium	<0.1	
Zinc	<0.1	
Arsenic		<0.005
Selenium		
Mercury		<0.0005

86- 1376-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

STATE OF NEW MEXICO ENVIRONMENT

REPORT TO: David Boyer
N.M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87504-2088
PHONE(S): 827-5812

S.L.D. No. OR- 13769,B
DATE REC. 11-26-86
PRIORITY
USER CODE: 8 2 2 3 5
SUBMITTER: David Boyer
CODE: 2 6 0

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) 861121142152KS

SAMPLE TYPE: WATER [X] SOIL [ ], FOOD [ ], OTHER:_____ CODE:

COUNTY: San Juan ; CITY: Los Aztec CODE:

LOCATION CODE: (Township-Range-Section-Tracts) 29W+12W+22+332 (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- [ ] (753) Aliphatic Purgeables (1-3 Carbons)
- [X] (754) Aromatic & Halogenated Purgeables
- [ ] (765) Mass Spectrometer Purgeables
- [ ] (766) Trihalomethanes

Other Specific Compounds or Classes

- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____

EXTRACTABLE SCREENS

- [ ] (751) Aliphatic Hydrocarbons
- [ ] (760) Organochlorine Pesticides
- [ ] (755) Base/Neutral Extractables
- [ ] (758) Herbicides, Chlorophenoxy acid
- [ ] (759) Herbicides, Triazines
- [ ] (760) Organochlorine Pesticides
- [ ] (761) Organophosphate Pesticides
- [ ] (767) Polychlorinated Biphenyls (PCB's)
- [ ] (764) Polynuclear Aromatic Hydrocarbons
- [ ] (762) SDWA Pesticides & Herbicides

Remarks:_____

FIELD DATA:

pH=_____; Conductivity=1950 mho/cm at 16.5 °C; Chlorine Residual=_____ mg/l

Dissolved Oxygen=_____mg/l; Alkalinity=_____mg/l; Flow Rate_____ ____/____

Depth to water _____ft.; Depth of well_____ft.; Perforation Interval _____-_____ft.; Casing:_____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

Grant GBR-18

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): D.F. Boyer Method of Shipment to the Lab: Hand carried

This form accompanies 2 Septum Vials, ____ Glass Jugs, and/or ____ _____

Samples were preserved as follows:

- [ ] NP: No Preservation; Sample stored at room temperature.
- [X] P-Ice Sample stored in an ice bath (Not Frozen).
- [ ] P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Willie Olsen to Terry C. Ellis

at (location) HED/SLD on 11/26/86 4:02PM and that the statements in this block are correct. Evidentiary Seals: Not Sealed [ ] Seals Intact: Yes [X] No [ ]

Signatures Willie Olsen Terry C. Ellis

For OCD Use: Date Owner Notified _____ Phone or Letter?_____ Initials _____

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

Heavy Metal
~~GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS~~

DATE RECEIVED 11/26/86 | LAB NO. HM2429 | USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235

Collection DATE 86/11/21 | Collection TIME 1430 | Collected by — Person/Agency BOYER/OLSON/OCD

SITE INFORMATION ▶

Sample location: Giant, Bloomfield Refinery

Collection site description: GBR-17

SEND FINAL REPORT TO ▶

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/well code

Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 1580 µmho	Water Temp. (00010) 16 °C	Conductivity at 25°C (00094) µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µm membrane filter ☐ A: 2 ml H_2SO_4/L added

☐ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☒ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho	
☐ Total non-filterable residue (suspended) (00530)	mg/l	
☒ Other: ICAP		
☒ Other: As		
☐ Other:		

F, NA	Units	Date analyzed
☐ Calcium (00915)	mg/l	
☐ Magnesium (00925)	mg/l	
☐ Sodium (00930)	mg/l	
☐ Potassium (00935)	mg/l	
☐ Bicarbonate (00440)	mg/l	
☐ Chloride (00940)	mg/l	
☐ Sulfate (00945)	mg/l	
☐ Total filterable residue (dissolved) (70300)	mg/l	
☐ Other:		

NF, A-H_2SO_4		
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l	
☐ Ammonia-N total (00610)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l	
☐ Chemical oxygen demand (00340)	mg/l	
☐ Total organic carbon ( )	mg/l	
☐ Other:		
☐ Other:		

F, A-H_2SO_4		
☐ Nitrate-N +, Nitrate-N dissolved (00631)	mg/l	
☐ Ammonia-N dissolved (00608)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l	
☐ Other:		

Analyst | Date Reported 1/13/87 | Reviewed by Jim Ashley

Laboratory remarks

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

ANALYSES PERFORMED

LAB. No.: OR- 1376

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
aromatic purgeables	ND		
halogenated purgeables	ND		
* DETECTION LIMIT *	5ppb	+ DETECTION LIMIT +	

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: _____

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☒ No ☐. Seal(s) broken by: _____ date: 12-4-96

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 4 Dec 96. Analyst's signature: _____

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: _____

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 11 26 86 | LAB NO. WC 5451 | USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235

Collection DATE 86/11/24 | SITE INFORMATION ▶ | Sample location: Giant, Bloomfield Refinery

Collection TIME ~~1445~~ 1450 | Collection site description: GBR-17

Collected by — Person/Agency: BOYER / OLSON / OCD

SEND FINAL REPORT TO ▶
ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/well code:

Owner:

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 1500 µmho	Water Temp. (00010) 16 °C	Conductivity at 25°C (00094) µmho

Field comments:

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	4078	µmho	12/16
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☒ Other: pH	8.19		12/8
☐ Other:			
☐ Other:			

NF, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☒ Calcium (00915)	570	mg/l	12-4
☒ Magnesium (00925)	70.8	mg/l	12-4
☒ Sodium (00930)	358.8	mg/l	12-4
☒ Potassium (00935)	20.5	mg/l	12-4
☒ Bicarbonate (00440)	312	mg/l	12/12
☒ Chloride (00940)	671/649	mg/l	12/15
☒ Sulfate (00945)	1344	mg/l	12/15
☒ Total filterable residue (dissolved) (70300)	3434	mg/l	12/9
☒ Other: CO_3	0		12/8
☒ BR	1.7		12/10

F, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst	Date Reported	Reviewed by
	12/16/86	CO

Laboratory remarks:

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

ICAP SCAN

SLD Lab No. HM 2429 Reviewed by: Jim Ashley

Analyst JB Date Reported: 1/13/87

Date Analyzed 12/5/86

ELEMENT	ICAP VALUE(mg/l)	AA VALUE(mg/l)
Aluminum	<0.1	
Barium	<0.1	
Beryllium	<0.1	
Boron	0.2	
Cadmium	<0.1	
Calcium	660.	
Chromium	<0.1	
Cobalt	<0.1	
Copper	<0.1	
Iron	<0.1	
Lead	<0.1	
Magnesium	54.	
Manganese	<0.05	
Molybdenum	<0.1	
Nickel	0.1	
Silicon	6.2	
Silver	<0.1	
Strontium	11.	
Tin	<0.1	
Vanadium	<0.1	
Zinc	<0.1	
Arsenic		<0.005
Selenium		
Mercury		

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106, 841-2570

STATE OF NEW MEXICO
ENVIRONMENT

86-1369-C

REPORT TO: David Boyer
N.M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87504-2088

S.L.D. No. OR- 1369 A, B
DATE REC. 11-26-86
PRIORITY

PHONE(S): 327-5812
USER CODE: 8 2 2 3 5

SUBMITTER: David Boyer
CODE: 2 6 0

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) 8 6 1 1 2 1 1 4 5 0 A B

SAMPLE TYPE: WATER ☒, SOIL ☐, FOOD ☐, OTHER: _____ CODE: _____

COUNTY: San Juan ; CITY: Lee Acres CODE: _____

LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N + 1 2 W + 2 2 + 3 3 3 (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- ☐ (783) Aliphatic Purgeables (1-3 Carbons)
- ☒ (784) Aromatic & Halogenated Purgeables
- ☐ (785) Mass Spectrometer Purgeables
- ☐ (786) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

Remarks: _____

FIELD DATA:

pH= _____; Conductivity= 1500 umho/cm at 16 °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ / _____

Depth to water _____ ft.; Depth of well _____ ft.; Perforation Interval _____ - _____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

Grant, GBR-17

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): D. V. Boyer Method of Shipment to the Lab: Hand Carried

This form accompanies 2 Septum Vials, 1 Glass Jugs, and/or _____ _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☒ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Willie Olson to Mary C. Eiden

at (location) HED/SLD on 11/26/86 4:02 PM and that

the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☐ No ☐

Signatures Willie Olson Mary C. Eiden

For OCD Use: Date Owner Notified _____ Phone or Letter? _____ Initials _____

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

Heavy metal
~~GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS~~

DATE RECEIVED 11/26/86 | LAB NO. HM 2428 | USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235

Collection DATE 86/11/21 | Collection TIME 1510 | Collected by — Person/Agency BOYER/OLSON/OCD

SITE INFORMATION

Sample location: Giant, Bloomfield Refinery

Collection site description: GBR-19

SEND FINAL REPORT TO ▶

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/ well code

Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 1100 µmho	Water Temp. (00010) 16 °C	Conductivity at 25°C (00094) µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µm membrane filter ☐ A: 2 ml H_2SO_4/L added

☐ NA: No acid added ☐ Other-*specify:* ☐ A: 5ml conc. HNO_3 added ☒ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed	F, NA	Units	Date analyzed
☐ Conductivity (Corrected) 25°C (00095)	µmho		☐ Calcium (00915)	mg/l	
☐ Total non-filterable residue (suspended) (00530)	mg/l		☐ Magnesium (00925)	mg/l	
☒ Other: ICAP			☐ Sodium (00930)	mg/l	
☒ Other: AS			☐ Potassium (00935)	mg/l	
☐ Other:			☐ Bicarbonate (00440)	mg/l	
			☐ Chloride (00940)	mg/l	
			☐ Sulfate (00945)	mg/l	
			☐ Total filterable residue (dissolved) (70300)	mg/l	
			☐ Other:		

NF, A-H_2SO_4			F, A-H_2SO_4		
☐ Nitrate-N +, Nitrate-N total (00630)	mg/l		☐ Nitrate-N +, Nitrate-N dissolved (00631)	mg/l	
☐ Ammonia-N total (00610)	mg/l		☐ Ammonia-N dissolved (00608)	mg/l	
☐ Total Kjeldahl-N ( )	mg/l		☐ Total Kjeldahl-N ( )	mg/l	
☐ Chemical oxygen demand (00340)	mg/l		☐ Other:		
☐ Total organic carbon ( )	mg/l				
☐ Other:					
☐ Other:					

Analyst | Date Reported 1/13/87 | Reviewed by Jim Ashby

Laboratory remarks

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

ANALYSES PERFORMED

LAB. No.: OR- 1367

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
benzene	TR	dichloromethane	TR ⊕
		1,1-dichloroethane	6
		1,1,1-trichloroethane	7
		trichloroethene	TR
		tetrachloroethene	TR
		~~Bz~~	
* DETECTION LIMIT *	* 1 ppb	⊕ DETECTION LIMIT ⊕	⊕ 20 ppb

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: _____

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☒ No ☐. Seal(s) broken by: [illegible] date: 12-4-12:16:86

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 4-10 Dec 86. Analyst's signature: [signature]

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: [signature]

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106 — (505) 841-2555

851

GENERAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 11/26/86 | LAB NO. WC 5950 | USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235

Collection DATE 86/11/21 | Collection TIME 1510 | SITE INFORM-ATION ► | Sample location: Giant, Bloomfield Refinery

Collected by — Person/Agency: BOYER/OLSON/OCD | Collection site description: GBR-19

SEND FINAL REPORT TO ►

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg, PO Box 2088
Santa Fe, NM 87504-2088

Attn: David Boyer

Phone: 827-5812

Station/well code

Owner

SAMPLING CONDITIONS

☒ Bailed ☐ Dipped ☐ Pump ☐ Tap	Water level	Discharge	Sample type
pH (00400)	Conductivity (Uncorrected) 1100 µmho	Water Temp. (00010) 16 °C	Conductivity at 25°C (00094) µmho

Field comments

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted: 1

☐ NF: Whole sample (Non-filtered) ☒ F: Filtered in field with 0.45 µmembrane filter ☐ A: 2 ml H_2SO_4/L added

☒ NA: No acid added ☐ Other-specify: ☐ A: 5ml conc. HNO_3 added ☐ A: 4ml fuming HNO_3 added

ANALYTICAL RESULTS from SAMPLES

NF, NA		Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	2655	µmho	12/16
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☒ Other: pH	7.66		12/8
☐ Other:			
☐ Other:			

F, NA		Units	Date analyzed
☒ Calcium (00915)	300	mg/l	12-1
☒ Magnesium (00925)	17.2	mg/l	12-1
☒ Sodium (00930)	276	mg/l	12-4
☒ Potassium (00935)	10.73	mg/l	12-4
☒ Bicarbonate (00440)	514	mg/l	12/8
☒ Chloride (00940)	547	mg/l	12/5
☒ Sulfate (00945)	461	mg/l	12/15
☒ Total filterable residue (dissolved) (70300)	1334	mg/l	12/9
☒ Other: CO_3	0		12/8
☒ BR	1.5		12/10

NF, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N total (00630)		mg/l	
☐ Ammonia-N total (00610)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Chemical oxygen demand (00340)		mg/l	
☐ Total organic carbon ( )		mg/l	
☐ Other:			
☐ Other:			

F, A-H_2SO_4			
☐ Nitrate-N +, Nitrate-N dissolved (00631)		mg/l	
☐ Ammonia-N dissolved (00608)		mg/l	
☐ Total Kjeldahl-N ( )		mg/l	
☐ Other:			

Analyst	Date Reported	Reviewed by
	12/16/86	

Laboratory remarks

FOR OCD USE -- Date Owner Notified _____ Phone or Letter? _____ Initals _____

ICAP SCAN

SLD Lab No. HM 2428 Reviewed by: Jim Ashley

Analyst QB Date Reported: 1/13/87

Date Analyzed 12/5/86

ELEMENT	ICAP VALUE(mg/l)	AA VALUE(mg/l)
Aluminum	<0.1	
Barium	0.4	
Beryllium	<0.1	
Boron	0.2	
Cadmium	<0.1	
Calcium	390.	
Chromium	<0.1	
Cobalt	<0.1	
Copper	<0.1	
Iron	0.7	
Lead	<0.1	
Magnesium	35.	
Manganese	5.2	
Molybdenum	<0.1	
Nickel	<0.1	
Silicon	8.5	
Silver	<0.1	
Strontium	7.4	
Tin	<0.1	
Vanadium	<0.1	
Zinc	<0.1	
Arsenic		<0.005
Selenium		
Mercury		

86- 1355-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 · 841-2570

STATE OF NEW MEXICO ENVIRONMENT

REPORT TO: David Boyer
N.M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87504-2088

S.L.D. No. OR- 13-55 1743
DATE REC. 11-26-96
PRIORITY

PHONE(S): 827-5812
USER CODE: 8 2 2 3 5
SUBMITTER: David Boyer
CODE: 2 6 0

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) 8 6 1 1 2 1 1 5 1 0 B-913

SAMPLE TYPE: WATER ☒, SOIL ☐, FOOD ☐, OTHER: _____ CODE: _____

COUNTY: San Juan ; CITY: Lee Acres CODE: _____

LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N + 1 2 W + 2 7 + 1 1 3 (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

Remarks: _____

FIELD DATA:

pH= _____; Conductivity= 1102 mho/cm at 16 °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ _____/_____

Depth to water _____ ft.; Depth of well _____ ft.; Perforation Interval _____ - _____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

Grant, GBR-19

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): A. H. Rains Method of Shipment to the Lab: Hand carried

This form accompanies 2 Septum Vials, 1 Glass Jugs, and/or _____ _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☒ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Willa Olson to Gary C. Allen

at (location) HEM/SLD on 11/26/96 - 4:15 and that the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☒ No ☐

Signatures Willa Olson Gary C. Allen

For OCD Use: Date Owner Notified _____ Phone or Letter? _____ Initials _____

86- 1363-C

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

STATE OF NEW MEXICO
ENVIRONMENT

REPORT TO: David Boyer
N.M. Oil Conservation Division
P. O. Box 2088
Santa Fe, N.M. 87504-2088

S.L.D. No. OR- 1363A-B
DATE REC. 11-26-86
PRIORITY

PHONE(S): 827-5812
USER CODE: 8 2 2 3 5

SUBMITTER: David Boyer
CODE: 2 6 0

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) 8 6 1 1 2 6 1 1 5 3 5 A & B

SAMPLE TYPE: WATER ☒, SOIL ☐, FOOD ☐, OTHER: _____ CODE: _____

COUNTY: San Juan ; CITY: Los Baros CODE: _____

LOCATION CODE: (Township-Range-Section-Tracts) 29N+12W+27+1 1 3 (10N06E24342)

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

Remarks: _____

FIELD DATA:

pH= _____; Conductivity= _____ umho/cm at _____ °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ ____/____

Depth to water _____ ft.; Depth of well _____ ft.; Perforation Interval _____ - _____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

Giant, Burn pit seep, sample from pipe ~~with~~ installed 6/86 by Boyer/Hicks, oil sheen on H₂O

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): D.R. Boyer Method of Shipment to the Lab: Hand

This form accompanies 2 Septum Vials, 1 Glass Jugs, and/or _____ _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☒ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

CHAIN OF CUSTODY

I certify that this sample was transferred from Willie Olson to Kim C. Olson

at (location) HED/SLD on 11/26/86 4:13 and that the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ Seals Intact: Yes ☒ No ☐

Signatures Willie Olson Kim C. Olson

For OCD Use: Date Owner Notified _____ Phone or Letter? _____ Initials _____

ANALYSES PERFORMED

LAB. No.: OR- 1355

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
benzene	200	1,1-dichloroethene	4
toluene	18	cis-1,2-dichloroethene	4
ethylbenzene	270	trichloroethene	11
p-Xylene	140	1,2-dichloroethane	10
m-Xylene	34	tetrachloroethene	TR
o-Xylene	100	1,2-dichlorobenzene	TR
* DETECTION LIMIT *	5 ppb	+ DETECTION LIMIT +	

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT
T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)
[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: Ten other compounds were detected by the aromatic screen that were not identified.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☒ No ☐. Seal(s) broken by: QT date: 12-1/12-7-86

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 4+9 Dec 86. Analyst's signature: M. Tierney

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: Richard Mingrone

8607150730

ASSAIGAI ANALYTICAL LABORATORIES

TO: Geoscience Consultants Ltd.
Attn: Nike Selke
500 Copper NW Suite 325
Albuquerque, NM 87102

DATE: 26 August 1986
1190

SAMPLE ID: 8607150730 GBR-17

ANALYTE	ANALTYICAL RESULTS	NOMINAL DETECTION LIMIT
Carbon Tetrachloride	<1 ug/l	1 ug/l
Chloroform	<1 ug/l	1 ug/l
1,1-Dichloroethane	<1 ug/l	1 ug/l
1,2-Dichloroethylene	<1 ug/l	1 ug/l
1,1-Dichloroethylene	<1 ug/l	1 ug/l
trans-1,2-Dichloroethylene	<1 ug/l	1 ug/l
1,1,2,2-Tetrachloroethane	<1 ug/l	1 ug/l
1,1,1,2-Tetrachloroethane	<1 ug/l	1 ug/l
Tetrachloroethylene	<1 ug/l	1 ug/l
1,1,1-Trichloroethane	<1 ug/l	1 ug/l
1,1,2-Trichloroethane	<1 ug/l	1 ug/l
Trichloroethylene	<1 ug/l	1 ug/l
Benzene	<1 ug/l	1 ug/l
Toluene	<1 ug/l	1 ug/l
Xylenes	<1 ug/l	1 ug/l

REFERENCE: "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", USEPA, SW 846, EMSL-Cincinnati, 1982

An invoice for services is enclosed. Thank you for contacting Assaigai Labortories.

Sincerely,

Jennifer V. Smith

Jennifer V. Smith, Ph.D.
Laboratory Director

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

ANALYSES PERFORMED

LAB. No.: OR- 1363

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Purgeables (1-3 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (760) Organochlorine Pesticides
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
Benzene	3800	[cis-1,2-dichloroethene]	TR
Toluene	1200		
Ethylbenzene	180		
p-Xylene	460		
m-Xylene	1300		
o-Xylene	1100		
1,2-dichloroethane	11		
[chloroform]	TR		
* DETECTION LIMIT *	20ppb	+ DETECTION LIMIT +	+

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT
T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)
[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: Several other compounds were detected by the aromatic screen that were not identified.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes ☒ No ☐. Seal(s) broken by: [illegible] date: 12/8/96

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 4+9 Dec 96 Analyst's signature: M Finney

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: [signature]

8607151810

ASSAIGAI ANALYTICAL LABORATORIES

TO: Geoscience Consultants Ltd.
Attn: Mike Selke
500 Copper NW Suite 325
Albuquerque, NM 87102

DATE: 26 August 1986
1190

SAMPLE ID: 8607151810 GBR-11

Mixture of Gasoline and Diesel

8607151830

ASSAIGAI ANALYTICAL LABORATORIES

TO: Geoscience Consultants Ltd.
Attn: Mike Selke
500 Copper NW Suite 325
Albuquerque, NM 87102

DATE: 26 August 1986
1190

SAMPLE ID: 8607151830 GBR-13

Mixture of Gasoline and Diesel

REFERENCE: "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", USEPA, SW 846, EMSL-Cincinnati, 1982

An invoice for services is enclosed. Thank you for contacting Assaigai Labortories.

Sincerely,

Jennifer V. Smith

Jennifer V. Smith, Ph.D.
Laboratory Director

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

8607151900

ASSAIGAI ANALYTICAL LABORATORIES

TO: Geoscience Consultants Ltd.
Attn: Mike Selke
500 Copper NW Suite 325
Albuquerque, NM 87102

DATE: 26 August 1986
1190

SAMPLE ID: 8607151900 GBR-28

ANALYTE	ANALTYICAL RESULTS	NOMINAL DETECTION LIMIT
Carbon Tetrachloride	<1 ug/l	1 ug/l
Chloroform	<1 ug/l	1 ug/l
1,1-Dichloroethane	<1 ug/l	1 ug/l
1,2-Dichloroethylene	<1 ug/l	1 ug/l
1,1-Dichloroethylene	<1 ug/l	1 ug/l
trans-1,2-Dichloroethylene	<1 ug/l	1 ug/l
1,1,2,2-Tetrachloroethane	<1 ug/l	1 ug/l
1,1,1,2-Tetrachloroethane	<1 ug/l	1 ug/l
Tetrachloroethylene	<1 ug/l	1 ug/l
1,1,1-Trichloroethane	<1 ug/l	1 ug/l
1,1,2-Trichloroethane	<1 ug/l	1 ug/l
Trichloroethylene	<1 ug/l	1 ug/l
Benzene	319 ug/l	1 ug/l
Toluene	143 ug/l	1 ug/l
Xylenes	224 ug/l	1 ug/l

REFERENCE:"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", USEPA, SW 846, EMSL-Cincinnati, 1982

An invoice for services is enclosed. Thank you for contacting Assaigai Labortories.

Sincerely,

Jennifer V. Smith, Ph.D.
Laboratory Director

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

8610171155

ASSAIGAI ANALYTICAL LABORATORIES

TO: Geoscience Consultants Ltd.
Attn: Jan Martin
500 Copper NW Suite 325
Albuquerque, NM 87158

DATE: 17 December 1986
1787

SAMPLE ID: 8610171155 GBR 30

ANALYTE	ANALYTICAL RESULTS	NOMINAL DETECTION LIMIT
Benzene	<0.001 mg/l	0.001 mg/l
Toluene	<0.001 mg/l	0.001 mg/l
Ethylbenzene	<0.001 mg/l	0.001 mg/l
Xylenes	<0.001 mg/l	0.001 mg/l
Acrolein	<25 ug/l	25 ug/l
Acrylonitrile	<25 ug/l	25 ug/l
Bromoform	<5.0 ug/l	5.0 ug/l
Carbon Tetrachloride	<5.0 ug/l	5.0 ug/l
Chlorodibromomethane	<5.0 ug/l	5.0 ug/l
Chloroethane	<5.0 ug/l	5.0 ug/l
2-Chloroethylvinyl Ether	<5.0 ug/l	5.0 ug/l
Chloroform	<5.0 ug/l	5.0 ug/l
Dichlorobromomethane	<5.0 ug/l	5.0 ug/l
1,1-Dichloroethane	<5.0 ug/l	5.0 ug/l
1,2-Dichloroethane	<5.0 ug/l	5.0 ug/l
1,1-Dichloroethene	<5.0 ug/l	5.0 ug/l
1,2-Dichloropropane	<5.0 ug/l	5.0 ug/l
1,3-Dichloropropylene	<5.0 ug/l	5.0 ug/l
Methyl Bromide	<5.0 ug/l	5.0 ug/l
Methyl Chloride	<5.0 ug/l	5.0 ug/l
Methylene Chloride	<5.0 ug/l	5.0 ug/l
1,1,2,2-Tetrachloroethane	<5.0 ug/l	5.0 ug/l
Tetrachloroethene	<5.0 ug/l	5.0 ug/l
Trans-1,2-Dichloroethene	<5.0 ug/l	5.0 ug/l
1,1,1-Trichloroethane	<5.0 ug/l	5.0 ug/l
1,1,2-Trichloroethane	<5.0 ug/l	5.0 ug/l
Trichloroethene	<5.0 ug/l	5.0 ug/l
Vinyl Chloride	<5.0 ug/l	5.0 ug/l

REFERENCE:"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," USEPA ,SW 846, EMSL-Cincinnati, 1982.

An invoice for services is enclosed. Thank you for contacting Assaigai Laboratories.

Sincerely,

Jennifer V. Smith

Jennifer V. Smith, Ph.D.

8610171155
thru 8610171630

ASSAIGAI ANALYTICAL LABORATORIES

TO: Geoscience Consultants
ATTN: Jan Martin
500 Copper NW
Albuquerque, NM 87102

DATE: 14 November 1986
1787 (Partial)

ANALYTE	SAMPLE ID/ANALYTICAL RESULTS			
	8610171615 GBR-8	8610171515 GBR-19	8610171350 GBR-31	
Benzene	2.67 mg/l	0.112 mg/l	0.004 mg/l	
Toluene	1.46 mg/l	0.105 mg/l	0.006 mg/l	
Ethyl benzene	1.89 mg/l	0.111 mg/l	<0.001 mg/l	
Xylenes	6.98 mg/l	0.306 mg/l	0.014 mg/l	
	8610171330 Steelwell	8610171315 GBR-15	8610171630 GBR-9	
Benzene	0.144 mg/l	0.334 mg/l	0.041 mg/l	
Toluene	0.148 mg/l	0.052 mg/l	0.066 mg/l	
Ethyl benzene	0.179 mg/l	0.209 mg/l	0.054 mg/l	
Xylenes	0.356 mg/l	0.772 mg/l	0.138 mg/l	
	8610171550 GBR-7	8610171230 GBR-26	8610171215 GBR-14	8610171155 GBR-30
Benzene	0.008 mg/l	5.28 mg/l	<0.001 mg/l	<0.001 mg/l
Toluene	0.010 mg/l	0.119 mg/l	<0.001 mg/l	<0.001 mg/l
Ethyl benzene	0.011 mg/l	0.054 mg/l	<0.001 mg/l	<0.001 mg/l
Xylenes	0.033 mg/l	1.14 mg/l	<0.001 mg/l	<0.001 mg/l

NOMINAL DETECTION LIMIT: 0.001 mg/l

REFERENCES: "Test Methods for Evaluating Solid Waste,-Physical/ Chemical Methods", USEPA,SW 846,EMSL-Cincinnati, 1982.

An invoice for services is enclosed. Thank you for contacting Assaigai Laboratories.

Sincerely,

Jennifer V. Smith, Ph.D.
Laboratory Director

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

8610171215

ASSAIGAI ANALYTICAL LABORATORIES

TO: Geoscience Consultants Ltd.
Attn: Jan Martin
500 Copper NW Suite 325
Albuquerque, NM 87158

DATE: 17 December 1986
1787

SAMPLE ID: 8610171215 GBR 14

ANALYTE	ANALYTICAL RESULTS	NOMINAL DETECTION LIMIT
Benzene	<0.001 mg/l	0.001 mg/l
Toluene	<0.001 mg/l	0.001 mg/l
Ethylbenzene	<0.001 mg/l	0.001 mg/l
Xylenes	<0.001 mg/l	0.001 mg/l
Acrolein	<25 ug/l	25 ug/l
Acrylonitrile	<25 ug/l	25 ug/l
Bromoform	<5.0 ug/l	5.0 ug/l
Carbon Tetrachloride	<5.0 ug/l	5.0 ug/l
Chlorodibromomethane	<5.0 ug/l	5.0 ug/l
Chloroethane	<5.0 ug/l	5.0 ug/l
2-Chloroethylvinyl Ether	<5.0 ug/l	5.0 ug/l
Chloroform	<5.0 ug/l	5.0 ug/l
Dichlorobromomethane	<5.0 ug/l	5.0 ug/l
1,1-Dichloroethane	<5.0 ug/l	5.0 ug/l
1,2-Dichloroethane	<5.0 ug/l	5.0 ug/l
1,1-Dichloroethene	<5.0 ug/l	5.0 ug/l
1,2-Dichloropropane	<5.0 ug/l	5.0 ug/l
1,3-Dichloropropylene	<5.0 ug/l	5.0 ug/l
Methyl Bromide	<5.0 ug/l	5.0 ug/l
Methyl Chloride	<5.0 ug/l	5.0 ug/l
Methylene Chloride	<5.0 ug/l	5.0 ug/l
1,1,2,2-Tetrachloroethane	<5.0 ug/l	5.0 ug/l
Tetrachloroethene	<5.0 ug/l	5.0 ug/l
Trans-1,2-Dichloroethene	<5.0 ug/l	5.0 ug/l
1,1,1-Trichloroethane	<5.0 ug/l	5.0 ug/l
1,1,2-Trichloroethane	<5.0 ug/l	5.0 ug/l
Trichloroethene	<5.0 ug/l	5.0 ug/l
Vinyl Chloride	<5.0 ug/l	5.0 ug/l

REFERENCE:"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," USEPA ,SW 846, EMSL-Cincinnati, 1982.

An invoice for services is enclosed. Thank you for contacting Assaigai Laboratories.

Sincerely,

Jennifer V. Smith

Jennifer V. Smith, Ph.D.

8610171230

ASSAIGAI ANALYTICAL LABORATORIES

TO: Geoscience Consultants Ltd.
Attn: Jan Martin
500 Copper NW Suite 325
Albuquerque, NM 87158

DATE: 17 December 1986
1787

SAMPLE ID: 8610171230 GBR 26

ANALYTE	ANALYTICAL RESULTS	NOMINAL DETECTION LIMIT
Benzene	5.28 mg/l	0.001 mg/l
Toluene	0.119 mg/l	0.001 mg/l
Ethylbenzene	0.054 mg/l	0.001 mg/l
Xylenes	1.14 mg/l	0.001 mg/l
Acrolein	<25 ug/l	25 ug/l
Acrylonitrile	<25 ug/l	25 ug/l
Bromoform	<5.0 ug/l	5.0 ug/l
Carbon Tetrachloride	<5.0 ug/l	5.0 ug/l
Chlorodibromomethane	<5.0 ug/l	5.0 ug/l
Chloroethane	<5.0 ug/l	5.0 ug/l
2-Chloroethylvinyl Ether	<5.0 ug/l	5.0 ug/l
Chloroform	<5.0 ug/l	5.0 ug/l
Dichlorobromomethane	<5.0 ug/l	5.0 ug/l
1,1-Dichloroethane	<5.0 ug/l	5.0 ug/l
1,2-Dichloroethane	66 ug/l	5.0 ug/l
1,1-Dichloroethene	<5.0 ug/l	5.0 ug/l
1,2-Dichloropropane	<5.0 ug/l	5.0 ug/l
1,3-Dichloropropylene	<5.0 ug/l	5.0 ug/l
Methyl Bromide	<5.0 ug/l	5.0 ug/l
Methyl Chloride	<5.0 ug/l	5.0 ug/l
Methylene Chloride	<5.0 ug/l	5.0 ug/l
1,1,2,2-Tetrachloroethane	<5.0 ug/l	5.0 ug/l
Tetrachloroethene	<5.0 ug/l	5.0 ug/l
Trans-1,2-Dichloroethene	<5.0 ug/l	5.0 ug/l
1,1,1-Trichloroethane	<5.0 ug/l	5.0 ug/l
1,1,2-Trichloroethane	<5.0 ug/l	5.0 ug/l
Trichloroethene	<5.0 ug/l	5.0 ug/l
Vinyl Chloride	<5.0 ug/l	5.0 ug/l
Napthalene	0.009 mg/l	0.001 mg/l
Acenapthalene	<0.001 mg/l	0.001 mg/l
Acenapthene	<0.001 mg/l	0.001 mg/l
Fluroene	<0.001 mg/l	0.001 mg/l
Anthracene	<0.001 mg/l	0.001 mg/l
Phenanthracene	<0.001 mg/l	0.001 mg/l
Fluoranthene	<0.001 mg/l	0.001 mg/l
Pyrene	<0.001 mg/l	0.001 mg/l
Benzo(a)anthracene	<0.001 mg/l	0.001 mg/l
Chyrsene	<0.001 mg/l	0.001 mg/l
Benzo(b)fluoranthene	<0.001 mg/l	0.001 mg/l

8610171230

Benzo(k)fluoranthene	<0.001 mg/l	0.001 mg/l
Benzo(a)pyrene	<0.001 mg/l	0.001 mg/l
Dibenzo(a,h)anthracene	<0.001 mg/l	0.001 mg/l
Indeno(1,2,3-cd)pyrene	<0.001 mg/l	0.001 mg/l
Benzo(g,h,i)perylene	<0.001 mg/l	0.001 mg/l

REFERENCE:"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," USEPA ,SW 846, EMSL-Cincinnati, 1982.

An invoice for services is enclosed. Thank you for contacting Assaigai Laboratories.

Sincerely,

Jennifer V. Smith

Jennifer V. Smith, Ph.D.
laboratory Director

8610171315

ASSAIGAI ANALYTICAL LABORATORIES

TO: Geoscience Consultants Ltd.
Attn: Jan Martin
500 Copper NW Suite 325
Albuquerque, NM 87158

DATE: 17 December 1986
1787

SAMPLE ID: 8610171315 GBR 15

ANALYTE	ANALYTICAL RESULTS	NOMINAL DETECTION LIMIT
Benzene	0.334 mg/l	0.001 mg/l
Toluene	0.052 mg/l	0.001 mg/l
Ethylbenzene	0.209 mg/l	0.001 mg/l
Xylenes	0.772 mg/l	0.001 mg/l
Acrolein	<25 ug/l	25 ug/l
Acrylonitrile	<25 ug/l	25 ug/l
Bromoform	<5.0 ug/l	5.0 ug/l
Carbon Tetrachloride	<5.0 ug/l	5.0 ug/l
Chlorodibromomethane	<5.0 ug/l	5.0 ug/l
Chloroethane	<5.0 ug/l	5.0 ug/l
2-Chloroethylvinyl Ether	<5.0 ug/l	5.0 ug/l
Chloroform	<5.0 ug/l	5.0 ug/l
Dichlorobromomethane	<5.0 ug/l	5.0 ug/l
1,1-Dichloroethane	<5.0 ug/l	5.0 ug/l
1,2-Dichloroethane	78 ug/l	5.0 ug/l
1,1-Dichloroethene	<5.0 ug/l	5.0 ug/l
1,2-Dichloropropane	<5.0 ug/l	5.0 ug/l
1,3-Dichloropropylene	<5.0 ug/l	5.0 ug/l
Methyl Bromide	<5.0 ug/l	5.0 ug/l
Methyl Chloride	<5.0 ug/l	5.0 ug/l
Methylene Chloride	<5.0 ug/l	5.0 ug/l
1,1,2,2-Tetrachloroethane	<5.0 ug/l	5.0 ug/l
Tetrachloroethene	<5.0 ug/l	5.0 ug/l
Trans-1,2-Dichloroethene	<5.0 ug/l	5.0 ug/l
1,1,1-Trichloroethane	<5.0 ug/l	5.0 ug/l
1,1,2-Trichloroethane	<5.0 ug/l	5.0 ug/l
Trichloroethene	<5.0 ug/l	5.0 ug/l
Vinyl Chloride	<5.0 ug/l	5.0 ug/l
Napthalene	<0.001 mg/l	0.001 mg/l
Acenapthalene	0.009 mg/l	0.001 mg/l
Acenapthene	0.030 mg/l	0.001 mg/l
Fluroene	<0.001 mg/l	0.001 mg/l
Anthracene	0.007 mg/l	0.001 mg/l
Phenanthracene	<0.001 mg/l	0.001 mg/l
Fluoranthene	<0.001 mg/l	0.001 mg/l
Pyrene	0.008 mg/l	0.001 mg/l
Benzo(a)anthracene	<0.001 mg/l	0.001 mg/l
Chyrsene	<0.001 mg/l	0.001 mg/l
Benzo(b)fluoranthene	<0.001 mg/l	0.001 mg/l

8610171315

Benzo(k)fluoranthene	<0.001 mg/l	0.001 mg/l
Benzo(a)pyrene	<0.001 mg/l	0.001 mg/l
Dibenzo(a,h)anthracene	<0.001 mg/l	0.001 mg/l
Indeno(1,2,3-cd)pyrene	<0.001 mg/l	0.001 mg/l
Benzo(g,h,i)perylene	<0.001 mg/l	0.001 mg/l

REFERENCE:"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," USEPA ,SW 846, EMSL-Cincinnati, 1982.

An invoice for services is enclosed. Thank you for contacting Assaigai Laboratories.

Sincerely,

Jennifer V. Smith, Ph.D.
laboratory Director

8610171330

ASSAIGAI ANALYTICAL LABORATORIES

TO: Geoscience Consultants Ltd.
Attn: Jan Martin
500 Copper NW Suite 325
Albuquerque, NM 87158

DATE: 17 December 1986
1787

SAMPLE ID: 8610171330 Steelwell

ANALYTE	ANALYTICAL RESULTS	NOMINAL DETECTION LIMIT
Benzene	0.144 mg/l	0.001 mg/l
Toluene	0.148 mg/l	0.001 mg/l
Ethylbenzene	0.179 mg/l	0.001 mg/l
Xylenes	0.356 mg/l	0.001 mg/l
Acrolein	<25 ug/l	25 ug/l
Acrylonitrile	<25 ug/l	25 ug/l
Bromoform	<5.0 ug/l	5.0 ug/l
Carbon Tetrachloride	<5.0 ug/l	5.0 ug/l
Chlorodibromomethane	<5.0 ug/l	5.0 ug/l
Chloroethane	<5.0 ug/l	5.0 ug/l
2-Chloroethylvinyl Ether	<5.0 ug/l	5.0 ug/l
Chloroform	<5.0 ug/l	5.0 ug/l
Dichlorobromomethane	<5.0 ug/l	5.0 ug/l
1,1-Dichloroethane	<5.0 ug/l	5.0 ug/l
1,2-Dichloroethane	31 ug/l	5.0 ug/l
1,1-Dichloroethene	<5.0 ug/l	5.0 ug/l
1,2-Dichloropropane	<5.0 ug/l	5.0 ug/l
1,3-Dichloropropylene	<5.0 ug/l	5.0 ug/l
Methyl Bromide	<5.0 ug/l	5.0 ug/l
Methyl Chloride	<5.0 ug/l	5.0 ug/l
Methylene Chloride	<5.0 ug/l	5.0 ug/l
1,1,2,2-Tetrachloroethane	<5.0 ug/l	5.0 ug/l
Tetrachloroethene	<5.0 ug/l	5.0 ug/l
Trans-1,2-Dichloroethene	<5.0 ug/l	5.0 ug/l
1,1,1-Trichloroethane	<5.0 ug/l	5.0 ug/l
1,1,2-Trichloroethane	<5.0 ug/l	5.0 ug/l
Trichloroethene	<5.0 ug/l	5.0 ug/l
Vinyl Chloride	<5.0 ug/l	5.0 ug/l
Napthalene	<0.001 mg/l	0.001 mg/l
Acenapthalene	<0.001 mg/l	0.001 mg/l
Acenapthene	0.006 mg/l	0.001 mg/l
Fluroene	<0.001 mg/l	0.001 mg/l
Anthracene	0.003 mg/l	0.001 mg/l
Phenanthracene	<0.001 mg/l	0.001 mg/l
Fluoranthene	<0.001 mg/l	0.001 mg/l
Pyrene	<0.001 mg/l	0.001 mg/l
Benzo(a)anthracene	<0.001 mg/l	0.001 mg/l
Chyrsene	<0.001 mg/l	0.001 mg/l
Benzo(b)fluoranthene	<0.001 mg/l	0.001 mg/l

Benzo(k)fluoranthene	<0.001 mg/l	0.001 mg/l
Benzo(a)pyrene	<0.001 mg/l	0.001 mg/l
Dibenzo(a,h)anthracene	<0.001 mg/l	0.001 mg/l
Indeno(1,2,3-cd)pyrene	<0.001 mg/l	0.001 mg/l
Benzo(g,h,i)perylene	<0.001 mg/l	0.001 mg/l

REFERENCE:"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," USEPA ,SW 846, EMSL-Cincinnati, 1982.

An invoice for services is enclosed. Thank you for contacting Assaigai Laboratories.

Sincerely,

Jennifer V. Smith, Ph.D.
laboratory Director

8610171350

ASSAIGAI ANALYTICAL LABORATORIES

TO: Geoscience Consultants Ltd.
Attn: Jan Martin
500 Copper NW Suite 325
Albuquerque, NM 87158

DATE: 17 December 1986
1787

SAMPLE ID: 8610171350 GBR-31

ANALYTE	ANALYTICAL RESULTS	NOMINAL DETECTION LIMIT
Benzene	0.004 mg/l	0.001 mg/l
Toluene	0.006 mg/l	0.001 mg/l
Ethylbenzene	<0.001 mg/l	0.001 mg/l
Xylenes	0.014 mg/l	0.001 mg/l
Acrolein	<25 ug/l	25 ug/l
Acrylonitrile	<25 ug/l	25 ug/l
Bromoform	<5.0 ug/l	5.0 ug/l
Carbon Tetrachloride	<5.0 ug/l	5.0 ug/l
Chlorodibromomethane	<5.0 ug/l	5.0 ug/l
Chloroethane	<5.0 ug/l	5.0 ug/l
2-Chloroethylvinyl Ether	<5.0 ug/l	5.0 ug/l
Chloroform	<5.0 ug/l	5.0 ug/l
Dichlorobromomethane	<5.0 ug/l	5.0 ug/l
1,1-Dichloroethane	11 ug/l	5.0 ug/l
1,2-Dichloroethane	<5.0 ug/l	5.0 ug/l
1,1-Dichloroethene	<5.0 ug/l	5.0 ug/l
1,2-Dichloropropane	<5.0 ug/l	5.0 ug/l
1,3-Dichloropropylene	<5.0 ug/l	5.0 ug/l
Methyl Bromide	<5.0 ug/l	5.0 ug/l
Methyl Chloride	<5.0 ug/l	5.0 ug/l
Methylene Chloride	7.0 ug/l	5.0 ug/l
1,1,2,2-Tetrachloroethane	<5.0 ug/l	5.0 ug/l
Tetrachloroethene	11 ug/l	5.0 ug/l
Trans-1,2-Dichloroethene	21 ug/l	5.0 ug/l
1,1,1-Trichloroethane	7.3 ug/l	5.0 ug/l
1,1,2-Trichloroethane	<5.0 ug/l	5.0 ug/l
Trichloroethene	<5.0 ug/l	5.0 ug/l
Vinyl Chloride	<5.0 ug/l	5.0 ug/l
Napthalene	0.003 mg/l	0.001 mg/l
Acenapthalene	0.019 mg/l	0.001 mg/l
Acenapthene	0.015 mg/l	0.001 mg/l
Fluroene	<0.001 mg/l	0.001 mg/l
Anthracene	0.014 mg/l	0.001 mg/l
Phenanthracene	<0.001 mg/l	0.001 mg/l
Fluoranthene	<0.001 mg/l	0.001 mg/l
Pyrene	<0.001 mg/l	0.001 mg/l
Benzo(a)anthracene	<0.001 mg/l	0.001 mg/l
Chyrsene	<0.001 mg/l	0.001 mg/l
Benzo(b)fluoranthene	<0.001 mg/l	0.001 mg/l

8610171350

Benzo(k)fluoranthene	<0.001 mg/l	0.001 mg/l
Benzo(a)pyrene	<0.001 mg/l	0.001 mg/l
Dibenzo(a,h)anthracene	<0.001 mg/l	0.001 mg/l
Indeno(1,2,3-cd)pyrene	<0.001 mg/l	0.001 mg/l
Benzo(g,h,i)perylene	<0.001 mg/l	0.001 mg/l

REFERENCE:"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," USEPA ,SW 846, EMSL-Cincinnati, 1982.

An invoice for services is enclosed. Thank you for contacting Assaigai Laboratories.

Sincerely,

Jennifer V. Smith, Ph.D.
laboratory Director

8610171515

ASSAIGAI ANALYTICAL LABORATORIES

TO: Geoscience Consultants Ltd.
Attn: Jan Martin
500 Copper NW Suite 325
Albuquerque, NM 87158

DATE: 17 December 1986
1787

SAMPLE ID: 8610171515 GBR-19

ANALYTE	ANALYTICAL RESULTS	NOMINAL DETECTION LIMIT
Benzene	0.112 mg/l	0.001 mg/l
Toluene	0.105 mg/l	0.001 mg/l
Ethylbenzene	0.111 mg/l	0.001 mg/l
Xylenes	0.306 mg/l	0.001 mg/l
Acrolein	<25 ug/l	25 ug/l
Acrylonitrile	<25 ug/l	25 ug/l
Bromoform	<5.0 ug/l	5.0 ug/l
Carbon Tetrachloride	<5.0 ug/l	5.0 ug/l
Chlorodibromomethane	<5.0 ug/l	5.0 ug/l
Chloroethane	<5.0 ug/l	5.0 ug/l
2-Chloroethylvinyl Ether	<5.0 ug/l	5.0 ug/l
Chloroform	<5.0 ug/l	5.0 ug/l
Dichlorobromomethane	<5.0 ug/l	5.0 ug/l
1,1-Dichloroethane	12 ug/l	5.0 ug/l
1,2-Dichloroethane	5.9 ug/l	5.0 ug/l
1,1-Dichloroethene	<5.0 ug/l	5.0 ug/l
1,2-Dichloropropane	<5.0 ug/l	5.0 ug/l
1,3-Dichloropropylene	<5.0 ug/l	5.0 ug/l
Methyl Bromide	<5.0 ug/l	5.0 ug/l
Methyl Chloride	<5.0 ug/l	5.0 ug/l
Methylene Chloride	<5.0 ug/l	5.0 ug/l
1,1,2,2-Tetrachloroethane	<5.0 ug/l	5.0 ug/l
Tetrachloroethene	<5.0 ug/l	5.0 ug/l
Trans-1,2-Dichloroethene	14 ug/l	5.0 ug/l
1,1,1-Trichloroethane	<5.0 ug/l	5.0 ug/l
1,1,2-Trichloroethane	<5.0 ug/l	5.0 ug/l
Trichloroethene	9.3 ug/l	5.0 ug/l
Vinyl Chloride	<5.0 ug/l	5.0 ug/l
Napthalene	0.028 mg/l	0.001 mg/l
Acenapthalene	0.071 mg/l	0.001 mg/l
Acenapthene	0.160 mg/l	0.001 mg/l
Fluroene	0.122 mg/l	0.001 mg/l
Anthracene	0.021 mg/l	0.001 mg/l
Phenanthracene	<0.001 mg/l	0.001 mg/l
Fluoranthene	0.001 mg/l	0.001 mg/l
Pyrene	<0.001 mg/l	0.001 mg/l
Benzo(a)anthracene	<0.001 mg/l	0.001 mg/l
Chyrsene	<0.001 mg/l	0.001 mg/l
Benzo(b)fluoranthene	<0.001 mg/l	0.001 mg/l

Benzo(k)fluoranthene	<0.001 mg/l	0.001 mg/l
Benzo(a)pyrene	<0.001 mg/l	0.001 mg/l
Dibenzo(a,h)anthracene	<0.001 mg/l	0.001 mg/l
Indeno(1,2,3-cd)pyrene	<0.001 mg/l	0.001 mg/l
Benzo(g,h,i)perylene	<0.001 mg/l	0.001 mg/l

REFERENCE:"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," USEPA ,SW 846, EMSL-Cincinnati, 1982.

An invoice for services is enclosed. Thank you for contacting Assaigai Laboratories.

Sincerely,

Jennifer V. Smith, Ph.D.
laboratory Director

8610171550

ASSAIGAI ANALYTICAL LABORATORIES

TO: Geoscience Consultants Ltd.
Attn: Jan Martin
500 Copper NW Suite 325
Albuquerque, NM 87158

DATE: 17 December 1986
1787

SAMPLE ID: 8610171550 GBR 7

ANALYTE	ANALYTICAL RESULTS	NOMINAL DETECTION LIMIT
Benzene	0.008 mg/l	0.001 mg/l
Toluene	0.010 mg/l	0.001 mg/l
Ethylbenzene	0.011 mg/l	0.001 mg/l
Xylenes	0.033 mg/l	0.001 mg/l
Napthalene	<0.001 mg/l	0.001 mg/l
Acenapthalene	0.007 mg/l	0.001 mg/l
Acenapthene	0.022 mg/l	0.001 mg/l
Fluroene	<0.001 mg/l	0.001 mg/l
Anthracene	<0.001 mg/l	0.001 mg/l
Phenanthracene	0.007 mg/l	0.001 mg/l
Fluoranthene	0.010 mg/l	0.001 mg/l
Pyrene	<0.001 mg/l	0.001 mg/l
Benzo(a)anthracene	<0.001 mg/l	0.001 mg/l
Chyrsene	<0.001 mg/l	0.001 mg/l
Benzo(b)fluoranthene	<0.001 mg/l	0.001 mg/l
Benzo(k)fluoranthene	<0.001 mg/l	0.001 mg/l
Benzo(a)pyrene	<0.001 mg/l	0.001 mg/l
Dibenzo(a,h)anthracene	<0.001 mg/l	0.001 mg/l
Indeno(1,2,3-cd)pyrene	<0.001 mg/l	0.001 mg/l
Benzo(g,h,i)perylene	<0.001 mg/l	0.001 mg/l

REFERENCE:"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," USEPA ,SW 846, EMSL-Cincinnati, 1982.

An invoice for services is enclosed. Thank you for contacting Assaigai Laboratories.

Sincerely,

Jennifer W. Smith, Ph.D.
Laboratory Director

7300 Jefferson NE • Albuquerque, New Mexico 87109 • (505) 345-8964

8610171615

ASSAIGAI ANALYTICAL LABORATORIES

TO: Geoscience Consultants Ltd.
Attn: Jan Martin
500 Copper NW Suite 325
Albuquerque, NM 87158

DATE: 17 December 1986
1787

SAMPLE ID: 8610171615 GBR 8

ANALYTE	ANALYTICAL RESULTS	NOMINAL DETECTION LIMIT
Benzene	2.67 mg/l	0.001 mg/l
Toluene	1.46 mg/l	0.001 mg/l
Ethylbenzene	1.89 mg/l	0.001 mg/l
Xylenes	6.98 mg/l	0.001 mg/l
Napthalene	0.050 mg/l	0.001 mg/l
Acenapthalene	0.244 mg/l	0.001 mg/l
Acenapthene	0.473 mg/l	0.001 mg/l
Fluroene	0.078 mg/l	0.001 mg/l
Anthracene	0.069 mg/l	0.001 mg/l
Phenanthracene	0.004 mg/l	0.001 mg/l
Fluoranthene	<0.001 mg/l	0.001 mg/l
Pyrene	<0.001 mg/l	0.001 mg/l
Benzo(a)anthracene	0.003 mg/l	0.001 mg/l
Chyrsene	<0.001 mg/l	0.001 mg/l
Benzo(b)fluoranthene	<0.001 mg/l	0.001 mg/l
Benzo(k)fluoranthene	<0.001 mg/l	0.001 mg/l
Benzo(a)pyrene	<0.001 mg/l	0.001 mg/l
Dibenzo(a,h)anthracene	<0.001 mg/l	0.001 mg/l
Indeno(1,2,3-cd)pyrene	<0.001 mg/l	0.001 mg/l
Benzo(g,h,i)perylene	<0.001 mg/l	0.001 mg/l

REFERENCE:"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," USEPA ,SW 846, EMSL-Cincinnati, 1982.

An invoice for services is enclosed. Thank you for contacting Assaigai Laboratories.

Sincerely,

Jennifer V. Smith

Jennifer V. Smith, Ph.D.
Laboratory Director

8611071400

ASSAIGAI ANALYTICAL LABORATORIES

TO: Geoscience Consultants Ltd.
Attn: Claude Schleyer
500 Copper NW Suite 325
Albuquerque, NM 87158

DATE: 17 December 1986
1919

SAMPLE ID: 1107861400 base of spoil pile

ANALYTE	ANALYTICAL RESULTS	NOMINAL DETECTION LIMIT
Benzene	<0.001 mg/l	0.001 mg/l
Chlorobenzene	<0.001 mg/l	0.001 mg/l
1,2-Dichlorobenzene	<0.001 mg/l	0.001 mg/l
1,3-Dichlorobenzene	<0.001 mg/l	0.001 mg/l
1,4-Dichlorobenzene	<0.001 mg/l	0.001 mg/l
Ethylbenzene	<0.001 mg/l	0.001 mg/l
Toluene	<0.001 mg/l	0.001 mg/l
Xylenes	<0.001 mg/l	0.001 mg/l
Acrolein	<25 ug/l	25 ug/l
Acrylonitrile	<25 ug/l	25 ug/l
Bromoform	<5.0 ug/l	5.0 ug/l
Carbon Tetrachloride	<5.0 ug/l	5.0 ug/l
Chlorodibromomethane	<5.0 ug/l	5.0 ug/l
Chloroethane	<5.0 ug/l	5.0 ug/l
2-Chloroethylvinyl Ether	<5.0 ug/l	5.0 ug/l
Chloroform	<5.0 ug/l	5.0 ug/l
Dichlorobromomethane	<5.0 ug/l	5.0 ug/l
1,1-Dichloroethane	<5.0 ug/l	5.0 ug/l
1,2-Dichloroethane	6.3 ug/l	5.0 ug/l
1,1-Dichloroethene	<5.0 ug/l	5.0 ug/l
1,2-Dichloropropane	<5.0 ug/l	5.0 ug/l
1,3-Dichloropropylene	<5.0 ug/l	5.0 ug/l
Methyl Bromide	<5.0 ug/l	5.0 ug/l
Methyl Chloride	<5.0 ug/l	5.0 ug/l
Methylene Chloride	<5.0 ug/l	5.0 ug/l
1,1,2,2-Tetrachloroethane	<5.0 ug/l	5.0 ug/l
Tetrachloroethene	<5.0 ug/l	5.0 ug/l
Trans-1,2-Dichloroethene	<5.0 ug/l	5.0 ug/l
1,1,1-Trichloroethane	<5.0 ug/l	5.0 ug/l
1,1,2-Trichloroethane	<5.0 ug/l	5.0 ug/l
Trichloroethene	<5.0 ug/l	5.0 ug/l
Vinyl Chloride	<5.0 ug/l	5.0 ug/l

REFERENCE: "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," USEPA ,SW 846, EMSL-Cincinnati, 1982.

8610171630

ASSAIGAI ANALYTICAL LABORATORIES

TO: Geoscience Consultants Ltd.
Attn: Jan Martin
500 Copper NW Suite 325
Albuquerque, NM 87158

DATE: 17 December 1986
1787

SAMPLE ID: 8610171630 GBR 9

ANALYTE	ANALYTICAL RESULTS	NOMINAL DETECTION LIMIT
Benzene	0.041 mg/l	0.001 mg/l
Toluene	0.066 mg/l	0.001 mg/l
Ethylbenzene	0.054 mg/l	0.001 mg/l
Xylenes	0.138 mg/l	0.001 mg/l
Napthalene	0.049 mg/l	0.001 mg/l
Acenapthalene	0.019 mg/l	0.001 mg/l
Acenapthene	0.048 mg/l	0.001 mg/l
Fluroene	0.007 mg/l	0.001 mg/l
Anthracene	0.016 mg/l	0.001 mg/l
Phenanthracene	<0.001 mg/l	0.001 mg/l
Fluoranthene	<0.001 mg/l	0.001 mg/l
Pyrene	0.010 mg/l	0.001 mg/l
Benzo(a)anthracene	0.007 mg/l	0.001 mg/l
Chyrsene	<0.001 mg/l	0.001 mg/l
Benzo(b)fluoranthene	<0.001 mg/l	0.001 mg/l
Benzo(k)fluoranthene	<0.001 mg/l	0.001 mg/l
Benzo(a)pyrene	<0.001 mg/l	0.001 mg/l
Dibenzo(a,h)anthracene	<0.001 mg/l	0.001 mg/l
Indeno(1,2,3-cd)pyrene	<0.001 mg/l	0.001 mg/l
Benzo(g,h,i)perylene	<0.001 mg/l	0.001 mg/l

REFERENCE: "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," USEPA ,SW 846, EMSL-Cincinnati, 1982.

An invoice for services is enclosed. Thank you for contacting Assaigai Laboratories.

Sincerely,

Jennifer V. Smith

Jennifer V. Smith, Ph.D.
Laboratory Director

8611071410

ASSAIGAI ANALYTICAL LABORATORIES

TO: Geoscience Consultants Ltd.
Attn: Claude Schleyer
500 Copper NW Suite 325
Albuquerque, NM 87158

DATE: 17 December 1986
1919

SAMPLE ID: 1107861410 from soil pump hoses

ANALYTE	ANALYTICAL RESULTS	NOMINAL DETECTION LIMIT
Benzene	0.002 mg/l	0.001 mg/l
Chlorobenzene	<0.001 mg/l	0.001 mg/l
1,2-Dichlorobenzene	<0.001 mg/l	0.001 mg/l
1,3-Dichlorobenzene	<0.001 mg/l	0.001 mg/l
1,4-Dichlorobenzene	<0.001 mg/l	0.001 mg/l
Ethylbenzene	<0.001 mg/l	0.001 mg/l
Toluene	<0.001 mg/l	0.001 mg/l
Xylenes	<0.001 mg/l	0.001 mg/l
Acrolein	<25 ug/l	25 ug/l
Acrylonitrile	<25 ug/l	25 ug/l
Bromoform	<5.0 ug/l	5.0 ug/l
Carbon Tetrachloride	<5.0 ug/l	5.0 ug/l
Chlorodibromomethane	<5.0 ug/l	5.0 ug/l
Chloroethane	<5.0 ug/l	5.0 ug/l
2-Chloroethylvinyl Ether	<5.0 ug/l	5.0 ug/l
Chloroform	<5.0 ug/l	5.0 ug/l
Dichlorobromomethane	<5.0 ug/l	5.0 ug/l
1,1-Dichloroethane	<5.0 ug/l	5.0 ug/l
1,2-Dichloroethane	7.1 ug/l	5.0 ug/l
1,1-Dichloroethene	<5.0 ug/l	5.0 ug/l
1,2-Dichloropropane	<5.0 ug/l	5.0 ug/l
1,3-Dichloropropylene	<5.0 ug/l	5.0 ug/l
Methyl Bromide	<5.0 ug/l	5.0 ug/l
Methyl Chloride	<5.0 ug/l	5.0 ug/l
Methylene Chloride	<5.0 ug/l	5.0 ug/l
1,1,2,2-Tetrachloroethane	<5.0 ug/l	5.0 ug/l
Tetrachloroethene	<5.0 ug/l	5.0 ug/l
Trans-1,2-Dichloroethene	<5.0 ug/l	5.0 ug/l
1,1,1-Trichloroethane	<5.0 ug/l	5.0 ug/l
1,1,2-Trichloroethane	<5.0 ug/l	5.0 ug/l
Trichloroethene	<5.0 ug/l	5.0 ug/l
Vinyl Chloride	<5.0 ug/l	5.0 ug/l

REFERENCE:"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," USEPA ,SW 846, EMSL-Cincinnati, 1982.

8611071420

ASSAIGAI ANALYTICAL LABORATORIES

TO: Geoscience Consultants Ltd.
Attn: Claude Schleyer
500 Copper NW Suite 325
Albuquerque, NM 87158

DATE: 17 December 1986
1919

SAMPLE ID: 1107861420 Sprinkle Discharge

ANALYTE	ANALYTICAL RESULTS	NOMINAL DETECTION LIMIT
Benzene	0.007 mg/l	0.001 mg/l
Chlorobenzene	<0.001 mg/l	0.001 mg/l
1,2-Dichlorobenzene	<0.001 mg/l	0.001 mg/l
1,3-Dichlorobenzene	<0.001 mg/l	0.001 mg/l
1,4-Dichlorobenzene	<0.001 mg/l	0.001 mg/l
Ethylbenzene	<0.001 mg/l	0.001 mg/l
Toluene	<0.001 mg/l	0.001 mg/l
Xylenes	<0.001 mg/l	0.001 mg/l
Acrolein	<25 ug/l	25 ug/l
Acrylonitrile	<25 ug/l	25 ug/l
Bromoform	<5.0 ug/l	5.0 ug/l
Carbon Tetrachloride	<5.0 ug/l	5.0 ug/l
Chlorodibromomethane	<5.0 ug/l	5.0 ug/l
Chloroethane	<5.0 ug/l	5.0 ug/l
2-Chloroethylvinyl Ether	<5.0 ug/l	5.0 ug/l
Chloroform	<5.0 ug/l	5.0 ug/l
Dichlorobromomethane	<5.0 ug/l	5.0 ug/l
1,1-Dichloroethane	<5.0 ug/l	5.0 ug/l
1,2-Dichloroethane	<5.0 ug/l	5.0 ug/l
1,1-Dichloroethene	<5.0 ug/l	5.0 ug/l
1,2-Dichloropropane	<5.0 ug/l	5.0 ug/l
1,3-Dichloropropylene	<5.0 ug/l	5.0 ug/l
Methyl Bromide	<5.0 ug/l	5.0 ug/l
Methyl Chloride	<5.0 ug/l	5.0 ug/l
Methylene Chloride	<5.0 ug/l	5.0 ug/l
1,1,2,2-Tetrachloroethane	<5.0 ug/l	5.0 ug/l
Tetrachloroethene	<5.0 ug/l	5.0 ug/l
Trans-1,2-Dichloroethene	<5.0 ug/l	5.0 ug/l
1,1,1-Trichloroethane	<5.0 ug/l	5.0 ug/l
1,1,2-Trichloroethane	<5.0 ug/l	5.0 ug/l
Trichloroethene	<5.0 ug/l	5.0 ug/l
Vinyl Chloride	<5.0 ug/l	5.0 ug/l

REFERENCE:"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," USEPA ,SW 846, EMSL-Cincinnati, 1982.

8704211100

ASSAIGAI ANALYTICAL LABORATORIES

8704211100

87-367-401

TO: Geoscience Consultants
ATTN: Kaszuba
500 Copper NW Suite 200
Albuquerque, NM 87102

DATE: 14 May 1987
0678

SAMPLE ID: 8704211100, GBR, equipment rinse water.

ANALYTE	ANALYTICAL RESULTS	NOMINAL DETECTION LIMITS
Benzene	<0.001 mg/l	0.001 mg/l
Toluene	<0.001 mg/l	0.001 mg/l
Ethyl Benzene	<0.001 mg/l	0.001 mg/l
Xylenes	<0.001 mg/l	0.001 mg/l
GC Scan	ND	0.001 mg/l

REFERENCE" Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," USEPA, SW 846, EMSL-Cincinnati, 1982.

An invoice for services is enclosed. Thank you for contacting Assaigai Laboratories.

Sincerely,

Jennifer V. Smith, Ph.D.
Laboratory Director

8704211205

ASSAIGAI ANALYTICAL LABORATORIES

8704211205

TO: Geoscience Consultants
ATTN: Kaszuba
500 Copper NW Suite 200
Albuquerque, NM 87102

DATE: 14 May 1987
0678

SAMPLE ID: 8704211205, GBR, casing rinse water.

ANALYTE	ANALYTICAL RESULTS	NOMINAL DETECTION LIMITS
Benzene	<0.001 mg/l	0.001 mg/l
Toluene	<0.001 mg/l	0.001 mg/l
Ethyl Benzene	<0.001 mg/l	0.001 mg/l
Xylenes	<0.001 mg/l	0.001 mg/l
GC Scan	ND	0.001 mg/l

REFERENCE" Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," USEPA, SW 846, EMSL-Cincinnati, 1982.

An invoice for services is enclosed. Thank you for contacting Assaigai Laboratories.

Sincerely,

Jennifer V. Smith, Ph.D.
Laboratory Director

7300 Jefferson NE • Albuquerque, New Mexico 87109 • (505) 345-8964

REPORT TO: McQuillan
Ground Water & Hazardous Waste Bureau
Environmental Improvement Division
Health & Environment Department
P.O. Box 968 - Crown Building
Santa Fe, NM 87504-0968

WP N
95 N

LAB NUMBER WC ~~3614~~
DATE RECEIVED 8-7-87
DATE REPORTED 10/7/87
Initials
SLD USER CODE NUMBER 59300

Well Location Address GBR-32 Lee Acres, San Juan Co. 29N. 12W. 22.300
Point of Collection Well head
Well Owner/User Giant Refinery
Number of People Drinking Water from Well 0
Collected 870805 Date 11:10 Time By McQuillan/Boyer Name EID/OCD Agency
Well Depth 45.1'
Water Level 34.22'
pH
Conductivity (Uncorrected) 5000 umho/cm
Taste? Odor? Color? Collectors Remarks
Temperature 19.0 °C
Conductivity at 25°C umho/cm

RECEIVED
OCT 22 1987
LIQUID WASTE/GROUND WATER SURVEILLANCE

PROJECT: Lee Acres

From NF, A-H_2SO_4 Sample:

			Date Analyzed
☒ Nitrate-N+ Nitrite-N	5.77 mg/l	e/12	
☒ Ammonia-N	0.21 mg/l	9/4	
☐ Chemical oxygen demand	mg/l		
☒ TKN	0.58 mg/L	10/5	

From ____, A-HNO_3 Sample:

☐ ICAP Scan
☐ Metals by AA (Specify)

From ____, NA Sample:

			Date Analyzed
☐ Calcium	mg/l		
☐ Potassium	mg/l		
☐ Magnesium	mg/l		
☐ Sodium	mg/l		
☐ Bicarbonate	mg/l		
☐ Chloride	mg/l		
☐ Sulfate	mg/l		
☐ Total Solids	mg/l		
☐			

This form accompanies one sample(s) marked as follows to indicate field treatment:

(NF) Whole sample (no filtration)
F: Filtered in field with 0.45u membrane filter
(A-H_2SO_4) Acidified with 2 ml conc H_2SO_4/l
A-HNO_3: Acidified with 5ml conc HNO_3/l
NA: No acid added

transfer to John Gould 8/6/87 15:00 Deanna McQuillan
15:00 John Gould
Gels in last 8/4/87 16:10 JG
Transfered to Chris Dunn

REPORT TO: McQuillan
Ground Water & Hazardous Waste Bureau
Environmental Improvement Division
Health & Environment Department
P.O. Box 968 - Crown Building
Santa Fe, NM 87504-0968

WNN
9659

LAB NUMBER WC-3613
DATE RECEIVED 8-7-87
DATE REPORTED 10/7/87
Initials
SLD USER CODE NUMBER 59300

Well Location Address GBR-32, Lee Acres, San Juan Co. 29N.12W.22.300
Point of Collection well head
RECEIVED
Well Owner/User Giant Refinery
OCT 2 ...87
Number of People Drinking Water from Well 0

Collected 870805 (Date) 11:10 (Time)
By McQuillan/Boyer (Name) LIQUID WASTE/GW SURVEILLANCE EID/OOD (Agency)

Well Depth 45.1'
Water Level 34.22'

pH
Conductivity (Uncorrected) 5000 umho/cm
Temperature 19.0 °C
Conductivity at 25°C umho/cm

Taste? Odor? Color? Collectors Remarks

PROJECT: Lee Acres

From ____, A-H_2SO_4 Sample:

☐ Nitrate-N+ Nitrite-N	____ mg/l	____	
☐ Ammonia-N	____ mg/l	____	
☐ Chemical oxygen demand	____ mg/l	____	
☐ ____	____	____	

From NF, NA Sample:

			Date Analyzed
☒ Calcium	820	mg/l	9/8
☒ Potassium	1.95	mg/l	8/31
☒ Magnesium	98	mg/l	9/8
☒ Sodium	6069	mg/l	8/31
☒ Bicarbonate (HCO3)	270	mg/l	9/2
☒ Chloride	1260	mg/l	9/1
☒ Sulfate	1770	mg/l	9/1
☒ Total Solids	(5050)	mg/l	9/2
☒ Bromide	4.20	mg/l	9/25

From ____, A-HNO_3 Sample:
☐ ICAP Scan
☐ Metals by AA (Specify)

This form accompanies one sample(s) marked as follows to indicate field treatment:
(NF) Whole sample (no filtration)
F: Filtered in field with 0.45u membrane filter
A-H_2SO_4: Acidified with 2 ml conc H_2SO_4/l
A-HNO_3: Acidified with 5ml conc HNO_3/l
(NA) No acid added

transfer to J. Gould 8/6/87
15:05 D. Quig/McQuillan
15:00 John Gould
Seals intact 8/6/87 16:10
Transferred to: Chris Dunn Seals intact 16:10

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106

HEAVY METAL ANALYSIS FORM

Telephone: (505)841-2500

Date Received	8 1 7 8 7	Lab No. ICP-550	User Code	☐ 59400	☐ 53400	☐ 53300
				☒ 59300	☐ 59500	☐

COLLECTION DATE & TIME: yy 87 mm 08 dd 05 hh 11 mm 10

COLLECTED BY: McQuillan/Boyer

COLLECTION SITE DESCRIPTION: GBR-32 Lee Acres

TO:

OWNER: Giant Refinery

GROUND WATER & HAZARDOUS WASTE BUREAU
NEW MEXICO EID/HED
PO BOX 968 - RUNNELS BUILDING
SANTA FE, NM 87504-0968

SITE LOCATION:
County: San Juan

Township, Range, Section, Tract: (10N06E2434: 1 2 9 N + 1 2 W + 2 2 + 3 0 0

ATTN: McQuillan
PHONE: 827-2912

STATION/ WELL CODE: G B R 3 2

LATITUDE, LONGITUDE:

SAMPLING CONDITIONS:

☐ Bailed ☒ Pump ☐ Dipped ☐ Tap	Water Level: 34.22'	Discharge:	Sample Type: grab

pH(00400)	Conductivity(Uncorr.)	Water Temp.(00010)	Conductivity at 25°C (00094)
	5000 µmho	19.0 °C	µmho

FIELD COMMENTS:

SAMPLE FIELD TREATMENT Check proper boxes:		LAB ANALYSIS REQUESTED:
☒ WPN: Water Preserved w/HNO_3 Non-Filtered	☐ WPF: Water Preserved w/HNO_3 Filtered	☒ ICAP Scan Mark box next to metal if AA is required.

ANALYTICAL RESULTS (MG/L)

ELEMENT	ICAP VALUE	AA VALUE		ELEMENT	ICAP VALUE	AA VALUE	
Aluminum	7.7			Silicon	13.		
Barium	0.1			Silver	<0.1		
Beryllium	<0.1			Strontium	14.		
Boron	0.3			Tin	<0.1		
Cadmium	<0.1		☐	Vanadium	<0.1		
Calcium	840.			Zinc	<0.1		
Chromium	<0.1		☐	Arsenic			☐
Cobalt	<0.05			Selenium			☐
Copper	0.1			Mercury			☐
Iron	9.2						☐
Lead	<0.1		☐				☐
Magnesium	64.						☐
Manganese	1.1						☐
Molybdenum	<0.1						☐
Nickel	0.3						☐

LAB COMMENTS: Digest

transfer to J. Gould
8/6/87 15:00
Dennis McQuillan
15:00 John Gould
1610 8/6/87 Soils Extract transferred to: Mary E. Olman
Mary Olman 16:10

ICAP Analyst: JB

Analysis Date: 8/19/87

Reviewer: Jim Ashley

Date Reviewed: 8/19/87

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

[redacted]

REPORT TO: McQuillan
EID Ground Water/Haz. Waste
1190 St. Francis Dr.
Santa Fe 87504-0968

S.L.D. No. OR- 1316 A B
DATE REC. 8-7-87
PRIORITY 2
PHONE(S): 827-2912

COLLECTION CITY: Lee Acres ; COUNTY: San Juan

COLLECTION DATE/TIME CODE: (Year-Month-Day-Hour-Minute) 8 7 0 8 0 5 1 1 1 0

LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N . 1 2 W . 2 2 . 3 0 0 (10N06E24342)

USER CODE: 5 9 3 0 0 SUBMITTER: McQuillan CODE: M C Q

SAMPLE TYPE: WATER ☒, SOIL ☐, FOOD ☐, OTHER: _____

This form accompanies 2 Septum Vials, _____ Glass Jugs, and/or _____ _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☒ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- ☐ (733) Aliphatic Headspace (1-6 Carbons)
- ☒ (734) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

Remarks: _____

RECEIVED

FIELD DATA:

pH= 7.0 ; Conductivity= 5000 umho/cm at 19.0 °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ ____/____

Depth to water 34.22 ft.; Depth of well 45.1 ft.; Perforation Interval ____-____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

GBR-32

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): Dennis McQuillan Method of Shipment to the Lab: air/auto

CHAIN OF CUSTODY

I certify that this sample was transferred from Dennis McQuillan to John Gould at (location) EID Water Lab on 8/6/87 - 15 00 and that the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ OR Seals Intact: Yes ☒ No ☐

Signatures Dennis McQuillan John Gould

8/6/87 Original returned to Hubert Bannon

Hubert Bannon 8/6/87

ANALYSES PERFORMED

LAB. No.: OR- 1316

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Headspace (1-6 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
aromatics purgeables #	see remarks	halogenated purgeables #	
		cis-1,2-Dichloroethene	29
		1,1-Dichloroethane	3
		1,1,1-Trichloroethane	~~7~~ 3
		Tetrachloroethene	19
		Trichloroethene	17
• DETECTION LIMIT •	1 ~~10~~/L	- DETECTION LIMIT -	

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: Six early ~~eluting~~ eluting unsaturated compounds at 1-5 ppb detected by the photoionization detector but not identified. ~~Confirmed halogenating compounds in the C3 substituted benzene region @ 2-10 ppb detected by the photoionization detector but not identified.~~ Halogenated compounds confirmed by SP-1000 column

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Not Sealed ☐ Intact: Yes ☑ No ☐ Seal(s) broken by: Nancy C. Eden date: 8/14/87

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 8/14/87 Analyst's signature: Nancy C. Eden

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: R Meyerhoff

REPORT TO: McQuillan
Ground Water & Hazardous Waste Bureau
Environmental Improvement Division
Health & Environment Department
P.O. Box 968 - Crown Building
Santa Fe, NM 87504-0968

LAB NUMBER WC 3612
DATE RECEIVED 8-7-87
DATE REPORTED 10/7/87
Initials
SLD USER CODE NUMBER 59300

Well Location Address GBR-17, Lee Acres, San Juan Co. 29N.12W.22.333
Point of Collection well head
Well Owner/User Giant Refinery
Number of People Drinking Water from Well 0

RECEIVED
OCT 22 1987
OCD
LIQUID WASTE/GROUNDWATER SURVEILLANCE

Collected 870805 Date 1212 Time
By Boyer Name Agency

Well Depth
Water Level
Taste? Odor? Color? Collectors Remarks

pH
Conductivity (Uncorrected) 2900 umho/cm
Temperature 18.5 °C
Conductivity at 25°C umho/cm

PROJECT: Lee Acres

From ____, A-H_2SO_4 Sample:

- ☐ Nitrate-N^+ Nitrite-N ____ mg/l ____
- ☐ Ammonia-N ____ mg/l ____
- ☐ Chemical oxygen demand ____ mg/l ____
- ☐ ____ ____ ____

From ____, A-HNO_3 Sample:

- ☐ ICAP Scan
- ☐ Metals by AA (Specify)

From NF, NA Sample:

			Date Analyzed
☒ Calcium	464	mg/l	9/8
☒ Potassium	0.78	mg/l	8/31
☒ Magnesium	88	mg/l	
☒ Sodium	380	mg/l	8/31
☒ Bicarbonate	305	mg/l	7/1
☒ Chloride	337	mg/l	9/1
☒ Sulfate	1340	mg/l	"
☒ Total Solids	2320	mg/l	10/2
☒ Bromide	1.57	mg/L	9/25

This form accompanies one sample(s) marked as follows to indicate field treatment:

(NF) Whole sample (no filtration)
F: Filtered in field with 0.45u membrane filter
A-H_2SO_4: Acidified with 2 ml conc H_2SO_4/l
A-HNO_3: Acidified with 5ml conc HNO_3/l
(NA) No acid added

transfer to J. Gould 8/6/87 15:00 Dennis McQuillan
15:00 John Gould
Seds filtered + transferred to: 9/6/87 13:10
in fact 16:10

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

75°4 upon

REPORT TO: McQuillan
EID Ground Water/Haz. Waste
1190 St. Francis Dr.
Santa Fe 87504-0968

S.L.D. No. OR- 1520 H,B
DATE REC. 8-7-87
PRIORITY 3
PHONE(S): 827-2912

COLLECTION CITY: Lee Acres ; COUNTY: San Juan

COLLECTION DATE/TIME CODE: (Year-Month-Day-Hour-Minute) 8 7 0 8 0 5 1 2 1 2

LOCATION CODE: (Township-Range-Section-Tract) 2 9 N + 1 2 W + 2 2 + 3 3 3 (10N06E24342)

USER CODE: 5 9 3 0 0 SUBMITTER: McQuillan CODE: M C Q

SAMPLE TYPE: WATER [X], SOIL [ ], FOOD [ ], OTHER: _____

This form accompanies 2 Septum Vials, ____ Glass Jugs, and/or ____ ____

Samples were preserved as follows:

- [ ] NP: No Preservation; Sample stored at room temperature.
- [X] P-Ice Sample stored in an ice bath (Not Frozen).
- [ ] P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- [ ] (733) Aliphatic Headspace (1-5 Carbons)
- [X] (734) Aromatic & Halogenated Purgeables
- [ ] (765) Mass Spectrometer Purgeables
- [ ] (766) Trihalomethanes

Other Specific Compounds or Classes

- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____

EXTRACTABLE SCREENS

- [ ] (731) Aliphatic Hydrocarbons
- [ ] (735) Base/Neutral Extractables
- [ ] (753) Herbicides, Chlorophenoxy acid
- [ ] (759) Herbicides, Triazines
- [ ] (760) Organochlorine Pesticides
- [ ] (761) Organophosphate Pesticides
- [ ] (767) Polychlorinated Biphenyls (PCB's)
- [ ] (784) Polynuclear Aromatic Hydrocarbons
- [ ] (782) SDWA Pesticides & Herbicides

RECEIVED

Remarks: _____

FIELD DATA:

pH= ____; Conductivity= 2700 µmho/cm at 18.5 °C; Chlorine Residual UID ____ mg/l

Dissolved Oxygen= ____ mg/l; Alkalinity= ____ mg/l; Flow Rate ____ ____ /s

Depth to water 32.75 ft.; Depth of well 64 ft.; Perforation Interval ____ - ____ ft.; Casing: ____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

Well GBR-17

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): Dennis McQuillan Method of Shipment to the Lab: air/auto

CHAIN OF CUSTODY

I certify that this sample was transferred from Dennis McQuillan to John Gould

at (location) EID Water Lab on 8/6/87 1500 and that the statements in this block are correct. Evidentiary Seals: Not Sealed [ ] OR Seals Intact? Yes [X] No [ ]

Signatures: Dennis McQuillan _____

Sample Custodian

ANALYSES PERFO. MED

LAB. No.: OR- 1320

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Headspace (1-5 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
aromatics purgeables	N.D.		
halogenated purgeables			
1,1-Dichloroethene	T.R.		
1,1,1-Trichloroethane	4		
Trichloroethene	T.R.		
Tetrachloroethene	T.R.		
* DETECTION LIMIT *	1 / 99/L	- DETECTION LIMIT -	

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: halogenated compounds confirmed by SP-1000 column

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Not Sealed ☐ Intact: Yes ☑ No ☐ Seal(s) broken by: Mary C. Eblen date: 8/14/87

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 8/14/87 Analyst's signature: Mary C. Eblen

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: K Meyerhen

REPORT TO: McQuillan

Ground Water & Hazardous Waste Bureau
Environmental Improvement Division
Health & Environment Department
P.O. Box 968 - Crown Building
Santa Fe, NM 87504-0968

LAB NUMBER WG 3614
DATE RECEIVED 8-7-87
DATE REPORTED 10/7/87
Initials
SLD USER CODE NUMBER 59300

Well Location Address Well GBR-13, Lee Acres, San Juan Co. 29N. 12W. 27.113

Point of Collection well head

Well Owner/User Giant Refinery

Number of People Drinking Water from Well 0

Collected 870805 Date 13:05 Time By McQuillan/Boyer Name FID/OCD Agency

Well Depth _____ pH _____

Water Level _____ Conductivity (Uncorrected) 7200 umho/cm

Taste? Odor? Color? Collectors Remarks: strong odor hydrocarbons

Temperature 20.0 °C

Conductivity at 25°C RECEIVED umho/cm

OCT 2 1987

LIQUID WASTE/GROUND WATER SURVEILLANCE

PROJECT: Lee Acres

From ____, A-H_2SO_4 Sample:

- ☐ Nitrate-N+ Nitrite-N _____ mg/l _____
- ☐ Ammonia-N _____ mg/l _____
- ☐ Chemical oxygen demand _____ mg/l _____
- ☐ _____ _____ _____

From ____, A-HNO_3 Sample:

- ☐ ICAP Scan
- ☐ Metals by AA (Specify)

From NF, NA Sample

			Date Analyzed
☒	Calcium	1004 mg/l	9/8
☒	Potassium	4.29 mg/l	e/31
☒	Magnesium	71 mg/l	9/8
☒	Sodium	1056 mg/l	e/31
☒	Bicarbonate	415 mg/l	9/2
☒	Chloride	1960 mg/l	9/1
☒	Sulfate	1560 mg/l	9/1
☒	Total Solids	6903 mg/l	10/2
☒	Bromide	0.25 mg/l	9/25

This form accompanies one sample(s) marked as follows to indicate field treatment:

- (NF) Whole sample (no filtration)
- F: Filtered in field with 0.45u membrane filter
- A-H_2SO_4: Acidified with 2 ml conc H_2SO_4/l
- A-HNO_3: Acidified with 5ml conc HNO_3/l
- (NA) No acid added

transfer to J. Gould 8/6/87
15:00 Relinquished McQuillan
15:00 John Gould
8/6/87 16:10 Seals intact Initials: [illegible]

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

REPORT TO: McQuillan
EID Ground Water/Haz. Waste
1190 St. Francis Dr.
Santa Fe 87504-0968

S.L.D. No. OR- 1323
DATE REC. 8-7-87
PRIORITY 2
PHONE(S): 827-2912

COLLECTION CITY: Lee Acres ; COUNTY: San Juan

COLLECTION DATE/TIME CODE: (Year-Month-Day-Hour-Minute) 8 7 0 8 0 5 1 3 0 5

LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N . 1 2 W . 2 7 . 1 1 3 (10N06E24342)

USER CODE: 5 9 3 0 0 SUBMITTER: McQuillan CODE: M C Q

SAMPLE TYPE: WATER ☒, SOIL ☐, FOOD ☐, OTHER: _____

This form accompanies 2 Septum Vials, _____ Glass Jugs, and/or _____ _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☒ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- ☐ (733) Aliphatic Headspace (1-6 Carbons)
- ☒ (734) Aromatic & Haloganated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (782) SDWA Pesticides & Herbicides

Remarks: _____

FIELD DATA:

RECEIVED

pH= _____; Conductivity= 7200 umho/cm at 20.0 °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ _____/_____

Depth to water 39.32 ft.; Depth of well _____ ft.; Perforation Interval _____ - _____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

Well GBR-13 odor of hydrocarbons

LIQUID WASTE/ WATER SURFACE

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): Dennis McQuillan Method of Shipment to the Lab: air/auto

CHAIN OF CUSTODY

I certify that this sample was transferred from Dennis McQuillan to John Gould

at (location) EID with Lab on 8/6/87 15:00 and that

the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ OR Seals Intact: Yes ☒ No ☐

Signatures Dennis McQuillan John Gould

Client Receipt 8/6/87

ANALYSES PERFORMED LAB. No.: OR- 1323

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Headspace (1-5 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
Halogenated purgeables #		aromatics purgeables #	see remarks
cis 1,2-Dichloroethene	25	benzene	1050
1,1-Dichloroethane	T.R.	Toluene	396
1,1,1-Trichloroethane	T.R.	ethylbenzene	275
Trichloroethane	T.R.	p-xylene	325
1,2 Dichloroethane	T.R.	m-&p-xylene	550
		o-xylene	250
* DETECTION LIMIT *	25 ppb	- DETECTION LIMIT -	

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: Twenty five late eluting compound in the C3 substituted benzene region at appox 25-100 ppb detected by the PID photoionization detector but not identified. Halogenated compounds confirmed by SP-1000 column.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Not Sealed ☐ Intact: Yes ☑ No ☐ Seal(s) broken by: Mary C. Eden date: 8/14/87

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 8/14/87 Analyst's signature: Mary C. Eden

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: K M Meyerhofer

REPORT TO: McQuillan
Ground Water & Hazardous Waste Bureau
Environmental Improvement Division
Health & Environment Department
P.O. Box 968 - Crown Building
Santa Fe, NM 87504-0968

LAB NUMBER WC 3618
DATE RECEIVED 8-7-87
DATE REPORTED 10/7/87
Initials
SLD USER CODE NUMBER 59300

Well Location Address Watson Well, Lee Acres, San Juan Co. 29N, 12W, 27.311

Point of Collection well tap

Well Owner/User Watson

Number of People Drinking Water from Well 0

Collected 870805 Date 13:40 Time By McQuillan Name EID Agency

Well Depth _____ pH _____

Water Level _____ Conductivity (Uncorrected) 2350 umho/cm

Taste? Odor? Color? Collectors Remarks

Temperature 22.0 °C

RECEIVED
OCT 22 1987

Conductivity at 25°C umho/cm

LIQUID WASTE/GROUND WATER SURVEILLANCE

PROJECT: Lee Acres

From ____, A-H_2SO_4 Sample:

- ☐ Nitrate-N^+ Nitrite-N _____ mg/l _____
- ☐ Ammonia-N _____ mg/l _____
- ☐ Chemical oxygen demand _____ mg/l _____
- ☐ _____ _____ _____

From ____, A-HNO_3 Sample:

- ☐ ICAP Scan
- ☐ Metals by AA (Specify)

From NF, NA Sample:

			Date Analyzed
☒ Calcium	344	mg/l	9/8
☒ Potassium	3.12	mg/l	8/31
☒ Magnesium	59	mg/l	9/8
☒ Sodium	292	mg/l	8/31
☒ Bicarbonate	300	mg/l	9/2
☒ Chloride	211	mg/l	9/1
☒ Sulfate	1310	mg/l	9/1
☒ Total Solids	2256	mg/l	10/2
☒ Bromide	0.54	mg/l	9/25

This form accompanies one sample(s) marked as follows to indicate field treatment:

- (NF) Whole sample (no filtration)
- F: Filtered in field with 0.45u membrane filter
- A-H_2SO_4: Acidified with 2 ml conc H_2SO_4/l
- A-HNO_3: Acidified with 5ml conc HNO_3/l
- (NA) No acid added

transfer to John Gould
8/6/87 15:00 Jeannie McQuill
15:00 John Gould
8/6/87 15:10 Solution + transferred to Chemist

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

REPORT TO: McQuillan
EID Ground Water/Haz. Waste
1190 St. Francis Dr.
Santa Fe 87504-0968

S.L.D. No. OR- 1318 #15
DATE REC. 8-7-87
PRIORITY 3
PHONE(S): 827-2912

COLLECTION CITY: Lee Acres ; COUNTY: San Juan

COLLECTION DATE/TIME CODE: (Year-Month-Day-Hour-Minute) 8 7 0 8 0 5 1 3 1 0

LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N . 1 2 W . 2 7 3 1 1 (10N06E24342)

USER CODE: 5 9 3 0 0 SUBMITTER: McQuillan CODE: M C Q

SAMPLE TYPE: WATER [X], SOIL [ ], FOOD [ ], OTHER: _____

This form accompanies 2 Septum Vials, _____ Glass Jugs, and/or _____ _____

Samples were preserved as follows:

- [ ] NP: No Preservation; Sample stored at room temperature.
- [X] P-Ice Sample stored in an ice bath (Not Frozen).
- [ ] P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- [ ] (733) Aliphatic Headspace (1-5 Carbons)
- [X] (734) Aromatic & Halogenated Purgeables
- [ ] (765) Mass Spectrometer Purgeables
- [ ] (766) Trihalomethanes

Other Specific Compounds or Classes

- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____

EXTRACTABLE SCREENS

- [ ] (731) Aliphatic Hydrocarbons
- [ ] (735) Base/Neutral Extractables
- [ ] (758) Herbicides, Chlorophenoxy acid
- [ ] (759) Herbicides, Triazines
- [ ] (760) Organochlorine Pesticides
- [ ] (761) Organophosphate Pesticides
- [ ] (767) Polychlorinated Biphenyls (PCB's)
- [ ] (764) Polynuclear Aromatic Hydrocarbons
- [ ] (782) SDWA Pesticides & Herbicides

Remarks: _____ RECEIVED

FIELD DATA:

pH=_____; Conductivity=2350 umho/cm at 22.0 °C; Chlorine Residual=_____ mg/l

Dissolved Oxygen=_____ mg/l; Alkalinity=_____ mg/l; Flow Rate _____ LIQUID

Depth to water _____ ft.; Depth of well _____ ft.; Perforation Interval _____ - _____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

Watson Well

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): Dennis McQuillan Method of Shipment to the Lab: air/truck

CHAIN OF CUSTODY

I certify that this sample was transferred from Dennis McQuillan to John Gould at (location) EID Water Lab on 8/6/87 15 00 and that the statements in this block are correct. Evidentiary Seals: Not Sealed [ ] OR Seals Intact: Yes [X] No [ ]

Signatures Dennis McQuillan _____

TYPED or PRINTED Name of Person Transferred to

Agent Receiving

Chain of Custody Record

ANALYSES PERFO. MED

LAB. No.: OR- 1318

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Headspace (1-6 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
halogenated purgeables	N.D.		
aromatic purgeables	N.D.		
* DETECTION LIMIT *	1 / 48/c	- DETECTION LIMIT -	

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: _____

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Not Sealed ☐ Intact: Yes ☑ No ☐. Seal(s) broken by: Mary C. Eblen date: 8/14/87

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 8/14/87 Analyst's signature: Mary C. Eblen

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: K Meyerhofer

REPORT TO: McQuillan
Ground Water & Hazardous Waste Bureau
Environmental Improvement Division
Health & Environment Department
P.O. Box 968 - Crown Building
Santa Fe, NM 87504-0968

LAB NUMBER LVC 3615
DATE RECEIVED 8-7-87
DATE REPORTED 10/7/87
Initials
SLD USER CODE NUMBER 59300

Well Location Address M. Duggins, Lee Acres, San Juan Co. 29N. 12W. 27.110

Point of Collection well tap

Well Owner/User M. Duggins

Number of People Drinking Water from Well 0

Collected 870805 (Date) 12:15 (Time) By McQuillan (Name) EID (Agency)

Well Depth _____ pH _____

Water Level _____ Conductivity (Uncorrected) 4950 umho/cm

Taste? Odor? Color? Collectors Remarks: Strong odor hydrocarbons

Temperature 20.7 °C

RECEIVED

Conductivity at 25°C _____ umho/cm

OCT 8 1987

PROJECT: Lee Acres

LIQUID WASTE/GROUND WATER SURVEILLANCE

From _____, A-H_2SO_4 Sample:

- ☐ Nitrate-N+ Nitrite-N _____ mg/l _____
- ☐ Ammonia-N _____ mg/l _____
- ☐ Chemical oxygen demand _____ mg/l _____
- ☐ _____ _____ _____

From _____, A-HNO_3 Sample:

- ☐ ICAP Scan
- ☐ Metals by AA (Specify)

From NF, NA Sample:

			Date Analyzed
☒	Calcium	616 mg/l	9/8
☒	Potassium	4.21 mg/l	8/31
☒	Magnesium	124 mg/l	9/8
☒	Sodium	798 mg/l	8/31
☒	Bicarbonate	503 mg/l	9/2
☒	Chloride	1015 mg/l	9/1
☒	Sulfate	1690 mg/l	9/1
☒	Total Solids	4370 mg/l	10/2
☒	Bromide	3.41 mg/L	9/25

This form accompanies one sample(s) marked as follows to indicate field treatment:

- (NF) Whole sample (no filtration)
- F: Filtered in field with 0.45u membrane filter
- A-H_2SO_4: Acidified with 2 ml conc H_2SO_4/l
- A-HNO_3: Acidified with 5ml conc HNO_3/l
- (NA) No acid added

Transfer to J. Gould 8/6/87 15:00 Dennis McQuillan
15:00 John Gould
8/6/87 16:10 Sols extract transferred to:

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

REPORT TO: McQuillan
EID Ground Water/Haz. Waste
1190 St. Francis Dr.
Santa Fe 87504-0968

S.L.D. No. OR- 13749.3
DATE REC.
PRIORITY 3
PHONE(S): 827-2912

COLLECTION CITY: Lee Acres ; COUNTY: San Juan

COLLECTION DATE/TIME CODE: (Year-Month-Day-Hour-Minute) 87|08|05|12|15

LOCATION CODE: (Township-Range-Section-Tracts) 29N.12W.27.1.1.0 (10N06E24342)

USER CODE: 59300 SUBMITTER: McQuillan CODE: MCD

SAMPLE TYPE: WATER [X], SOIL [ ], FOOD [ ], OTHER:

This form accompanies 2 Septum Vials, ____ Glass Jugs, and/or ____ ____

Samples were preserved as follows:

- [ ] NP: No Preservation; Sample stored at room temperature.
- [X] P-Ice Sample stored in an ice bath (Not Frozen).
- [ ] P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- [ ] (733) Aliphatic Headspace (1-5 Carbons)
- [X] (734) Aromatic & Halogenated Purgeables
- [ ] (765) Mass Spectrometer Purgeables
- [ ] (766) Trihalomethanes

Other Specific Compounds or Classes

- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____

EXTRACTABLE SCREENS

- [ ] (731) Aliphatic Hydrocarbons
- [ ] (735) Base/Neutral Extractables
- [ ] (738) Herbicides, Chlorophenoxy acid
- [ ] (759) Herbicides, Triazines
- [ ] (760) Organochlorine Pesticides
- [ ] (761) Organophosphate Pesticides
- [ ] (767) Polychlorinated Biphenyls (PCB's)
- [ ] (764) Polynuclear Aromatic Hydrocarbons
- [ ] (782) SDWA Pesticides & Herbicides

RECEIVED

Remarks: _____

FIELD DATA:

pH=____; Conductivity= 4950 umho/cm at 20.7 °C; Chlorine Residual= LIQUID WATER SURVEILLANCE

Dissolved Oxygen=____mg/l; Alkalinity=____mg/l; Flow Rate ____ ____/____

Depth to water ____ft.; Depth of well____ft.; Perforation Interval ____-____ft.; Casing:____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

M. Duggins well; strong odor hydrocarbons

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): Dennis McQuillan Method of Shipment to the Lab air taxi

CHAIN OF CUSTODY

I certify that this sample was transferred from Dennis McQuillan to J. Gould

at (location) EID on 8,6,87 - 15 30 and that

the statements in this block are correct. Evidentiary Seals: Not Sealed [ ] OR Seals Intact: Yes [X] No [ ]

Signatures Dennis McQuillan J. Gould

ALBERT BURNEY

LAB. No.: OR- 1369

THIS PAGE FOR LABORATORY RESULTS ONLY

This [illegible] tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ [illegible]natic Headspace (1-6 Carbons)
- ☒ [illegible]matic & Halogenated Purgeables
- ☐ [illegible]s Spectrometer Purgeables
- ☐ [illegible]halomethanes
- ☐ Other Specific Compounds or Classes
- ☐ _____
- ☐ _____
- _____
- _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
aromatics purgeables	see remarks		
halogenated purgeables			
1,1 Dichloroethene	4		
1,1,1 - Trichloroethane	4		
1,2 - Dichloroethane	4		
cis-1,2-Dichloroethene	10		
* DETECTION LIMIT *	1 / 48/L	- DETECTION LIMIT -	

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: Eight compounds extending from the early aromatics screen region to the late C3 substituted benzene region at approx 1 ppb level detected by the photoionization detector. Best identified Halogenated compounds confirmed by SP-1000 column

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Not Sealed ☐ Intact: Yes ☑ No ☐ Seal(s) broken by: Gary C. Eden date: 8/14/87

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 8/14/87 Analyst's signature: Gary C. Eden

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: R. Meyerhofer

REPORT TO: McQuillan
Ground Water & Hazardous Waste Bureau
Environmental Improvement Division
Health & Environment Department
P.O. Box 968 - Crown Building
Santa Fe, NM 87504-0968

85G WNN

LAB NUMBER WC - 3617
DATE RECEIVED 8-7-87
DATE REPORTED 10/7/87
Initials
SLD USER CODE NUMBER 59300

Well Location Address Duggins/Harmon, Lee Acres, San Juan Co. 29N.12W.27.100

Point of Collection backyard tap

Well Owner/User Duggins/Harmon

Number of People Drinking Water from Well 0

Collected 870805 (Date) 12:00 (Time) By McQuillan (Name) EID (Agency)

Well Depth _____ pH _____

Water Level _____ Conductivity (Uncorrected) 3700 umho/cm

Taste? Odor? Color? Collectors Remarks

odor of hydrocarbons

Temperature 20.9 °C

Conductivity at 25°C _____ umho/cm

RECEIVED
OCT 23 1987

PROJECT: Lee Acres

LIQUID WASTE/GROUND WATER SURVEILLANCE

From ____, A-H_2SO_4 Sample:

- ☐ Nitrate-N^+ Nitrite-N _____ mg/l _____
- ☐ Ammonia-N _____ mg/l _____
- ☐ Chemical oxygen demand _____ mg/l _____
- ☐ _____ _____ _____

From ____, A-HNO_3 Sample:

- ☐ ICAP Scan
- ☐ Metals by AA (Specify)

From NF, NA Sample:

			Date Analyzed
☒ Calcium	560	mg/l	9/8
☒ Potassium	6.21	mg/l	8/31
☒ Magnesium	10	mg/l	9/8
☒ Sodium	681	mg/l	8/31
☒ Bicarbonate	220	mg/l	9/2
☒ Chloride	179	mg/l	9/1
☒ Sulfate	2250	mg/l	9/1
☒ Total Solids	3910	mg/l	10/2
☒ Bromide	0.21	mg/L	9/25

This form accompanies one sample(s) marked as follows to indicate field treatment:

(NF) Whole sample (no filtration)
F: Filtered in field with 0.45u membrane filter
A-H_2SO_4: Acidified with 2 ml conc H_2SO_4/l
A-HNO_3: Acidified with 5ml conc HNO_3/l
(NA) No acid added

Transferred to J. Gould 8/6/87 15:00 by McQuillan
Rec'd by John Boyd
8/6/87 19:10 Sent to Laboratory Analyst for: BC

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

REPORT TO: McQuillan
EID Ground Water/Haz. Waste
1190 St. Francis Dr.
Santa Fe 87504-0968

S.L.D. No. OR- 1321 A, B
DATE REC. 8-25-87
PRIORITY 2
PHONE(S): 827-2912

COLLECTION CITY: Lee Acres, ; COUNTY: San Juan Co.

COLLECTION DATE/TIME CODE: (Year-Month-Day-Hour-Minute) 8 7 0 8 0 5 1 2 0 0

LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N . 1 2 W . 2 7 . 1 0 0 (10N06E24342)

USER CODE: 5 9 3 0 0 SUBMITTER: McQuillan CODE: M C Q

SAMPLE TYPE: WATER ☒, SOIL ☐, FOOD ☐, OTHER: _____

This form accompanies 2 Septum Vials, ____ Glass Jugs, and/or ____ _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☒ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- ☐ (733) Aliphatic Headspace (1-5 Carbons)
- ☒ (734) Aromatic & Haloganated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (784) Polynuclear Aromatic Hydrocarbons
- ☐ (782) SDWA Pesticides & Herbicides

RECEIVED

Remarks: _____

FIELD DATA:

pH= ____; Conductivity= 3700 umho/cm at 20.9 °C; Chlorine Residual [illegible] mg/l

Dissolved Oxygen= ____ mg/l; Alkalinity= ____ mg/l; Flow Rate ____ ____/____

Depth to water ____ ft.; Depth of well ____ ft.; Perforation Interval ____ - ____ ft.; Casing: ____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

Duggins / Harmon well; odor of hydrocarbons

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): Dennis McQuillan Method of Shipment to the Lab: air/auto

CHAIN OF CUSTODY

I certify that this sample was transferred from Dennis McQuillan to John Gould

at (location) EID water lab on 8 / 6 / 87 . 15 00 and that the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ OR Seals Intact? Yes ☒ No ☐

Signatures Dennis McQuillan John Gould

Seals on bags in transfer box

ANALYSES PERFO MED

LAB. No.: OR- 1321

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Headspace (1-5 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
halogenated purgeables			
1,1 Dichloroethane	T.R		
Trichloroethene	T.R.		
1,2- Dichloroethane	4		
cis-1,2-Dichloroethene	1		
aromatic purgeables	N.D.		
* DETECTION LIMIT *	1 PPB	- DETECTION LIMIT -	

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: halogenated compounds confirmed by SP-1000 column.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Not Sealed ☐ Intact: Yes ☑ No ☐ Seal(s) broken by: Nancy C. Eaton date: 8/14/87

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 8/14/87 . Analyst's signature: Nancy C. Eaton

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: K Meyerhofer

REPORT TO: McQuillan

Ground Water & Hazardous Waste Bureau
Environmental Improvement Division
Health & Environment Department
P.O. Box 968 - ~~Crown Building~~
Santa Fe, NM 87504-0968

qsl WNN

LAB NUMBER LVC 3616

DATE RECEIVED 8-7-87

DATE REPORTED 10/7/87

Initials

SLD USER CODE NUMBER 59300

Well Location Address Bustos, Lee Acres, San Juan Co. (29N.12W.27.133)

Point of Collection Garage tap

Well Owner/User Bustos

Number of People Drinking Water from Well 0

Collected 870805 Date 15:10 Time By McQuillan/Boyer EID/OCD Name Agency

Well Depth _____

Water Level _____

pH _____

Conductivity (Uncorrected) 2300 umho/cm

Temperature 18.0 °C

Conductivity at 25°C _____ umho/cm

RECEIVED
OCT 2 1987

Taste? Odor? Color? Collectors Remarks

odor of hydrocarbons

PROJECT: Lee Acres

LIQUID WASTE/GROUND WATER SURVEILLANCE

From ____, A-H_2SO_4 Sample:

- ☐ Nitrate-N^+ Nitrite-N _____ mg/l _____
- ☐ Ammonia-N _____ mg/l _____
- ☐ Chemical oxygen demand _____ mg/l _____
- ☐ _____ _____ _____

From ____, A-HNO_3 Sample:

- ☐ ICAP Scan
- ☐ Metals by AA (Specify)

From NF, NA Sample:

			Date Analyzed
☒	Calcium	336 mg/l	9/8
☒	Potassium	5.07 mg/l	8/31
☒	Magnesium	39 mg/l	9/8
☒	Sodium	368 mg/l	8/31
☒	Bicarbonate	177 mg/l	9/2
☒	Chloride	22.4 mg/l	9/1
☒	Sulfate	1370 mg/l	9/1
☒	Total Solids	2326 mg/l	10/2
☒	Bromide	0.34 mg/L	9/25

This form accompanies one sample(s) marked as follows to indicate field treatment:

- (NF) Whole sample (no filtration)
- F: Filtered in field with 0.45u membrane filter
- A-H_2SO_4: Acidified with 2 ml conc H_2SO_4/l
- A-HNO_3: Acidified with 5ml conc HNO_3/l
- (NA) No acid added

transfer to John Gould
8/6/87 15:00 Virginia McQuillan
15:00 John Gould

8/7/87 gds intact transferred to
transferred to Chris Sanchez intact 16:10

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

[redacted]

REPORT TO: McQuillan
EID Ground Water/Haz. Waste
1190 St. Francis Dr.
Santa Fe 87504-0968

S.L.D. No. OR- 1322
DATE REC. 8-7-87
PRIORITY 2
PHONE(S): 827-2712

COLLECTION CITY: Lee Acres ; COUNTY: San Juan

COLLECTION DATE/TIME CODE: (Year-Month-Day-Hour-Minute) 8 7 0 8 0 5 1 5 1 0

LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N + 1 2 W + 2 7 + 1 3 3 (10N06E24342)

USER CODE: 5 9 3 0 0 SUBMITTER: McQuillan CODE: M C Q

SAMPLE TYPE: WATER [X], SOIL [ ], FOOD [ ], OTHER: _____

This form accompanies 2 Septum Vials, ____ Glass Jugs, and/or ____ _____

Samples were preserved as follows:

- [ ] NP: No Preservation; Sample stored at room temperature.
- [X] P-Ice Sample stored in an ice bath (Not Frozen).
- [ ] P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- [ ] (733) Aliphatic Headspace (1-4 Carbons)
- [X] (734) Aromatic & Haloganated Purgeables
- [ ] (765) Mass Spectrometer Purgeables
- [ ] (766) Trihalomethanes

Other Specific Compounds or Classes

- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____
- [ ] _____

EXTRACTABLE SCREENS

- [ ] (751) Aliphatic Hydrocarbons
- [ ] (755) Base/Neutral Extractables
- [ ] (758) Herbicides, Chlorophenoxy acid
- [ ] (759) Herbicides, Triazines
- [ ] (760) Organochlorine Pesticides
- [ ] (761) Organophosphate Pesticides
- [ ] (767) Polychlorinated Biphenyls (PCB's)
- [ ] (764) Polynuclear Aromatic Hydrocarbons
- [ ] (762) SDWA Pesticides & Herbicides

Remarks: _____

RECEIVED
1 · 1987
SURVEILLANCE

FIELD DATA:

pH= ____; Conductivity= 2300 umho/cm at 18 °C; Chlorine Residual= ____ mg/l

Dissolved Oxygen= ____ mg/l; Alkalinity= ____ mg/l; Flow Rate ____ ____/____

Depth to water ____ ft.; Depth of well ____ ft.; Perforation Interval ____ - ____; Casing ____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

Bustos Well, odor of hydrocarbons

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): Dennis McQuillan Method of Shipment to the Lab: vehicle/air

CHAIN OF CUSTODY

I certify that this sample was transferred from Dennis McQuillan to John Gould

at (location) EID water lab on 8 / 6 / 87 . 15 00 and that the statements in this block are correct. Evidentiary Seals: Not Sealed [ ] OR Seals Intact: Yes [X] No [ ]

Signatures Dennis McQuillan / John Gould

U.S. EPA 16/1 Sample Transfer

ANALYSES PERFO MED

LAB. No.: OR- 1322

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Headspace (1-6 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
N.D. ~~aromatic purgeables~~	N.D.	aromatic purgeables *	N.D.
halogenated purgeables *		~~[acetone]~~ *	~~[200]~~ N.D.
N.D. ~~+/- dichloroethane~~	~~T.R.~~		
N.D. ~~Trichloroethene~~	~~T.R.~~		
N.D. cis-dichloroethene	+		
N.D. ~~t-2~~ dichloroethene	~~+~~		
chloroform	2		
* DETECTION LIMIT *	1 ppb	- DETECTION LIMIT -	

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT
T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)
[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: ~~halogenated compounds confirmed by SP-300~~ N.D. column.

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Not Sealed ☐ Intact: Yes ☑ No ☐ Seal(s) broken by: Mary C. Eaton date: 8/14/87

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 8/14/87 Analyst's signature: Mary C. Eaton

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: L Meyerhoff

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud NE
Albuquerque, NM 87106

HEAVY METAL ANALYSIS FORM

Telephone: (505)841-2500

Date Received	8/7/87	Lab No.	ICP-551	User Code	☐ 59400 ☐ 53400 ☐ 53300 ☒ 59300 ☐ 59500 ☐

COLLECTION DATE & TIME: yy 87 mm 08 dd 05 hh 14 mm 15

COLLECTED BY: McQuillan/Boyer

COLLECTION SITE DESCRIPTION: Bedshaw Well
Lee Acres
San Juan Co.

OWNER: Bedshaw

TO:

McQuillan
GROUND WATER & HAZARDOUS WASTE BUREAU
NEW MEXICO EID/HED
PO BOX 968 - RUNNELS BUILDING
SANTA FE, NM 87504-0968

ATTN: McQuillan
PHONE: 827-2912

SITE LOCATION:
County: San Juan

Township, Range, Section, Tract: (10N06E24342)
29N+12W+28+4122

STATION/ WELL CODE:

LATITUDE, LONGITUDE: -

SAMPLING CONDITIONS:

☐ Bailed ☒ Pump ☐ Dipped ☐ Tap	Water Level: 24.29'	Discharge:	Sample Type: grab

pH(00400)	Conductivity(Uncorr.)	Water Temp.(00010)	Conductivity at 25°C (00094)
7.0	2510 µmho	15.0 °C	µmho

FIELD COMMENTS:

SAMPLE FIELD TREATMENT Check proper boxes:		LAB ANALYSIS REQUESTED:
☒ WPN: Water Preserved w/HNO_3 Non-Filtered	☐ WPF: Water Preserved w/HNO_3 Filtered	☒ ICAP Scan Mark box next to metal if AA is required.

ANALYTICAL RESULTS (MG/L)

ELEMENT	ICAP VALUE	AA	AA VALUE	ELEMENT	ICAP VALUE	AA	AA VALUE
Aluminum	<0.1			Silicon	7.9		
Barium	<0.1			Silver	<0.1		
Beryllium	<0.1			Strontium	5.9		
Boron	0.3			Tin	<0.1		
Cadmium	<0.1	☐		Vanadium	<0.1		
Calcium	3.0.			Zinc	<0.1		
Chromium	<0.1	☐		Arsenic		☐	
Cobalt	<0.05			Selenium		☐	
Copper	<0.1			Mercury		☐	
Iron	22 [illegible]					☐	
Lead	<0.1	☐				☐	
Magnesium	45.					☐	
Manganese	0.27					☐	
Molybdenum	<0.1					☐	
Nickel	<0.1					☐	

LAB COMMENTS: Digest

transfer to John Gould
8/6/87 15:00
Dennis McQuillan
15:00 John Gould
8/8/87 Subsequent transfer by: Mary Olmon

ICAP Analyst: JB

Analysis Date: 8/19/87

Reviewer:

Data Reviewed: 8/19/87

REPORT TO: McQuillan
Ground Water & Hazardous Waste Bureau
Environmental Improvement Division
Health & Environment Department
P.O. Box 968 - Crown Building
Santa Fe, NM 87504-0968

LAB NUMBER WC 3614
DATE RECEIVED 8-7-87
DATE REPORTED 10/7/87 Initials
SLD USER CODE NUMBER 59300

Well Location Address Bedshaw Well, Lee Acres, San Juan Co. 29N.12W.28.422
Point of Collection well head
Well Owner/User Bedshaw
Number of People Drinking Water from Well 0 now; used to be community supply well
Collected 870805 Date 14:15 Time By McQuillan/Boyer EID/OCD Name Agency
Well Depth 49.2'
Water Level 24.29'
pH
Conductivity (Uncorrected) 2510 umho/cm
Taste? Odor? Color? Collectors Remarks
Temperature 15.0 °C
Conductivity at 25°C umho/cm

RECEIVED
OCT 2 1987
LIQUID WASTE/GROUND WATER SURVEILLANCE

PROJECT: Lee Acres

From ____, A-H_2SO_4 Sample:

☐ Nitrate-N+ Nitrite-N	____ mg/l	____	
☐ Ammonia-N	____ mg/l	____	
☐ Chemical oxygen demand	____ mg/l	____	
☐ ____	____	____	

From ____, A-HNO_3 Sample:

☐ ICAP Scan
☐ Metals by AA (Specify)

From NF, NA Sample:

			Date Analyzed
☒ Calcium	408	mg/l	9/8
☒ Potassium	2.73	mg/l	8/31
☒ Magnesium	51	mg/l	9/8
☒ Sodium	375	mg/l	8/31
☒ Bicarbonate	294	mg/l	9/2
☒ Chloride	22.2	mg/l	9/1
☒ Sulfate	1600	mg/l	"
☒ Total Solids	2664	mg/l	10/2
☒ Bromide	0.60	mg/L	9/25

This form accompanies one sample(s) marked as follows to indicate field treatment:

(NF) Whole sample (no filtration)
F: Filtered in field with 0.45u membrane filter
A-H_2SO_4: Acidified with 2 ml conc H_2SO_4/l
A-HNO_3: Acidified with 5ml conc HNO_3/l
(NA) No acid added

transfer to John Gould
8/6/87, 15:00 Dennis McQuillan
15:00 John Gould
8/4/87 Sodium Content Furnished for Chain of Custody

SCIENTIFIC LABORATORY DIVISION

700 Camino de Salud NE
Albuquerque, NM 87106 841-2570

754 WF [redacted]

REPORT TO: McQuillan
EID Ground Water/Haz. Waste
1190 St. Francis Dr.
Santa Fe 87504-0968

S.L.D. No. OR- 1317 R,S
DATE REC. 8-7-87
PRIORITY 3
PHONE(S): 827-2912

COLLECTION CITY: Lee Acres ; COUNTY: San Juan

COLLECTION DATE/TIME CODE: (Year-Month-Day-Hour-Minute) 8 7 0 8 0 5 1 4 1 5

LOCATION CODE: (Township-Range-Section-Tracts) 2 9 N . 1 2 W . 2 8 . 4 2 2 (10N06E24342)

USER CODE: 5 9 3 0 0 SUBMITTER: McQuillan CODE: M C Q

SAMPLE TYPE: WATER ☒, SOIL ☐, FOOD ☐, OTHER: _____

This form accompanies 2 Septum Vials, _____ Glass Jugs, and/or _____ _____

Samples were preserved as follows:

- ☐ NP: No Preservation; Sample stored at room temperature.
- ☒ P-Ice Sample stored in an ice bath (Not Frozen).
- ☐ P-$Na_2S_2O_3$ Sample Preserved with Sodium Thiosulfate to remove chlorine residual.

ANALYSES REQUESTED: Please check the appropriate box(es) below to indicate the type of analytical screens required. Whenever possible list specific compounds suspected or required.

PURGEABLE SCREENS

- ☐ (733) Aliphatic Headspace (1-5 Carbons)
- ☒ (734) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (782) SDWA Pesticides & Herbicides

Remarks: _____

RECEIVED

FIELD DATA:

pH= 7.0 ; Conductivity= 2510 umho/cm at 15.0 °C; Chlorine Residual= _____ mg/l

Dissolved Oxygen= _____ mg/l; Alkalinity= _____ mg/l; Flow Rate _____ _____/_____

Depth to water 24.27 ft.; Depth of well 49.2 ft.; Perforation Interval _____ - _____ ft.; Casing: _____

Sampling Location, Methods and Remarks (i.e. odors, etc.)

Bedshaw Well

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): Dennis McQuillan Method of Shipment to the Lab: air/auto

CHAIN OF CUSTODY

I certify that this sample was transferred from Dennis McQuillan to John Gould

at (location) EID Water Lab on 8 / 8 / 87 . 15 00 and that

the statements in this block are correct. Evidentiary Seals: Not Sealed ☐ OR Seals Intact: Yes ☒ No ☐

Signatures Dennis McQuillan _____

(1st) Relinquished to

Harold Bancroft
OSI [illegible]

ANALYSES PERFORMED

LAB. No.: OR- 1317

THIS PAGE FOR LABORATORY RESULTS ONLY

This sample was tested using the analytical screening method(s) checked below:

PURGEABLE SCREENS

- ☐ (753) Aliphatic Headspace (1-5 Carbons)
- ☒ (754) Aromatic & Halogenated Purgeables
- ☐ (765) Mass Spectrometer Purgeables
- ☐ (766) Trihalomethanes

Other Specific Compounds or Classes

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

EXTRACTABLE SCREENS

- ☐ (751) Aliphatic Hydrocarbons
- ☐ (755) Base/Neutral Extractables
- ☐ (758) Herbicides, Chlorophenoxy acid
- ☐ (759) Herbicides, Triazines
- ☐ (760) Organochlorine Pesticides
- ☐ (761) Organophosphate Pesticides
- ☐ (767) Polychlorinated Biphenyls (PCB's)
- ☐ (764) Polynuclear Aromatic Hydrocarbons
- ☐ (762) SDWA Pesticides & Herbicides

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC. [PPB]	COMPOUND(S) DETECTED	CONC. [PPB]
aromatic purgeables	N.D.		
halogenated purgeables	N.D.		
* DETECTION LIMIT *	1 ug/L	- DETECTION LIMIT -	

ABBREVIATIONS USED:

N D = NONE DETECTED AT OR ABOVE THE STATED DETECTION LIMIT

T R = DETECTED AT A LEVEL BELOW THE STATED DETECTION LIMIT (NOT CONFIRMED)

[RESULTS IN BRACKETS] ARE UNCONFIRMED AND/OR WITH APPROXIMATE QUANTITATION

LABORATORY REMARKS: _____

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Not Sealed ☐ Intact: Yes ☑ No ☐ Seal(s) broken by: Nancy C. Edens date: 8/14/87

I certify that I followed standard laboratory procedures on handling and analysis of this sample unless otherwise noted and that the statements on this page accurately reflect the analytical results for this sample.

Date(s) of analysis: 8/14/87 Analyst's signature: Nancy C. Edens

I certify that I have reviewed and concur with the analytical results for this sample and with the statements in this block.

Reviewers signature: K Meyerhen

AnalyticalTechnologies, Inc.

8709091800

EPA METHOD 601/602
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 9/09/87
LAB RECEIPT DATE: 9/11/87
ANALYSIS DATE: 9/18/87
MATRIX: WATER
ANALYST: MGB

SAMPLE ID: 8709091800
LOCATION: GBR-33
LAB SAMPLE #: 3320-1
UNITS: ug/l
DILUTION FACTOR: 1

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	0.02	ND
BROMOMETHANE	0.06	ND
DICHLORODIFLUOROMETHANE	0.04	ND
VINYL CHLORIDE	0.05	ND
CHLOROETHANE	0.1	0.4
METHYLENE CHLORIDE	0.02	ND
TRICHLOROFLUOROMETHANE	0.07	ND
1,1-DICHLOROETHENE	0.07	ND
1,1-DICHLOROETHANE	0.05	1.0
TRANS-1,2-DICHLOROETHENE	0.09	3.4
CHLOROFORM	0.05	ND
1,2-DICHLOROETHANE	0.07	22.8
1,1,1-TRICHLOROETHANE	0.03	ND
CARBON TETRACHLORIDE	0.08	ND
BROMODICHLOROMETHANE	0.04	ND
1,2-DICHLOROPROPANE	0.03	ND
TRANS-1,3-DICHLOROPROPENE	0.11	ND
TRICHLOROETHENE	0.06	0.4
DIBROMOCHLOROMETHANE	0.07	ND
1,1,2-TRICHLOROETHANE	0.03	ND
CIS-1,3-DICHLOROPROPENE	0.07	ND
2-CHLOROETHYLVINYL ETHER	0.03	ND
BROMOFORM	0.09	ND
1,1,2,2-TETRACHLOROETHANE	0.03	ND
TETRACHLOROETHENE	0.03	0.4
BENZENE	0.2	764
TOLUENE	0.4	188
CHLOROBENZENE	0.16	ND
ETHYLBENZENE	0.1	1120
1,3-DICHLOROBENZENE	0.4	ND
1,2-DICHLOROBENZENE	0.4	1.1
1,4-DICHLOROBENZENE	0.6	ND
M-XYLENE	0.18	452
O,P-XYLENE	0.15	941

90.3 % SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED
NA = NOT ANALYZED

PROJECT MANAGER: [signature]

DATE: 27 SEPTEMBER 1987

Analytical Technologies, Inc.

8709091800

METALS
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 9/09/87
LAB RECEIPT DATE: 9/11/87
MATRIX: WATER

SAMPLE ID: 8709091000
LOCATION: GBR-33
LAB SAMPLE #: 3328-1
UNITS: mg/l

ANALYSIS DATE	CONSTITUENT NAME	DILUTION FACTOR	DETECTION LIMIT	RESULT
9/16/87	ARSENIC (As)	1	0.010	ND
9/23/87	BARIUM (Ba)	1	0.060	0.14
9/21/87	CADMIUM (Cd)	1	0.003	0.010
9/16/87	HEXAVALENT CHROMIUM (CR+6)	1	0.03	ND
9/21/87	TOTAL CHROMIUM (Cr Tot)	1	0.010	0.014
9/17/87	LEAD (Pb)	1	0.002	0.013
9/25/87	MERCURY (Hg)	1	0.0002	ND
9/16/87	SELENIUM (Se)	1	0.010	ND
9/22/87	SILVER (Ag)	1	0.010	0.021

NOTE: ND = NOT DETECTED
NA = NOT ANALYZED

PROJECT MANAGER: [signature]

DATE: 22 SEPTEMBER 1987

Analytical Technologies, Inc.

8709100815

METALS
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 9/10/87
LAB RECEIPT DATE: 9/11/87
MATRIX: WATER

SAMPLE ID: 8709100815
LOCATION: GBR-24D
LAB SAMPLE #: 3328-2
UNITS: mg/l

ANALYSIS DATE	CONSTITUENT NAME	DILUTION FACTOR	DETECTION LIMIT	RESULT
9/16/87	ARSENIC (As)	1	0.010	ND
9/23/87	BARIUM (Ba)	1	0.060	0.10
9/21/87	CADMIUM (Cd)	1	0.003	0.019
9/16/87	HEXAVALENT CHROMIUM (CR+6)	1	0.03	ND
9/21/87	TOTAL CHROMIUM (Cr Tot)	1	0.010	0.096
9/17/87	LEAD (Pb)	1	0.002	0.027
9/25/87	MERCURY (Hg)	1	0.0002	ND
9/16/87	SELENIUM (Se)	1	0.010	ND
9/22/87	SILVER (Ag)	1	0.010	0.017

NOTE: ND = NOT DETECTED
NA = NOT ANALYZED

PROJECT MANAGER: [illegible]

DATE: 27 SEPTEMBER 1987

AnalyticalTechnologies,Inc.

8709100915

EPA METHOD 601/602
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 9/10/87
LAB RECEIPT DATE: 9/11/87
ANALYSIS DATE: 9/18/87
MATRIX: WATER
ANALYST: MGB

SAMPLE ID: 8709100915
LOCATION: GBR-15
LAB SAMPLE #: 3320-3
UNITS: ug/l
DILUTION FACTOR: 1

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	0.02	ND
BROMOMETHANE	0.06	ND
DICHLORODIFLUOROMETHANE	0.04	ND
VINYL CHLORIDE	0.05	ND
CHLOROETHANE	0.1	ND
METHYLENE CHLORIDE	0.02	ND
TRICHLOROFLUOROMETHANE	0.07	ND
1,1-DICHLOROETHENE	0.07	ND
1,1-DICHLOROETHANE	0.05	0.9
TRANS-1,2-DICHLOROETHENE	0.09	ND
CHLOROFORM	0.05	ND
1,2-DICHLOROETHANE	0.07	51.4
1,1,1-TRICHLOROETHANE	0.03	ND
CARBON TETRACHLORIDE	0.08	ND
BROMODICHLOROMETHANE	0.04	ND
1,2-DICHLOROPROPANE	0.03	ND
TRANS-1,3-DICHLOROPROPENE	0.11	ND
TRICHLOROETHENE	0.06	ND
DIBROMOCHLOROMETHANE	0.07	ND
1,1,2-TRICHLOROETHANE	0.03	ND
CIS-1,3-DICHLOROPROPENE	0.07	ND
2-CHLOROETHYLVINYL ETHER	0.03	ND
BROMOFORM	0.09	ND
1,1,2,2-TETRACHLOROETHANE	0.03	ND
TETRACHLOROETHENE	0.03	ND
BENZENE	0.2	100
TOLUENE	0.4	2.4
CHLOROBENZENE	0.16	ND
ETHYLBENZENE	0.1	ND
1,3-DICHLOROBENZENE	0.4	ND
1,2-DICHLOROBENZENE	0.4	ND
1,4-DICHLOROBENZENE	0.6	ND
M-XYLENE	0.18	2.1
O,P-XYLENE	0.15	13.8

115 % SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED
NA = NOT ANALYZED

PROJECT MANAGER: [illegible]

DATE: 27 SEPTEMBER 1987

8709100915

Analytical Technologies, Inc.

METALS
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 9/10/87
LAB RECEIPT DATE: 9/11/87
MATRIX: WATER

SAMPLE ID: 8709100915
LOCATION: GBR-15
LAB SAMPLE #: 3328-3
UNITS: mg/l

ANALYSIS DATE	CONSTITUENT NAME	DILUTION FACTOR	DETECTION LIMIT	RESULT
9/16/87	ARSENIC (As)	1	0.010	ND
9/23/87	BARIUM (Ba)	1	0.060	ND
9/21/87	CADMIUM (Cd)	1	0.003	0.015
9/16/87	HEXAVALENT CHROMIUM (CR+6)	1	0.03	ND
9/21/87	TOTAL CHROMIUM (Cr Tot)	1	0.010	0.096
9/17/87	LEAD (Pb)	1	0.002	ND
9/25/87	MERCURY (Hg)	1	0.0002	ND
9/16/87	SELENIUM (Se)	1	0.010	ND
9/22/87	SILVER (Ag)	1	0.010	0.012

NOTE: ND = NOT DETECTED
NA = NOT ANALYZED

PROJECT MANAGER: [illegible]

DATE: 27 SEPTEMBER 1987

8709101000

Analytical Technologies, Inc.

EPA METHOD 601/602
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 9/10/87
LAB RECEIPT DATE: 9/11/87
ANALYSIS DATE: 9/10/87
MATRIX: WATER
ANALYST: MGD

SAMPLE ID: 8709101000
LOCATION: GBR-13
LAB SAMPLE #: 3328-4
UNITS: ug/l
DILUTION FACTOR: 50

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	1.0	ND
BROMOMETHANE	3.0	ND
DICHLORODIFLUOROMETHANE	2.0	ND
VINYL CHLORIDE	2.5	ND
CHLOROETHANE	50	ND
METHYLENE CHLORIDE	1.0	ND
TRICHLOROFLUOROMETHANE	3.5	ND
1,1-DICHLOROETHENE	3.5	ND
1,1-DICHLOROETHANE	2.5	58.9
TRANS-1,2-DICHLOROETHENE	4.5	44.7
CHLOROFORM	2.5	ND
1,2-DICHLOROETHANE	3.5	41.8
1,1,1-TRICHLOROETHANE	1.5	11.7
CARBON TETRACHLORIDE	4.0	ND
BROMODICHLOROMETHANE	2.0	ND
1,2-DICHLOROPROPANE	1.5	ND
TRANS-1,3-DICHLOROPROPENE	5.5	ND
TRICHLOROETHENE	3.0	ND
DIBROMOCHLOROMETHANE	3.5	ND
1,1,2-TRICHLOROETHANE	1.5	ND
CIS-1,3-DICHLOROPROPENE	3.5	ND
2-CHLOROETHYLVINYL ETHER	1.5	ND
BROMOFORM	4.5	ND
1,1,2,2-TETRACHLOROETHANE	1.5	ND
TETRACHLOROETHENE	1.5	ND
BENZENE	10	2470
TOLUENE	20	1240
CHLOROBENZENE	8.0	ND
ETHYLBENZENE	5.0	797
1,3-DICHLOROBENZENE	20	ND
1,2-DICHLOROBENZENE	20	ND
1,4-DICHLOROBENZENE	30	ND
M-XYLENE	9.0	1680
O,P-XYLENE	7.5	2110

115 % SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED
MDL * 50 = NORMAL DUE TO HIGH LEVELS

PROJECT MANAGER: [signature]

DATE: 27 SEPTEMBER 1987

Analytical Technologies, Inc.

8709101000

METALS
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 9/10/87
LAB RECEIPT DATE: 9/11/87
MATRIX: WATER

SAMPLE ID: 8709101000
LOCATION: GBR-13
LAB SAMPLE #: 3328-4
UNITS: mg/l

ANALYSIS DATE	CONSTITUENT NAME	DILUTION FACTOR	DETECTION LIMIT	RESULT
9/16/87	ARSENIC (As)	1	0.010	ND
9/23/87	BARIUM (Ba)	1	0.060	0.16
9/21/87	CADMIUM (Cd)	1	0.003	0.017
9/16/87	HEXAVALENT CHROMIUM (CR+6)	1	0.03	ND
9/21/87	TOTAL CHROMIUM (Cr Tot)	1	0.010	0.135
9/17/87	LEAD (Pb)	1	0.002	0.025
9/25/87	MERCURY (Hg)	1	0.0002	ND
9/16/87	SELENIUM (Se)	1	0.010	ND
9/22/87	SILVER (Ag)	1	0.010	0.027

NOTE: ND = NOT DETECTED
NA = NOT ANALYZED

PROJECT MANAGER: [illegible]

DATE: [illegible]

Analytical Technologies, Inc.

8709101045

EPA METHOD 601/602
PROJECT: GIANT MONITOR WELLS

ANALYSIS DATE: 9/17/87
MATRIX: WATER
ANALYST: MGB

SAMPLE ID: TRIP BLANK
LAB SAMPLE #: 3328
UNITS: ug/l
DILUTION FACTOR: 1

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	0.02	ND
BROMOMETHANE	0.06	ND
DICHLORODIFLUOROMETHANE	0.04	ND
VINYL CHLORIDE	0.05	ND
CHLOROETHANE	0.1	ND
METHYLENE CHLORIDE	0.02	ND
TRICHLOROFLUOROMETHANE	0.07	ND
1,1-DICHLOROETHENE	0.07	ND
1,1-DICHLOROETHANE	0.05	ND
TRANS-1,2-DICHLOROETHENE	0.09	ND
CHLOROFORM	0.05	ND
1,2-DICHLOROETHANE	0.07	ND
1,1,1-TRICHLOROETHANE	0.03	ND
CARBON TETRACHLORIDE	0.08	ND
BROMODICHLOROMETHANE	0.04	ND
1,2-DICHLOROPROPANE	0.03	ND
TRANS-1,3-DICHLOROPROPENE	0.11	ND
TRICHLOROETHENE	0.06	ND
DIBROMOCHLOROMETHANE	0.07	ND
1,1,2-TRICHLOROETHANE	0.03	ND
CIS-1,3-DICHLOROPROPENE	0.07	ND
2-CHLOROETHYLVINYL ETHER	0.03	ND
BROMOFORM	0.09	ND
1,1,2,2-TETRACHLOROETHANE	0.03	ND
TETRACHLOROETHENE	0.03	ND
BENZENE	0.2	ND
TOLUENE	0.4	ND
CHLOROBENZENE	0.16	ND
ETHYLBENZENE	0.1	ND
1,3-DICHLOROBENZENE	0.4	ND
1,2-DICHLOROBENZENE	0.4	ND
1,4-DICHLOROBENZENE	0.6	ND
M-XYLENE	0.18	ND
O,P-XYLENE	0.15	ND

[illegible] % SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED
NA = NOT ANALYZED

PROJECT MANAGER: [signature]

DATE: 22 SEPTEMBER 1987

8709101230

Analytical Technologies, Inc.

METALS
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 9/10/87
LAB RECEIPT DATE: 9/11/87
MATRIX: WATER

SAMPLE ID: 8709101230
LOCATION: GBR-9
LAB SAMPLE #: 3328-5
UNITS: mg/l

ANALYSIS DATE	CONSTITUENT NAME	DILUTION FACTOR	DETECTION LIMIT	RESULT
9/16/87	ARSENIC (As)	1	0.010	ND
9/23/87	BARIUM (Ba)	1	0.060	0.07
9/21/87	CADMIUM (Cd)	1	0.003	0.018
9/16/87	HEXAVALENT CHROMIUM (CR+6)	1	0.03	ND
9/21/87	TOTAL CHROMIUM (Cr Tot)	1	0.010	0.004
9/17/87	LEAD (Pb)	1	0.002	ND
9/25/87	MERCURY (Hg)	1	0.0002	ND
9/16/87	SELENIUM (Se)	1	0.010	ND
9/22/87	SILVER (Ag)	1	0.010	0.023

NOTE: ND = NOT DETECTED
NA = NOT ANALYZED

PROJECT MANAGER: [illegible]

DATE: 24 SEPTEMBER 1987

8709101230

Analytical Technologies, Inc.

EPA METHOD 601/602
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 9/10/87
LAB RECEIPT DATE: 9/11/87
ANALYSIS DATE: 9/18/87
MATRIX: WATER
ANALYST: MGB

SAMPLE ID: 8709101230
LOCATION: GBR-9
LAB SAMPLE #: 3320-5
UNITS: ug/l
DILUTION FACTOR: 1

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	0.02	ND
BROMOMETHANE	0.06	ND
DICHLORODIFLUOROMETHANE	0.04	ND
VINYL CHLORIDE	0.05	ND
CHLOROETHANE	0.1	ND
METHYLENE CHLORIDE	0.02	ND
TRICHLOROFLUOROMETHANE	0.07	ND
1,1-DICHLOROETHENE	0.07	0.4
1,1-DICHLOROETHANE	0.05	8.0
TRANS-1,2-DICHLOROETHENE	0.09	1.3
CHLOROFORM	0.05	ND
1,2-DICHLOROETHANE	0.07	23.3
1,1,1-TRICHLOROETHANE	0.03	0.7
CARBON TETRACHLORIDE	0.08	ND
BROMODICHLOROMETHANE	0.04	ND
1,2-DICHLOROPROPANE	0.03	ND
TRANS-1,3-DICHLOROPROPENE	0.11	ND
TRICHLOROETHENE	0.06	2.6
DIBROMOCHLOROMETHANE	0.07	ND
1,1,2-TRICHLOROETHANE	0.03	ND
CIS-1,3-DICHLOROPROPENE	0.07	ND
2-CHLOROETHYLVINYL ETHER	0.03	ND
BROMOFORM	0.09	ND
1,1,2,2-TETRACHLOROETHANE	0.03	ND
TETRACHLOROETHENE	0.03	ND
BENZENE	0.2	60.9
TOLUENE	0.4	4.4
CHLOROBENZENE	0.16	ND
ETHYLBENZENE	0.1	9.5
1,3-DICHLOROBENZENE	0.4	ND
1,2-DICHLOROBENZENE	0.4	ND
1,4-DICHLOROBENZENE	0.6	ND
M-XYLENE	0.18	22.6
O,P-XYLENE	0.15	31.8

110 % SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED
NQ = NOT QUANTIFIED

PROJECT MANAGER: [illegible]

DATE: [illegible]

8709101245

Analytical Technologies, Inc.

METALS
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 9/10/87
LAB RECEIPT DATE: 9/11/87
MATRIX: WATER

SAMPLE ID: 8709101245
LOCATION: GBR-6
LAB SAMPLE #: 3320-6
UNITS: mg/l

ANALYSIS DATE	CONSTITUENT NAME	DILUTION FACTOR	DETECTION LIMIT	RESULT
9/16/87	ARSENIC (As)	1	0.010	ND
9/23/87	BARIUM (Ba)	1	0.060	0.10
9/21/87	CADMIUM (Cd)	1	0.003	0.013
9/16/87	HEXAVALENT CHROMIUM (CR+6)	1	0.03	ND
9/21/87	TOTAL CHROMIUM (Cr Tot)	1	0.010	0.020
9/17/87	LEAD (Pb)	1	0.002	0.009
9/25/87	MERCURY (Hg)	1	0.0002	ND
9/16/87	SELENIUM (Se)	1	0.010	ND
9/22/87	SILVER (Ag)	1	0.010	0.023

NOTE: ND = NOT DETECTED
NA = NOT ANALYZED

PROJECT MANAGER: [signature]

DATE: 27 SEPTEMBER 1987

Analytical Technologies, Inc.

8709101245

EPA METHOD 601/602
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 9/10/87
LAB RECEIPT DATE: 9/11/87
ANALYSIS DATE: 9/10/87
MATRIX: WATER
ANALYST: MGB

SAMPLE ID: 8709101245
LOCATION: GBR-6
LAB SAMPLE #: 3320-6
UNITS: ug/l
DILUTION FACTOR: 1

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	0.02	ND
BROMOMETHANE	0.06	ND
DICHLORODIFLUOROMETHANE	0.04	ND
VINYL CHLORIDE	0.05	ND
CHLOROETHANE	0.1	ND
METHYLENE CHLORIDE	0.02	ND
TRICHLOROFLUOROMETHANE	0.07	ND
1,1-DICHLOROETHENE	0.07	ND
1,1-DICHLOROETHANE	0.05	0.9
TRANS-1,2-DICHLOROETHENE	0.09	ND
CHLOROFORM	0.05	ND
1,2-DICHLOROETHANE	0.07	2.6
1,1,1-TRICHLOROETHANE	0.03	ND
CARBON TETRACHLORIDE	0.08	ND
BROMODICHLOROMETHANE	0.04	ND
1,2-DICHLOROPROPANE	0.03	ND
TRANS-1,3-DICHLOROPROPENE	0.11	ND
TRICHLOROETHENE	0.06	ND
DIBROMOCHLOROMETHANE	0.07	ND
1,1,2-TRICHLOROETHANE	0.03	ND
CIS-1,3-DICHLOROPROPENE	0.07	ND
2-CHLOROETHYLVINYL ETHER	0.03	ND
BROMOFORM	0.09	ND
1,1,2,2-TETRACHLOROETHANE	0.03	ND
TETRACHLOROETHENE	0.03	0.3
BENZENE	0.2	101
TOLUENE	0.4	8.0
CHLOROBENZENE	0.16	ND
ETHYLBENZENE	0.1	74.4
1,3-DICHLOROBENZENE	0.4	ND
1,2-DICHLOROBENZENE	0.4	ND
1,4-DICHLOROBENZENE	0.6	ND
M-XYLENE	0.18	45.0
O,P-XYLENE	0.15	145

120 % SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED
NA = NOT ANALYZED

PROJECT MANAGER: [signature]

DATE: 22 SEPTEMBER 1987

Analytical Technologies, Inc.

8709100815

EPA METHOD 601/602
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 9/10/87
LAB RECEIPT DATE: 9/11/87
ANALYSIS DATE: 9/18/87
MATRIX: WATER
ANALYST: MGB

SAMPLE ID: 8709100815
LOCATION: GBR-24D
LAB SAMPLE #: 3320-2
UNITS: ug/l
DILUTION FACTOR: 1

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	0.02	ND
BROMOMETHANE	0.06	ND
DICHLORODIFLUOROMETHANE	0.04	ND
VINYL CHLORIDE	0.05	ND
CHLOROETHANE	0.1	ND
METHYLENE CHLORIDE	0.02	ND
TRICHLOROFLUOROMETHANE	0.07	ND
1,1-DICHLOROETHENE	0.07	ND
1,1-DICHLOROETHANE	0.05	ND
TRANS-1,2-DICHLOROETHENE	0.09	ND
CHLOROFORM	0.05	ND
1,2-DICHLOROETHANE	0.07	44.7
1,1,1-TRICHLOROETHANE	0.03	ND
CARBON TETRACHLORIDE	0.08	ND
BROMODICHLOROMETHANE	0.04	ND
1,2-DICHLOROPROPANE	0.03	ND
TRANS-1,3-DICHLOROPROPENE	0.11	ND
TRICHLOROETHENE	0.06	ND
DIBROMOCHLOROMETHANE	0.07	ND
1,1,2-TRICHLOROETHANE	0.03	ND
CIS-1,3-DICHLOROPROPENE	0.07	ND
2-CHLOROETHYLVINYL ETHER	0.03	ND
BROMOFORM	0.09	ND
1,1,2,2-TETRACHLOROETHANE	0.03	ND
TETRACHLOROETHENE	0.03	1.1
BENZENE	0.2	160
TOLUENE	0.4	47.7
CHLOROBENZENE	0.16	ND
ETHYLBENZENE	0.1	211
1,3-DICHLOROBENZENE	0.4	ND
1,2-DICHLOROBENZENE	0.4	1.9
1,4-DICHLOROBENZENE	0.6	ND
M-XYLENE	0.18	71.1
O,P-XYLENE	0.15	175

115 % SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED
NA = NOT ANALYZED

PROJECT MANAGER: [signature]

DATE: 27 SEPTEMBER 1987

8710061504

AnalyticalTechnologies, Inc.

EPA METHOD 601/602
PROJECT: GBR

SAMPLE DATE: 10/06/87
LAB RECEIPT DATE: 10/09/87
ANALYSIS DATE/TIME: 10/12/87, 13:04
MATRIX: WATER
ANALYST: MGB

SAMPLE ID: 8710061504
LOCATION: GBR 6
LAB SAMPLE #: 3439-1
UNITS: ug/l
DILUTION FACTOR: 10

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	0.2	ND
BROMOMETHANE	0.6	ND
DICHLORODIFLUOROMETHANE	0.4	ND
VINYL CHLORIDE	0.5	ND
CHLOROETHANE	1	ND
METHYLENE CHLORIDE	0.2	ND
TRICHLOROFLUOROMETHANE	0.7	ND
1,1-DICHLOROETHENE	0.7	ND
1,1-DICHLOROETHANE	0.5	ND
TRANS-1,2-DICHLOROETHENE	0.9	ND
CHLOROFORM	0.5	ND
1,2-DICHLOROETHANE	0.7	ND
1,1,1-TRICHLOROETHANE	0.3	ND
CARBON TETRACHLORIDE	0.8	ND
BROMODICHLOROMETHANE	0.4	ND
1,2-DICHLOROPROPANE	0.3	ND
TRANS-1,3-DICHLOROPROPENE	1.1	ND
TRICHLOROETHENE	0.6	ND
DIBROMOCHLOROMETHANE	0.7	ND
1,1,2-TRICHLOROETHANE	0.3	ND
CIS-1,3-DICHLOROPROPENE	0.7	ND
2-CHLOROETHYLVINYL ETHER	0.3	ND
BROMOFORM	0.9	ND
1,1,2,2-TETRACHLOROETHANE	0.3	ND
TETRACHLOROETHENE	0.3	ND
BENZENE	2	85.0
TOLUENE	4	ND
CHLOROBENZENE	1.6	ND
ETHYLBENZENE	1	169
1,3-DICHLOROBENZENE	4	ND
1,2-DICHLOROBENZENE	4	ND
1,4-DICHLOROBENZENE	6	ND
M-XYLENE	1.8	ND
O,P-XYLENE	1.5	46.3

89.0 % SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED
MDL 10 x NORMAL DUE TO HIGH LEVELS

PROJECT MANAGER: [signature]

DATE: 10/28/87

8710061504

Analytical Technologies, Inc.

METALS
PROJECT: GBR

SAMPLE DATE: 10/06/87
LAB RECEIPT DATE: 10/09/87
MATRIX: WATER

SAMPLE ID: 8710061504
LOCATION: GBR-6
LAB SAMPLE #: 3439-1
UNITS: mg/l

ANALYSIS DATE	CONSTITUENT NAME	DILUTION FACTOR	DETECTION LIMIT	RESULT
10/14/87	ARSENIC (As)	1	0.010	ND
10/15/87	BARIUM (Ba)	1	0.060	ND
10/13/87	CADMIUM (Cd)	1	0.003	0.006
10/12/87	HEXAVALENT CHROMIUM (CR+6)	1	0.03	ND
10/13/87	TOTAL CHROMIUM (T. Cr)	1	0.010	ND
10/12/87	LEAD (Pb)	1	0.002	0.003
10/18/87	MERCURY (Hg)	1	0.0002	ND
10/14/87	SELENIUM (Se)	1	0.010	ND
10/14/87	SILVER (Ag)	1	0.010	0.012

NOTE: ND = NOT DETECTED
NA = NOT ANALYZED

PROJECT MANAGER: [signature]

DATE: 10/28/87

8710061629

Analytical Technologies, Inc.

EPA METHOD 601/602
PROJECT: GBR

SAMPLE DATE: 10/06/87
LAB RECEIPT DATE: 10/09/87
ANALYSIS DATE/TIME: 10/12/87, 13:56
MATRIX: WATER
ANALYST: MGB

SAMPLE ID: 8710061629
LOCATION: S. TANK
LAB SAMPLE #: 3439-2
UNITS: ug/l
DILUTION FACTOR: 1

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	0.02	ND
BROMOMETHANE	0.06	ND
DICHLORODIFLUOROMETHANE	0.04	ND
VINYL CHLORIDE	0.05	ND
CHLOROETHANE	0.1	ND
METHYLENE CHLORIDE	0.02	ND
TRICHLOROFLUOROMETHANE	0.07	ND
1,1-DICHLOROETHENE	0.07	ND
1,1-DICHLOROETHANE	0.05	14.5
TRANS-1,2-DICHLOROETHENE	0.09	14.2
CHLOROFORM	0.05	ND
1,2-DICHLOROETHANE	0.07	5.9
1,1,1-TRICHLOROETHANE	0.03	1.9
CARBON TETRACHLORIDE	0.08	ND
BROMODICHLOROMETHANE	0.04	ND
1,2-DICHLOROPROPANE	0.03	ND
TRANS-1,3-DICHLOROPROPENE	0.11	ND
TRICHLOROETHENE	0.06	6.1
DIBROMOCHLOROMETHANE	0.07	ND
1,1,2-TRICHLOROETHANE	0.03	ND
CIS-1,3-DICHLOROPROPENE	0.07	ND
2-CHLOROETHYLVINYL ETHER	0.03	ND
BROMOFORM	0.09	ND
1,1,2,2-TETRACHLOROETHANE	0.03	ND
TETRACHLOROETHENE	0.03	1.1
BENZENE	0.2	17.3
TOLUENE	0.4	5.6
CHLOROBENZENE	0.16	ND
ETHYLBENZENE	0.1	ND
1,3-DICHLOROBENZENE	0.4	ND
1,2-DICHLOROBENZENE	0.4	ND
1,4-DICHLOROBENZENE	0.6	ND
M-XYLENE	0.18	ND
O,P-XYLENE	0.15	51.4

99.9 % SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED
NA = NOT ANALYZED

346

PROJECT MANAGER: [signature]

DATE: 10/28/87

8710061629

Analytical Technologies, Inc.

METALS
PROJECT: GBR

SAMPLE DATE: 10/06/87
LAB RECEIPT DATE: 10/09/87
MATRIX: WATER

SAMPLE ID: 8710061629
LOCATION: S. TANK
LAB SAMPLE #: 3439-2
UNITS: mg/l

ANALYSIS DATE	CONSTITUENT NAME	DILUTION FACTOR	DETECTION LIMIT	RESULT
10/14/87	ARSENIC (As)	1	0.010	ND
10/15/87	BARIUM (Ba)	1	0.060	ND
10/13/87	CADMIUM (Cd)	1	0.003	0.009
10/12/87	HEXAVALENT CHROMIUM (CR+6)	1	0.03	ND
10/13/87	TOTAL CHROMIUM (T. Cr)	1	0.010	ND
10/12/87	LEAD (Pb)	1	0.002	0.005
10/18/87	MERCURY (Hg)	1	0.0002	ND
10/14/87	SELENIUM (Se)	1	0.010	ND
10/14/87	SILVER (Ag)	1	0.010	0.018

NOTE: ND = NOT DETECTED
NA = NOT ANALYZED

346

PROJECT MANAGER: [signature]

DATE: 10/28/87

8710061655

Analytical**Technologies**, Inc.

EPA METHOD 601/602
PROJECT: GBR

SAMPLE DATE: 10/06/87
LAB RECEIPT DATE: 10/09/87
ANALYSIS DATE/TIME: 10/12/87, 14:49
MATRIX: WATER
ANALYST: MGB

SAMPLE ID: 8710061655
LOCATION: GBR-9
LAB SAMPLE #: 3439-3
UNITS: ug/l
DILUTION FACTOR: 100

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	2.0	ND
BROMOMETHANE	6.0	ND
DICHLORODIFLUOROMETHANE	4.0	ND
VINYL CHLORIDE	5.0	ND
CHLOROETHANE	10	ND
METHYLENE CHLORIDE	2.0	ND
TRICHLOROFLUOROMETHANE	7.0	ND
1,1-DICHLOROETHENE	7.0	ND
1,1-DICHLOROETHANE	5.0	ND
TRANS-1,2-DICHLOROETHENE	9.0	ND
CHLOROFORM	5.0	ND
1,2-DICHLOROETHANE	7.0	ND
1,1,1-TRICHLOROETHANE	3.0	ND
CARBON TETRACHLORIDE	8.0	ND
BROMODICHLOROMETHANE	4.0	ND
1,2-DICHLOROPROPANE	3.0	ND
TRANS-1,3-DICHLOROPROPENE	11	ND
TRICHLOROETHENE	6.0	ND
DIBROMOCHLOROMETHANE	7.0	ND
1,1,2-TRICHLOROETHANE	3.0	ND
CIS-1,3-DICHLOROPROPENE	7.0	ND
2-CHLOROETHYLVINYL ETHER	3.0	ND
BROMOFORM	9.0	ND
1,1,2,2-TETRACHLOROETHANE	3.0	ND
TETRACHLOROETHENE	3.0	ND
BENZENE	20	7750
TOLUENE	40	1160
CHLOROBENZENE	16	ND
ETHYLBENZENE	5.0	1320
1,3-DICHLOROBENZENE	40	ND
1,2-DICHLOROBENZENE	40	ND
1,4-DICHLOROBENZENE	60	ND
M-XYLENE	18	2670
O,P-XYLENE	15	2930

94.3 % SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED
MDL 100 x NORMAL DUE TO HIGH LEVELS

346

PROJECT MANAGER: [signature]

DATE: 10/28/87

8710061655

AnalyticalTechnologies, Inc.

METALS
PROJECT: GBR

SAMPLE DATE: 10/06/87
LAB RECEIPT DATE: 10/09/87
MATRIX: WATER

SAMPLE ID: 8710061655
LOCATION: GBR-B
LAB SAMPLE #: 3439-3
UNITS: mg/kg

ANALYSIS DATE	CONSTITUENT NAME	DILUTION FACTOR	DETECTION LIMIT	RESULT
10/21/87	ARSENIC (As)	400	4.0	12.0
10/23/87	BARIUM (Ba)	100	6.0	ND
10/23/87	CADMIUM (Cd)	100	0.3	1.2
10/23/87	HEXAVALENT CHROMIUM (CR+6)	1	0.03	ND
10/21/87	TOTAL CHROMIUM (T. Cr)	100	1.0	17.3
10/23/87	LEAD (Pb)	800	1.6	30.4
10/21/87	MERCURY (Hg)	10	0.002	ND
10/22/87	SELENIUM (Se)	100	1.0	ND
10/27/87	SILVER (Ag)	100	1.0	1.6

NOTE: ND = NOT DETECTED
NA = NOT ANALYZED

346

PROJECT MANAGER: [signature]

DATE: 10/28/87

8710070745

Analytical**Technologies**, Inc.

EPA METHOD 601/602
PROJECT: GBR

SAMPLE DATE: 10/07/87
LAB RECEIPT DATE: 10/09/87
ANALYSIS DATE/TIME: 10/13/87, 13:00
MATRIX: WATER
ANALYST: MGB

SAMPLE ID: 8710070745
LOCATION: N. TANK
LAB SAMPLE #: 3439-4
UNITS: ug/l
DILUTION FACTOR: 50

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	1.0	ND
BROMOMETHANE	3.0	ND
DICHLORODIFLUOROMETHANE	2.0	ND
VINYL CHLORIDE	2.5	ND
CHLOROETHANE	50	ND
METHYLENE CHLORIDE	1.0	ND
TRICHLOROFLUOROMETHANE	3.5	ND
1,1-DICHLOROETHENE	3.5	ND
1,1-DICHLOROETHANE	2.5	ND
TRANS-1,2-DICHLOROETHENE	4.5	ND
CHLOROFORM	2.5	ND
1,2-DICHLOROETHANE	3.5	ND
1,1,1-TRICHLOROETHANE	1.5	ND
CARBON TETRACHLORIDE	4.0	ND
BROMODICHLOROMETHANE	2.0	ND
1,2-DICHLOROPROPANE	1.5	ND
TRANS-1,3-DICHLOROPROPENE	5.5	ND
TRICHLOROETHENE	3.0	ND
DIBROMOCHLOROMETHANE	3.5	ND
1,1,2-TRICHLOROETHANE	1.5	ND
CIS-1,3-DICHLOROPROPENE	3.5	ND
2-CHLOROETHYLVINYL ETHER	1.5	ND
BROMOFORM	4.5	ND
1,1,2,2-TETRACHLOROETHANE	1.5	ND
TETRACHLOROETHENE	1.5	ND
BENZENE	10	1840
TOLUENE	20	2210
CHLOROBENZENE	8.0	ND
ETHYLBENZENE	5.0	1760
1,3-DICHLOROBENZENE	20	ND
1,2-DICHLOROBENZENE	20	ND
1,4-DICHLOROBENZENE	30	ND
M-XYLENE	9.0	4410
O,P-XYLENE	7.5	4110

123 % SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED
MDL 50 x NORMAL DUE TO HIGH LEVELS

346

PROJECT MANAGER: [signature]

DATE: 10/28/87

8710070745

Analytical**Technologies,** Inc.

METALS
PROJECT: GBR

SAMPLE DATE: 10/07/87
LAB RECEIPT DATE: 10/09/87
MATRIX: WATER

SAMPLE ID: 8710070745
LOCATION: N. TANK
LAB SAMPLE #: 3439-4
UNITS: mg/kg

ANALYSIS DATE	CONSTITUENT NAME	DILUTION FACTOR	DETECTION LIMIT	RESULT
10/21/87	ARSENIC (As)	100	1.0	ND
10/23/87	BARIUM (Ba)	100	6.0	ND
10/23/87	CADMIUM (Cd)	100	0.3	0.3
10/12/87	HEXAVALENT CHROMIUM (CR+6)	1	0.03	ND
10/23/87	TOTAL CHROMIUM (T. Cr)	100	1.0	ND
10/21/87	LEAD (Pb)	100	0.2	4.7
10/18/87	MERCURY (Hg)	10	0.002	ND
10/22/87	SELENIUM (Se)	100	1.0	ND
10/27/87	SILVER (Ag)	100	1.0	ND

NOTE: ND = NOT DETECTED
NA = NOT ANALYZED

346

PROJECT MANAGER: Kara M. Humphreys DATE: 10/28/87

8710070820

Analytical**Technologies**, Inc.

EPA METHOD 601/602
PROJECT: GBR

SAMPLE DATE: 10/07/87
LAB RECEIPT DATE: 10/09/87
ANALYSIS DATE/TIME: 10/12/87, 16:35
MATRIX: WATER
ANALYST: MGB

SAMPLE ID: 8710070820
LOCATION: GBR 33
LAB SAMPLE #: 3439-5
UNITS: ug/l
DILUTION FACTOR: 50

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	1.0	ND
BROMOMETHANE	3.0	ND
DICHLORODIFLUOROMETHANE	2.0	ND
VINYL CHLORIDE	2.5	ND
CHLOROETHANE	50	ND
METHYLENE CHLORIDE	1.0	ND
TRICHLOROFLUOROMETHANE	3.5	ND
1,1-DICHLOROETHENE	3.5	ND
1,1-DICHLOROETHANE	2.5	ND
TRANS-1,2-DICHLOROETHENE	4.5	ND
CHLOROFORM	2.5	ND
1,2-DICHLOROETHANE	3.5	ND
1,1,1-TRICHLOROETHANE	1.5	ND
CARBON TETRACHLORIDE	4.0	ND
BROMODICHLOROMETHANE	2.0	ND
1,2-DICHLOROPROPANE	1.5	ND
TRANS-1,3-DICHLOROPROPENE	5.5	ND
TRICHLOROETHENE	3.0	37
DIBROMOCHLOROMETHANE	3.5	ND
1,1,2-TRICHLOROETHANE	1.5	ND
CIS-1,3-DICHLOROPROPENE	3.5	ND
2-CHLOROETHYLVINYL ETHER	1.5	ND
BROMOFORM	4.5	ND
1,1,2,2-TETRACHLOROETHANE	1.5	ND
TETRACHLOROETHENE	1.5	ND
BENZENE	10	503
TOLUENE	20	136
CHLOROBENZENE	8.0	ND
ETHYLBENZENE	5.0	370
1,3-DICHLOROBENZENE	20	ND
1,2-DICHLOROBENZENE	20	ND
1,4-DICHLOROBENZENE	30	ND
M-XYLENE	9.0	432
O,P-XYLENE	7.5	900

107 % SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED
MDL 50 x NORMAL DUE TO HIGH LEVELS

346

PROJECT MANAGER: JMH

DATE: 10/28/87

8710070820

Analytical Technologies, Inc.

METALS
PROJECT: GBR

SAMPLE DATE: 10/07/87
LAB RECEIPT DATE: 10/09/87
MATRIX: WATER

SAMPLE ID: 8710070820
LOCATION: GBR 33
LAB SAMPLE #: 3439-5
UNITS: mg/kg

ANALYSIS DATE	CONSTITUENT NAME	DILUTION FACTOR	DETECTION LIMIT	RESULT
10/21/87	ARSENIC (As)	1000	10.0	38.0
10/23/87	BARIUM (Ba)	100	6.0	ND
10/23/87	CADMIUM (Cd)	100	0.3	16.7
10/12/87	HEXAVALENT CHROMIUM (CR+6)	1	0.03	ND
10/23/87	TOTAL CHROMIUM (T. Cr)	100	1.0	72.8
10/21/87	LEAD (Pb)	200	0.4	8.8
10/18/87	MERCURY (Hg)	10	0.002	ND
10/22/87	SELENIUM (Se)	4000	4.0	179
10/27/87	SILVER (Ag)	100	1.0	2.0

NOTE: ND = NOT DETECTED
NA = NOT ANALYZED

346

PROJECT MANAGER: JMA

DATE: 10/28/87

8710070905

Analytical Technologies, Inc.

EPA METHOD 601/602
PROJECT: GBR

SAMPLE DATE: 10/07/87
LAB RECEIPT DATE: 10/09/87
ANALYSIS DATE/TIME: 10/12/87, 17:27
MATRIX: WATER
ANALYST: MGB

SAMPLE ID: 8710070905
LOCATION: GBR 13
LAB SAMPLE #: 3439-6
UNITS: ug/l
DILUTION FACTOR: 50

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	1.0	ND
BROMOMETHANE	3.0	ND
DICHLORODIFLUOROMETHANE	2.0	ND
VINYL CHLORIDE	2.5	ND
CHLOROETHANE	50	ND
METHYLENE CHLORIDE	1.0	ND
TRICHLOROFLUOROMETHANE	3.5	ND
1,1-DICHLOROETHENE	3.5	ND
1,1-DICHLOROETHANE	2.5	60
TRANS-1,2-DICHLOROETHENE	4.5	55
CHLOROFORM	2.5	ND
1,2-DICHLOROETHANE	3.5	34
1,1,1-TRICHLOROETHANE	1.5	ND
CARBON TETRACHLORIDE	4.0	ND
BROMODICHLOROMETHANE	2.0	ND
1,2-DICHLOROPROPANE	1.5	ND
TRANS-1,3-DICHLOROPROPENE	5.5	ND
TRICHLOROETHENE	3.0	15
DIBROMOCHLOROMETHANE	3.5	ND
1,1,2-TRICHLOROETHANE	1.5	ND
CIS-1,3-DICHLOROPROPENE	3.5	ND
2-CHLOROETHYLVINYL ETHER	1.5	ND
BROMOFORM	4.5	ND
1,1,2,2-TETRACHLOROETHANE	1.5	ND
TETRACHLOROETHENE	1.5	ND
BENZENE	10	1130
TOLUENE	20	288
CHLOROBENZENE	8.0	ND
ETHYLBENZENE	5.0	495
1,3-DICHLOROBENZENE	20	ND
1,2-DICHLOROBENZENE	20	ND
1,4-DICHLOROBENZENE	30	ND
M-XYLENE	9.0	730
O,P-XYLENE	7.5	985

118 % SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED
MDL 50 x NORMAL DUE TO HIGH LEVELS

346

PROJECT MANAGER: [signature]

DATE: 10/28/87

8710070905

AnalyticalTechnologies, Inc.

METALS
PROJECT: GBR

SAMPLE DATE: 10/07/87
LAB RECEIPT DATE: 10/09/87
MATRIX: WATER

SAMPLE ID: 8710070905
LOCATION: GBR 13
LAB SAMPLE #: 3439-6
UNITS: mg/l

ANALYSIS DATE	CONSTITUENT NAME	DILUTION FACTOR	DETECTION LIMIT	RESULT
10/14/87	ARSENIC (As)	1	0.010	ND
10/15/87	BARIUM (Ba)	1	0.060	ND
10/13/87	CADMIUM (Cd)	1	0.003	0.016
10/12/87	HEXAVALENT CHROMIUM (CR+6)	1	0.03	ND
10/13/87	TOTAL CHROMIUM (T. Cr)	1	0.010	0.056
10/12/87	LEAD (Pb)	1	0.002	0.012
10/18/87	MERCURY (Hg)	1	0.0002	ND
10/14/87	SELENIUM (Se)	1	0.010	ND
10/14/87	SILVER (Ag)	1	0.010	0.030

NOTE: ND = NOT DETECTED
NA = NOT ANALYZED

346

PROJECT MANAGER: [signature]

DATE: 10/28/87

8710070955

AnalyticalTechnologies, Inc.

EPA METHOD 601/602
PROJECT: GBR

SAMPLE DATE: 10/07/87
LAB RECEIPT DATE: 10/09/87
ANALYSIS DATE/TIME: 10/12/87, 18:20
MATRIX: WATER
ANALYST: MGB

SAMPLE ID: 8710070955
LOCATION: GBR 15
LAB SAMPLE #: 3439-7
UNITS: ug/l
DILUTION FACTOR: 1

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	0.02	ND
BROMOMETHANE	0.06	ND
DICHLORODIFLUOROMETHANE	0.04	ND
VINYL CHLORIDE	0.05	ND
CHLOROETHANE	0.1	ND
METHYLENE CHLORIDE	0.02	ND
TRICHLOROFLUOROMETHANE	0.07	ND
1,1-DICHLOROETHENE	0.07	ND
1,1-DICHLOROETHANE	0.05	ND
TRANS-1,2-DICHLOROETHENE	0.09	ND
CHLOROFORM	0.05	ND
1,2-DICHLOROETHANE	0.07	68.7
1,1,1-TRICHLOROETHANE	0.03	ND
CARBON TETRACHLORIDE	0.08	ND
BROMODICHLOROMETHANE	0.04	ND
1,2-DICHLOROPROPANE	0.03	ND
TRANS-1,3-DICHLOROPROPENE	0.11	ND
TRICHLOROETHENE	0.06	ND
DIBROMOCHLOROMETHANE	0.07	ND
1,1,2-TRICHLOROETHANE	0.03	ND
CIS-1,3-DICHLOROPROPENE	0.07	ND
2-CHLOROETHYLVINYL ETHER	0.03	ND
BROMOFORM	0.09	ND
1,1,2,2-TETRACHLOROETHANE	0.03	ND
TETRACHLOROETHENE	0.03	ND
BENZENE	0.2	70.5
TOLUENE	0.4	1.5
CHLOROBENZENE	0.16	ND
ETHYLBENZENE	0.1	1.9
1,3-DICHLOROBENZENE	0.4	ND
1,2-DICHLOROBENZENE	0.4	ND
1,4-DICHLOROBENZENE	0.6	ND
M-XYLENE	0.18	2.5
O,P-XYLENE	0.15	5.4

123 % SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED
NA = NOT ANALYZED

346

PROJECT MANAGER: [signature]

DATE: 10/28/87

8710070955

Analytical Technologies, Inc.

METALS
PROJECT: GBR

SAMPLE DATE: 10/07/87
LAB RECEIPT DATE: 10/09/87
MATRIX: WATER

SAMPLE ID: 8710070955
LOCATION: GBR 15
LAB SAMPLE #: 3439-7
UNITS: mg/l

ANALYSIS DATE	CONSTITUENT NAME	DILUTION FACTOR	DETECTION LIMIT	RESULT
10/14/87	ARSENIC (As)	1	0.010	ND
10/15/87	BARIUM (Ba)	1	0.060	ND
10/13/87	CADMIUM (Cd)	1	0.003	0.018
10/12/87	HEXAVALENT CHROMIUM (CR+6)	1	0.03	ND
10/13/87	TOTAL CHROMIUM (T. Cr)	1	0.010	0.020
10/12/87	LEAD (Pb)	1	0.002	0.003
10/18/87	MERCURY (Hg)	1	0.0002	ND
10/14/87	SELENIUM (Se)	1	0.010	ND
10/14/87	SILVER (Ag)	1	0.010	0.020

NOTE: ND = NOT DETECTED
NA = NOT ANALYZED

346

PROJECT MANAGER: [signature]

DATE: 10/28/87

8710071130

Analytical**Technologies**, Inc.

EPA METHOD 601/602
PROJECT: GBR

SAMPLE DATE: 10/07/87
LAB RECEIPT DATE: 10/09/87
ANALYSIS DATE/TIME: 10/12/87, 20:05
MATRIX: WATER
ANALYST: MGB

SAMPLE ID: 8710071130
LOCATION: GBR9
LAB SAMPLE #: 3439-8
UNITS: ug/l
DILUTION FACTOR: 1

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	0.02	ND
BROMOMETHANE	0.06	ND
DICHLORODIFLUOROMETHANE	0.04	ND
VINYL CHLORIDE	0.05	ND
CHLOROETHANE	0.1	ND
METHYLENE CHLORIDE	0.02	ND
TRICHLOROFLUOROMETHANE	0.07	ND
1,1-DICHLOROETHENE	0.07	0.6
1,1-DICHLOROETHANE	0.05	9.4
TRANS-1,2-DICHLOROETHENE	0.09	1.8
CHLOROFORM	0.05	ND
1,2-DICHLOROETHANE	0.07	28.6
1,1,1-TRICHLOROETHANE	0.03	0.3
CARBON TETRACHLORIDE	0.08	ND
BROMODICHLOROMETHANE	0.04	ND
1,2-DICHLOROPROPANE	0.03	ND
TRANS-1,3-DICHLOROPROPENE	0.11	ND
TRICHLOROETHENE	0.06	4.1
DIBROMOCHLOROMETHANE	0.07	ND
1,1,2-TRICHLOROETHANE	0.03	ND
CIS-1,3-DICHLOROPROPENE	0.07	ND
2-CHLOROETHYLVINYL ETHER	0.03	ND
BROMOFORM	0.09	ND
1,1,2,2-TETRACHLOROETHANE	0.03	ND
TETRACHLOROETHENE	0.03	ND
BENZENE	0.2	29.3
TOLUENE	0.4	5.1
CHLOROBENZENE	0.16	ND
ETHYLBENZENE	0.1	6.4
1,3-DICHLOROBENZENE	0.4	ND
1,2-DICHLOROBENZENE	0.4	ND
1,4-DICHLOROBENZENE	0.6	ND
M-XYLENE	0.18	18.7
O,P-XYLENE	0.15	25.4

108 % SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED
NA = NOT ANALYZED

346

PROJECT MANAGER: [signature] DATE: 10/28/87

8710071130

Analytical Technologies, Inc.

METALS
PROJECT: GBR

SAMPLE DATE: 10/07/87
LAB RECEIPT DATE: 10/09/87
MATRIX: WATER

SAMPLE ID: 8710071130
LOCATION: GBR 9
LAB SAMPLE #: 3439-8
UNITS: mg/l

ANALYSIS DATE	CONSTITUENT NAME	DILUTION FACTOR	DETECTION LIMIT	RESULT
10/14/87	ARSENIC (As)	1	0.010	ND
10/15/87	BARIUM (Ba)	1	0.060	ND
10/13/87	CADMIUM (Cd)	1	0.003	0.010
10/12/87	HEXAVALENT CHROMIUM (CR+6)	1	0.03	ND
10/13/87	TOTAL CHROMIUM (T. Cr)	1	0.010	ND
10/12/87	LEAD (Pb)	1	0.002	ND
10/18/87	MERCURY (Hg)	1	0.0002	ND
10/14/87	SELENIUM (Se)	1	0.010	ND
10/14/87	SILVER (Ag)	1	0.010	0.019

NOTE: ND = NOT DETECTED
NA = NOT ANALYZED

346

PROJECT MANAGER: [signature]

DATE: 10/28/87

8710071430

AnalyticalTechnologies, Inc.

EPA METHOD 601/602
PROJECT: GBR

SAMPLE DATE: 10/07/87
LAB RECEIPT DATE: 10/09/87
ANALYSIS DATE/TIME: 10/12/87, 20:57
MATRIX: WATER
ANALYST: MGB

SAMPLE ID: 8710071430
LOCATION: GBR 32
LAB SAMPLE #: 3439-9
UNITS: ug/l
DILUTION FACTOR: 1

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	0.02	ND
BROMOMETHANE	0.06	ND
DICHLORODIFLUOROMETHANE	0.04	ND
VINYL CHLORIDE	0.05	ND
CHLOROETHANE	0.1	ND
METHYLENE CHLORIDE	0.02	ND
TRICHLOROFLUOROMETHANE	0.07	ND
1,1-DICHLOROETHENE	0.07	ND
1,1-DICHLOROETHANE	0.05	10.4
TRANS-1,2-DICHLOROETHENE	0.09	35
CHLOROFORM	0.05	ND
1,2-DICHLOROETHANE	0.07	ND
1,1,1-TRICHLOROETHANE	0.03	3.3
CARBON TETRACHLORIDE	0.08	ND
BROMODICHLOROMETHANE	0.04	ND
1,2-DICHLOROPROPANE	0.03	0.5
TRANS-1,3-DICHLOROPROPENE	0.11	ND
TRICHLOROETHENE	0.06	13.4
DIBROMOCHLOROMETHANE	0.07	ND
1,1,2-TRICHLOROETHANE	0.03	ND
CIS-1,3-DICHLOROPROPENE	0.07	ND
2-CHLOROETHYLVINYL ETHER	0.03	ND
BROMOFORM	0.09	ND
1,1,2,2-TETRACHLOROETHANE	0.03	ND
TETRACHLOROETHENE	0.03	16.6
BENZENE	0.2	ND
TOLUENE	0.4	ND
CHLOROBENZENE	0.16	ND
ETHYLBENZENE	0.1	ND
1,3-DICHLOROBENZENE	0.4	ND
1,2-DICHLOROBENZENE	0.4	ND
1,4-DICHLOROBENZENE	0.6	ND
M-XYLENE	0.18	ND
O,P-XYLENE	0.15	ND

99.4 % SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED
NA = NOT ANALYZED

346

PROJECT MANAGER: [signature]

DATE: 10/28/87

8710071430

Analytical**Technologies**, Inc.

METALS
PROJECT: GBR

SAMPLE DATE: 10/07/87
LAB RECEIPT DATE: 10/09/87
MATRIX: WATER

SAMPLE ID: 8710071430
LOCATION: GBR-3D
LAB SAMPLE #: 3439-9
UNITS: mg/l

ANALYSIS DATE	CONSTITUENT NAME	DILUTION FACTOR	DETECTION LIMIT	RESULT
10/14/87	ARSENIC (As)	1	0.010	ND
10/15/87	BARIUM (Ba)	1	0.060	ND
10/13/87	CADMIUM (Cd)	1	0.003	0.012
10/12/87	HEXAVALENT CHROMIUM (CR+6)	1	0.03	ND
10/13/87	TOTAL CHROMIUM (T. Cr)	1	0.010	0.032
10/12/87	LEAD (Pb)	1	0.002	ND
10/18/87	MERCURY (Hg)	1	0.0002	ND
10/14/87	SELENIUM (Se)	4	0.010	0.165
10/14/87	SILVER (Ag)	1	0.010	0.024

NOTE: ND = NOT DETECTED
NA = NOT ANALYZED

346

PROJECT MANAGER: JMH

DATE: 10/28/87

8710071530

AnalyticalTechnologies, Inc.

EPA METHOD 601/602
PROJECT: GBR

SAMPLE DATE: 10/07/87
LAB RECEIPT DATE: 10/09/87
ANALYSIS DATE/TIME: 10/12/87, 21:49
MATRIX: WATER
ANALYST: MGB

SAMPLE ID: 8710071530
LOCATION: GBR 17
LAB SAMPLE #: 3439-10
UNITS: ug/l
DILUTION FACTOR: 1

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	0.02	ND
BROMOMETHANE	0.06	ND
DICHLORODIFLUOROMETHANE	0.04	ND
VINYL CHLORIDE	0.05	ND
CHLOROETHANE	0.1	ND
METHYLENE CHLORIDE	0.02	ND
TRICHLOROFLUOROMETHANE	0.07	ND
1,1-DICHLOROETHENE	0.07	ND
1,1-DICHLOROETHANE	0.05	3.3
TRANS-1,2-DICHLOROETHENE	0.09	1.2
CHLOROFORM	0.05	ND
1,2-DICHLOROETHANE	0.07	ND
1,1,1-TRICHLOROETHANE	0.03	4.0
CARBON TETRACHLORIDE	0.08	ND
BROMODICHLOROMETHANE	0.04	ND
1,2-DICHLOROPROPANE	0.03	ND
TRANS-1,3-DICHLOROPROPENE	0.11	ND
TRICHLOROETHENE	0.06	0.4
DIBROMOCHLOROMETHANE	0.07	ND
1,1,2-TRICHLOROETHANE	0.03	ND
CIS-1,3-DICHLOROPROPENE	0.07	ND
2-CHLOROETHYLVINYL ETHER	0.03	ND
BROMOFORM	0.09	ND
1,1,2,2-TETRACHLOROETHANE	0.03	ND
TETRACHLOROETHENE	0.03	0.4
BENZENE	0.2	ND
TOLUENE	0.4	ND
CHLOROBENZENE	0.16	ND
ETHYLBENZENE	0.1	ND
1,3-DICHLOROBENZENE	0.4	ND
1,2-DICHLOROBENZENE	0.4	ND
1,4-DICHLOROBENZENE	0.6	ND
M-XYLENE	0.18	ND
O,P-XYLENE	0.15	ND

119 % SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED
NA = NOT ANALYZED

346

PROJECT MANAGER: [signature]

DATE: 10/28/87

8710071530

Analytical**Technologies**, Inc.

METALS
PROJECT: GBR

SAMPLE DATE: 10/07/87
LAB RECEIPT DATE: 10/09/87
MATRIX: WATER

SAMPLE ID: 8710071530
LOCATION: GBR 17
LAB SAMPLE #: 3439-10
UNITS: mg/l

ANALYSIS DATE	CONSTITUENT NAME	DILUTION FACTOR	DETECTION LIMIT	RESULT
10/14/87	ARSENIC (As)	1	0.010	ND
10/15/87	BARIUM (Ba)	1	0.060	ND
10/13/87	CADMIUM (Cd)	1	0.003	0.004
10/12/87	HEXAVALENT CHROMIUM (CR+6)	1	0.03	ND
10/13/87	TOTAL CHROMIUM (T. Cr)	1	0.010	ND
10/12/87	LEAD (Pb)	1	0.002	ND
10/18/87	MERCURY (Hg)	1	0.0002	ND
10/14/87	SELENIUM (Se)	1	0.010	ND
10/14/87	SILVER (Ag)	1	0.010	0.017

NOTE: ND = NOT DETECTED
NA = NOT ANALYZED

346

PROJECT MANAGER: [signature]

DATE: 10/28/87

8711071600

AnalyticalTechnologies, Inc.

EPA METHOD 601/602
PROJECT: GBR

SAMPLE DATE: 10-6-787
LAB RECEIPT DATE: 10/09/87
ANALYSIS DATE/TIME: 10/13/87, 15:52
MATRIX: WATER
ANALYST: MGB

SAMPLE ID: TRIP BLANK
LOCATION:
LAB SAMPLE #: 3439
UNITS: ug/l
DILUTION FACTOR: 1

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	0.02	ND
BROMOMETHANE	0.06	ND
DICHLORODIFLUOROMETHANE	0.04	ND
VINYL CHLORIDE	0.05	ND
CHLOROETHANE	0.1	ND
METHYLENE CHLORIDE	0.02	ND
TRICHLOROFLUOROMETHANE	0.07	ND
1,1-DICHLOROETHENE	0.07	ND
1,1-DICHLOROETHANE	0.05	ND
TRANS-1,2-DICHLOROETHENE	0.09	ND
CHLOROFORM	0.05	ND
1,2-DICHLOROETHANE	0.07	ND
1,1,1-TRICHLOROETHANE	0.03	ND
CARBON TETRACHLORIDE	0.08	ND
BROMODICHLOROMETHANE	0.04	ND
1,2-DICHLOROPROPANE	0.03	ND
TRANS-1,3-DICHLOROPROPENE	0.11	ND
TRICHLOROETHENE	0.06	ND
DIBROMOCHLOROMETHANE	0.07	ND
1,1,2-TRICHLOROETHANE	0.03	ND
CIS-1,3-DICHLOROPROPENE	0.07	ND
2-CHLOROETHYLVINYL ETHER	0.03	ND
BROMOFORM	0.09	ND
1,1,2,2-TETRACHLOROETHANE	0.03	ND
TETRACHLOROETHENE	0.03	ND
BENZENE	0.2	ND
TOLUENE	0.4	ND
CHLOROBENZENE	0.16	ND
ETHYLBENZENE	0.1	ND
1,3-DICHLOROBENZENE	0.4	ND
1,2-DICHLOROBENZENE	0.4	ND
1,4-DICHLOROBENZENE	0.6	ND
M-XYLENE	0.18	ND
O,P-XYLENE	0.15	ND

126 % SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED
NA = NOT ANALYZED

346

PROJECT MANAGER: [signature]

DATE: 10/28/87

8710071600

Analytical**Technologies**, Inc.

METALS
PROJECT: GBR

1600

SAMPLE DATE: 10/07/87
LAB RECEIPT DATE: 10/09/87
MATRIX: WATER

SAMPLE ID: 8710071604
LOCATION: 24D
LAB SAMPLE #: 3439-11
UNITS: mg/l

ANALYSIS DATE	CONSTITUENT NAME	DILUTION FACTOR	DETECTION LIMIT	RESULT
10/14/87	ARSENIC (As)	1	0.010	ND
10/15/87	BARIUM (Ba)	1	0.060	ND
10/13/87	CADMIUM (Cd)	1	0.003	0.006
10/12/87	HEXAVALENT CHROMIUM (CR+6)	1	0.03	ND
10/13/87	TOTAL CHROMIUM (T. Cr)	1	0.010	ND
10/12/87	LEAD (Pb)	1	0.002	0.003
10/18/87	MERCURY (Hg)	1	0.0002	ND
10/14/87	SELENIUM (Se)	1	0.010	ND
10/14/87	SILVER (Ag)	1	0.010	0.021

NOTE: ND = NOT DETECTED
NA = NOT ANALYZED

346

PROJECT MANAGER: [signature]

DATE: 10/20/87

8710071604

AnalyticalTechnologies, Inc.

EPA METHOD 601/602
PROJECT: GBR

SAMPLE DATE: 10/07/87
LAB RECEIPT DATE: 10/09/87
ANALYSIS DATE/TIME: 10/12/87, 22:41
MATRIX: WATER
ANALYST: MGB

SAMPLE ID: 8710071600 ~~1604~~
LOCATION: 24 D
LAB SAMPLE #: 3439-11
UNITS: ug/l
DILUTION FACTOR: 10

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	0.2	ND
BROMOMETHANE	0.6	ND
DICHLORODIFLUOROMETHANE	0.4	ND
VINYL CHLORIDE	0.5	ND
CHLOROETHANE	1	ND
METHYLENE CHLORIDE	0.2	ND
TRICHLOROFLUOROMETHANE	0.7	ND
1,1-DICHLOROETHENE	0.7	ND
1,1-DICHLOROETHANE	0.5	ND
TRANS-1,2-DICHLOROETHENE	0.9	ND
CHLOROFORM	0.5	ND
1,2-DICHLOROETHANE	0.7	35
1,1,1-TRICHLOROETHANE	0.3	ND
CARBON TETRACHLORIDE	0.8	ND
BROMODICHLOROMETHANE	0.4	ND
1,2-DICHLOROPROPANE	0.3	ND
TRANS-1,3-DICHLOROPROPENE	1.1	ND
TRICHLOROETHENE	0.6	ND
DIBROMOCHLOROMETHANE	0.7	ND
1,1,2-TRICHLOROETHANE	0.3	ND
CIS-1,3-DICHLOROPROPENE	0.7	ND
2-CHLOROETHYLVINYL ETHER	0.3	ND
BROMOFORM	0.9	ND
1,1,2,2-TETRACHLOROETHANE	0.3	ND
TETRACHLOROETHENE	0.3	ND
BENZENE	2	100
TOLUENE	4	35
CHLOROBENZENE	1.6	ND
ETHYLBENZENE	1	181
1,3-DICHLOROBENZENE	4	ND
1,2-DICHLOROBENZENE	4	ND
1,4-DICHLOROBENZENE	6	ND
M-XYLENE	1.8	40.0
O,P-XYLENE	1.5	125

112 % SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED
MDL 10 x NORMAL DUE TO HIGH LEVELS

346

PROJECT MANAGER: JMH

DATE: 10/28/87

8710071604

ACCESSION: 3439

QUALITY CONTROL DATA
METHOD 601 & 602

CLIENT: GEOSCIENCE CONSULTANTS, LTD.
UNITS: ug/l

	MATRIX SPIKE % RECOVERY	
	SAMPLE	DUPLICATE
METHYLENE CHLORIDE	87.0	95.6
TRICHLOROFLUOROMETHANE	87.2	94.4
1,1-DICHLOROETHENE	95.4	99.3
1,1-DICHLOROETHANE	89.3	94.9
CHLOROFORM	107	112
CARBON TETRACHLORIDE	104	113
1,2-DICHLOROPROPANE	102	108
TRICHLOROETHENE	98.4	103
TETRACHLOROETHENE	99.6	99.4
CHLOROBENZENE	99.3	95.5

346

8710071604

ACCESSION: 3439

QUALITY CONTROL DATA: 781-3
METHOD 601 & 602

CLIENT: GEOSCIENCE CONSULTANTS, LTD.
UNITS: ug/l

	FOUND	TRUE VALUE
METHYLENE CHLORIDE	13.4	9.2
1,1-DICHLOROETHENE	8.3	10.0
TRANS-1,2-DICHLOROETHENE	4.7	5.4
1,2-DICHLOROETHANE	5.1	5.4
CARBON TETRACHLORIDE	12.5	10.0
1,2-DICHLOROPROPANE	8.3	8.0
TRICHLOROETHENE	12.8	10.2
1,1,2,2-TETRACHLOROETHANE	13.0	10.0
CHLOROBENZENE	8.3	8.2

346

Analytical Technologies, Inc.

METALS
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 11/10/87
LAB RECEIPT DATE: 11/16/87
MATRIX: WATER

SAMPLE ID: 8711101655
LOCATION: SOUTH TANK
LAB SAMPLE #: 3574-1
UNITS: mg/l

ANALYSIS DATE	CONSTITUENT NAME	DILUTION FACTOR	DETECTION LIMIT	RESULT
12/01/87	ARSENIC (As)	1	0.010	ND
12/02/87	BARIUM (Ba)	1	0.060	ND
12/01/87	CADMIUM (Cd)	1	0.003	.011
11/16/87	HEXAVALENT CHROMIUM (CR+6)	1	0.03	ND
12/01/87	TOTAL CHROMIUM (Cr Tot)	1	0.010	0.028
11/30/87	LEAD (Pb)	1	0.002	ND
11/19/87	MERCURY (Hg)	1	0.0005	ND
12/01/87	SELENIUM (Se)	1	0.010	ND
12/01/87	SILVER (Ag)	1	0.010	0.012

* THE LISTED DETECTION LIMITS REFLECT ANY SAMPLE DILUTION.

NOTE: ND = NOT DETECTED
NA = NOT ANALYZED

PROJECT MANAGER: M Kelly DATE: 12/10/87

8711101655

Analytical**Technologies,**Inc

EPA METHOD 601/602
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 11/10/87
LAB RECEIPT DATE: 11/16/87
ANALYSIS DATE: 11/17/87
MATRIX: WATER
ANALYST: MGB

SAMPLE ID: 8711101655
LOCATION: SOUTH TANK
LAB SAMPLE #: 3574-1
UNITS: ug/l
DILUTION FACTOR: 1

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	0.2	ND
BROMOMETHANE	0.2	ND
DICHLORODIFLUOROMETHANE	0.2	ND
VINYL CHLORIDE	0.2	ND
CHLOROETHANE	0.2	ND
METHYLENE CHLORIDE	2.0	ND
TRICHLOROFLUOROMETHANE	2.0	ND
1,1-DICHLOROETHENE	0.2	ND
1,1-DICHLOROETHANE	0.2	9.9
TRANS-1,2-DICHLOROETHENE	0.2	7.1
CHLOROFORM	0.2	ND
1,2-DICHLOROETHANE	0.2	7.0
1,1,1-TRICHLOROETHANE	0.2	3.2
CARBON TETRACHLORIDE	0.2	ND
BROMODICHLOROMETHANE	0.2	ND
1,2-DICHLOROPROPANE	0.2	ND
TRANS-1,3-DICHLOROPROPENE	0.2	ND
TRICHLOROETHENE	0.2	4.8
DIBROMOCHLOROMETHANE	0.2	ND
1,1,2-TRICHLOROETHANE	0.2	ND
CIS-1,3-DICHLOROPROPENE	0.2	ND
2-CHLOROETHYLVINYL ETHER	0.2	ND
BROMOFORM	0.2	ND
1,1,2,2-TETRACHLOROETHANE	0.2	ND
TETRACHLOROETHENE	0.2	3.1
BENZENE	0.5	ND
TOLUENE	1.0	ND
CHLOROBENZENE	0.5	ND
ETHYLBENZENE	0.5	ND
1,3-DICHLOROBENZENE	0.5	ND
1,2-DICHLOROBENZENE	0.5	ND
1,4-DICHLOROBENZENE	0.5	ND
M-XYLENE	0.5	ND
O,P-XYLENE	0.5	2.0
	91.3	% SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED

PROJECT MANAGER: M. Eddy

DATE: 12/10/87

Analytical**Technologies,** Inc.

METALS
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 11/10/87
LAB RECEIPT DATE: 11/16/87
MATRIX: WATER

SAMPLE ID: 8711101710
LOCATION: NORTH TANK
LAB SAMPLE #: 3574-2
UNITS: mg/l

ANALYSIS DATE	CONSTITUENT NAME	DILUTION FACTOR	DETECTION LIMIT	RESULT
12/01/87	ARSENIC (As)	1	0.010	ND
12/02/87	BARIUM (Ba)	1	0.060	ND
12/01/87	CADMIUM (Cd)	1	0.003	0.010
11/16/87	HEXAVALENT CHROMIUM (CR+6)	1	0.03	ND
12/01/87	TOTAL CHROMIUM (Cr Tot)	1	0.010	0.034
11/30/87	LEAD (Pb)	1	0.002	ND
11/19/87	MERCURY (Hg)	1	0.0005	ND
12/01/87	SELENIUM (Se)	1	0.010	0.021
12/01/87	SILVER (Ag)	1	0.010	0.013

* THE LISTED DETECTION LIMITS REFLECT ANY SAMPLE DILUTION.

NOTE: ND = NOT DETECTED
NA = NOT ANALYZED

PROJECT MANAGER: M. Pitts DATE: 12/10/87

8711101710

Analytical**Technologies,** Inc.

EPA METHOD 601/602
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 11/10/87
LAB RECEIPT DATE: 11/16/87
ANALYSIS DATE: 11/17/87
MATRIX: WATER
ANALYST: MGB

SAMPLE ID: 8711101710
LOCATION: NORTH TANK
LAB SAMPLE #: 3574-2
UNITS: ug/l
DILUTION FACTOR: 1

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	0.2	ND
BROMOMETHANE	0.2	ND
DICHLORODIFLUOROMETHANE	0.2	ND
VINYL CHLORIDE	0.2	ND
CHLOROETHANE	0.2	ND
METHYLENE CHLORIDE	2.0	ND
TRICHLOROFLUOROMETHANE	2.0	ND
1,1-DICHLOROETHENE	0.2	ND
1,1-DICHLOROETHANE	0.2	ND
TRANS-1,2-DICHLOROETHENE	0.2	ND
CHLOROFORM	0.2	ND
1,2-DICHLOROETHANE	0.2	6.3
1,1,1-TRICHLOROETHANE	0.2	ND
CARBON TETRACHLORIDE	0.2	ND
BROMODICHLOROMETHANE	0.2	ND
1,2-DICHLOROPROPANE	0.2	ND
TRANS-1,3-DICHLOROPROPENE	0.2	ND
TRICHLOROETHENE	0.2	ND
DIBROMOCHLOROMETHANE	0.2	ND
1,1,2-TRICHLOROETHANE	0.2	ND
CIS-1,3-DICHLOROPROPENE	0.2	ND
2-CHLOROETHYLVINYL ETHER	0.2	ND
BROMOFORM	0.2	ND
1,1,2,2-TETRACHLOROETHANE	0.2	ND
TETRACHLOROETHENE	0.2	ND
BENZENE	0.5	ND
TOLUENE	1.0	ND
CHLOROBENZENE	0.5	ND
ETHYLBENZENE	0.5	ND
1,3-DICHLOROBENZENE	0.5	ND
1,2-DICHLOROBENZENE	0.5	ND
1,4-DICHLOROBENZENE	0.5	ND
M-XYLENE	0.5	8.9
O,P-XYLENE	0.5	39
		92.7 % SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED

PROJECT MANAGER: M. Eddy DATE: 12/10/87

Analytical Technologies, Inc.

METALS
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 11/11/87
LAB RECEIPT DATE: 11/16/87
MATRIX: WATER

SAMPLE ID: 8711111037
LOCATION: 6BR-6
LAB SAMPLE #: 3574-3
UNITS: mg/l

ANALYSIS DATE	CONSTITUENT NAME	DILUTION FACTOR	DETECTION LIMIT	RESULT
12/01/87	ARSENIC (As)	1	0.010	ND
12/02/87	BARIUM (Ba)	1	0.060	0.09
12/01/87	CADMIUM (Cd)	1	0.003	0.011
11/16/87	HEXAVALENT CHROMIUM (CR+6)	1	0.03	ND
12/01/87	TOTAL CHROMIUM (Cr Tot)	1	0.010	0.035
11/30/87	LEAD (Pb)	1	0.002	0.017
11/19/87	MERCURY (Hg)	1	0.0005	ND
12/01/87	SELENIUM (Se)	1	0.010	ND
12/01/87	SILVER (Ag)	1	0.010	0.011

* THE LISTED DETECTION LIMITS REFLECT ANY SAMPLE DILUTION.

NOTE: ND = NOT DETECTED
NA = NOT ANALYZED

PROJECT MANAGER: M. Baig DATE: 12/10/87

8711111037

AnalyticalTechnologies, Inc

EPA METHOD 601/602
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 11/11/87
LAB RECEIPT DATE: 11/16/87
ANALYSIS DATE: 11/17/87
MATRIX: WATER
ANALYST: MGB

SAMPLE ID: 8711111037
LOCATION: 6BR-6
LAB SAMPLE #: 3574-3
UNITS: ug/l
DILUTION FACTOR: 10

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	2.0	ND
BROMOMETHANE	2.0	ND
DICHLORODIFLUOROMETHANE	2.0	ND
VINYL CHLORIDE	2.0	ND
CHLOROETHANE	2.0	ND
METHYLENE CHLORIDE	20	ND
TRICHLOROFLUOROMETHANE	20	ND
1,1-DICHLOROETHENE	2.0	ND
1,1-DICHLOROETHANE	2.0	ND
TRANS-1,2-DICHLOROETHENE	2.0	ND
CHLOROFORM	2.0	ND
1,2-DICHLOROETHANE	2.0	ND
1,1,1-TRICHLOROETHANE	2.0	ND
CARBON TETRACHLORIDE	2.0	ND
BROMODICHLOROMETHANE	2.0	ND
1,2-DICHLOROPROPANE	2.0	ND
TRANS-1,3-DICHLOROPROPENE	2.0	ND
TRICHLOROETHENE	2.0	ND
DIBROMOCHLOROMETHANE	2.0	ND
1,1,2-TRICHLOROETHANE	2.0	ND
CIS-1,3-DICHLOROPROPENE	2.0	ND
2-CHLOROETHYLVINYL ETHER	2.0	ND
BROMOFORM	2.0	ND
1,1,2,2-TETRACHLOROETHANE	2.0	ND
TETRACHLOROETHENE	2.0	ND
BENZENE	5.0	75
TOLUENE	10	ND
CHLOROBENZENE	5.0	ND
ETHYLBENZENE	5.0	240
1,3-DICHLOROBENZENE	5.0	ND
1,2-DICHLOROBENZENE	5.0	ND
1,4-DICHLOROBENZENE	5.0	ND
M-XYLENE	5.0	190
O,P-XYLENE	5.0	ND

92.9 % SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED
SAMPLE MATRIX REQUIRED DILUTION

PROJECT MANAGER: M. Kairy DATE: 12/10/87

8711111045

Analytical**Technologies,** Inc.

METALS
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 11/11/87
LAB RECEIPT DATE: 11/16/87
MATRIX: WATER

SAMPLE ID: 8711111045
LOCATION: 6BR-15
LAB SAMPLE #: 3574-4
UNITS: mg/l

ANALYSIS DATE	CONSTITUENT NAME	DILUTION FACTOR	DETECTION LIMIT	RESULT
12/01/87	ARSENIC (As)	1	0.010	0.031
12/02/87	BARIUM (Ba)	1	0.060	0.19
12/01/87	CADMIUM (Cd)	1	0.003	0.016
11/16/87	HEXAVALENT CHROMIUM (CR+6)	1	0.03	ND
12/01/87	TOTAL CHROMIUM (Cr Tot)	1	0.010	0.145
11/30/87	LEAD (Pb)	1	0.002	0.006
11/19/87	MERCURY (Hg)	1	0.0005	ND
12/01/87	SELENIUM (Se)	1	0.010	ND
12/01/87	SILVER (Ag)	1	0.010	0.012

* THE LISTED DETECTION LIMITS REFLECT ANY SAMPLE DILUTION.

NOTE: ND = NOT DETECTED
NA = NOT ANALYZED

PROJECT MANAGER: M. Bailey DATE: 12/10/87

Analytical**Technologies,** Inc.

EPA METHOD 601/602
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 11/11/87
LAB RECEIPT DATE: 11/16/87
ANALYSIS DATE: 11/17/87
MATRIX: WATER
ANALYST: MGB

SAMPLE ID: 8711111045
LOCATION: 6BR-15
LAB SAMPLE #: 3574-4
UNITS: ug/l
DILUTION FACTOR: 1

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	0.2	ND
BROMOMETHANE	0.2	ND
DICHLORODIFLUOROMETHANE	0.2	ND
VINYL CHLORIDE	0.2	ND
CHLOROETHANE	0.2	ND
METHYLENE CHLORIDE	2.0	ND
TRICHLOROFLUOROMETHANE	2.0	ND
1,1-DICHLOROETHENE	0.2	ND
1,1-DICHLOROETHANE	0.2	ND
TRANS-1,2-DICHLOROETHENE	0.2	ND
CHLOROFORM	0.2	ND
1,2-DICHLOROETHANE	0.2	53.4
1,1,1-TRICHLOROETHANE	0.2	ND
CARBON TETRACHLORIDE	0.2	ND
BROMODICHLOROMETHANE	0.2	ND
1,2-DICHLOROPROPANE	0.2	ND
TRANS-1,3-DICHLOROPROPENE	0.2	ND
TRICHLOROETHENE	0.2	ND
DIBROMOCHLOROMETHANE	0.2	ND
1,1,2-TRICHLOROETHANE	0.2	ND
CIS-1,3-DICHLOROPROPENE	0.2	ND
2-CHLOROETHYLVINYL ETHER	0.2	ND
BROMOFORM	0.2	ND
1,1,2,2-TETRACHLOROETHANE	0.2	ND
TETRACHLOROETHENE	0.2	ND
BENZENE	0.5	114
TOLUENE	1.0	1.7
CHLOROBENZENE	0.5	ND
ETHYLBENZENE	0.5	2.1
1,3-DICHLOROBENZENE	0.5	ND
1,2-DICHLOROBENZENE	0.5	ND
1,4-DICHLOROBENZENE	0.5	ND
M-XYLENE	0.5	ND
O,P-XYLENE	0.5	ND

85.1 % SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED

PROJECT MANAGER: W. Bailey

DATE: 12/10/87

8711111440

Analytical Technologies, Inc.

METALS
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 11/11/87
LAB RECEIPT DATE: 11/16/87
MATRIX: WATER

SAMPLE ID: 8711111440
LOCATION: 6BR-8
LAB SAMPLE #: 3574-5
UNITS: mg/l

ANALYSIS DATE	CONSTITUENT NAME	DILUTION FACTOR	DETECTION LIMIT	RESULT
12/01/87	ARSENIC (As)	10	0.10	0.18
12/02/87	BARIUM (Ba)	1	0.060	2.01
12/01/87	CADMIUM (Cd)	1	0.003	0.014
11/24/87	HEXAVALENT CHROMIUM (CR+6)	1	0.03	ND
12/01/87	TOTAL CHROMIUM (Cr Tot)	1	0.010	0.114
11/30/87	LEAD (Pb)	100	0.2	3.7
11/19/87	MERCURY (Hg)	1	0.0005	ND
12/01/87	SELENIUM (Se)	1	0.010	ND
12/01/87	SILVER (Ag)	1	0.010	0.011

* THE LISTED DETECTION LIMITS REFLECT ANY SAMPLE DILUTION.

NOTE: ND = NOT DETECTED
NA = NOT ANALYZED

PROJECT MANAGER: M. Kelly DATE: 12/10/87

Analytical**Technologies,** Inc.

EPA METHOD 601/602
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 11/11/87
LAB RECEIPT DATE: 11/16/87
ANALYSIS DATE: 11/17/87
MATRIX: WATER
ANALYST: MGB

SAMPLE ID: 8711111440
LOCATION: 6BR-8
LAB SAMPLE #: 3574-5
UNITS: ug/l
DILUTION FACTOR: 50

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	10	ND
BROMOMETHANE	10	ND
DICHLORODIFLUOROMETHANE	10	ND
VINYL CHLORIDE	10	ND
CHLOROETHANE	10	ND
METHYLENE CHLORIDE	2.0	ND
TRICHLOROFLUOROMETHANE	2.0	ND
1,1-DICHLOROETHENE	10	ND
1,1-DICHLOROETHANE	10	ND
TRANS-1,2-DICHLOROETHENE	10	16
CHLOROFORM	10	12
1,2-DICHLOROETHANE	10	32
1,1,1-TRICHLOROETHANE	10	ND
CARBON TETRACHLORIDE	10	ND
BROMODICHLOROMETHANE	10	ND
1,2-DICHLOROPROPANE	10	ND
TRANS-1,3-DICHLOROPROPENE	10	ND
TRICHLOROETHENE	10	ND
DIBROMOCHLOROMETHANE	10	ND
1,1,2-TRICHLOROETHANE	10	ND
CIS-1,3-DICHLOROPROPENE	10	ND
2-CHLOROETHYLVINYL ETHER	10	ND
BROMOFORM	10	ND
1,1,2,2-TETRACHLOROETHANE	10	ND
TETRACHLOROETHENE	10	ND
BENZENE	25	6500
TOLUENE	50	820
CHLOROBENZENE	25	ND
ETHYLBENZENE	25	1200
1,3-DICHLOROBENZENE	25	ND
1,2-DICHLOROBENZENE	25	ND
1,4-DICHLOROBENZENE	25	ND
M-XYLENE	25	1700
O,P-XYLENE	25	1900

93.5 % SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED
HIGH LEVELS REQUIRED DILUTION

PROJECT MANAGER: M. Bailey DATE: 12/10/87

8711111545

Analytical**Technologies**, Inc.

METALS
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 11/11/87
LAB RECEIPT DATE: 11/16/87
MATRIX: WATER

SAMPLE ID: 8711111545
LOCATION: 6BR-13
LAB SAMPLE #: 3574-6
UNITS: mg/l

ANALYSIS DATE	CONSTITUENT NAME	DILUTION FACTOR	DETECTION LIMIT	RESULT
12/01/87	ARSENIC (As)	10	0.10	0.12
12/02/87	BARIUM (Ba)	1	0.060	1.34
12/01/87	CADMIUM (Cd)	1	0.003	0.016
11/16/87	HEXAVALENT CHROMIUM (CR+6)	1	0.03	ND
12/01/87	TOTAL CHROMIUM (Cr Tot)	1	0.010	0.172
11/30/87	LEAD (Pb)	4	0.008	0.096
11/19/87	MERCURY (Hg)	1	0.0005	ND
12/01/87	SELENIUM (Se)	1	0.010	ND
12/01/87	SILVER (Ag)	1	0.010	0.015

* THE LISTED DETECTION LIMITS REFLECT ANY SAMPLE DILUTION.

NOTE: ND = NOT DETECTED
NA = NOT ANALYZED

PROJECT MANAGER: M. Bailey DATE: 12/10/87

8711111545

Analytical**Technologies,** Inc.

EPA METHOD 601/602
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 11/11/87
LAB RECEIPT DATE: 11/16/87
ANALYSIS DATE: 11/17/87
MATRIX: WATER
ANALYST: MGB

SAMPLE ID: 8711111545
LOCATION: 6BR-13
LAB SAMPLE #: 3574-6
UNITS: ug/l
DILUTION FACTOR: 50

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	10	ND
BROMOMETHANE	10	ND
DICHLORODIFLUOROMETHANE	10	ND
VINYL CHLORIDE	10	ND
CHLOROETHANE	10	ND
METHYLENE CHLORIDE	2.0	ND
TRICHLOROFLUOROMETHANE	2.0	ND
1,1-DICHLOROETHENE	10	ND
1,1-DICHLOROETHANE	10	ND
TRANS-1,2-DICHLOROETHENE	10	29
CHLOROFORM	10	17
1,2-DICHLOROETHANE	10	35
1,1,1-TRICHLOROETHANE	10	ND
CARBON TETRACHLORIDE	10	ND
BROMODICHLOROMETHANE	10	ND
1,2-DICHLOROPROPANE	10	ND
TRANS-1,3-DICHLOROPROPENE	10	ND
TRICHLOROETHENE	10	ND
DIBROMOCHLOROMETHANE	10	ND
1,1,2-TRICHLOROETHANE	10	ND
CIS-1,3-DICHLOROPROPENE	10	ND
2-CHLOROETHYLVINYL ETHER	10	ND
BROMOFORM	10	ND
1,1,2,2-TETRACHLOROETHANE	10	ND
TETRACHLOROETHENE	10	ND
BENZENE	25	4500
TOLUENE	50	3000
CHLOROBENZENE	25	ND
ETHYLBENZENE	25	1700
1,3-DICHLOROBENZENE	25	ND
1,2-DICHLOROBENZENE	25	ND
1,4-DICHLOROBENZENE	25	ND
M-XYLENE	25	2600
O,P-XYLENE	25	2600

98.3 % SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED
HIGH LEVELS REQUIRED DILUTION

PROJECT MANAGER: M. Parry DATE: 12/10/87

Analytical**Technologies,** Inc.

METALS
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 11/12/87
LAB RECEIPT DATE: 11/16/87
MATRIX: WATER

SAMPLE ID: 8711120815
LOCATION: 6BR-32
LAB SAMPLE #: 3574-7
UNITS: mg/l

ANALYSIS DATE	CONSTITUENT NAME	DILUTION FACTOR	DETECTION LIMIT	RESULT
12/01/87	ARSENIC (As)	10	0.10	0.18
12/02/87	BARIUM (Ba)	1	0.060	1.15
12/01/87	CADMIUM (Cd)	1	0.003	0.018
11/16/87	HEXAVALENT CHROMIUM (CR+6)	1	0.03	ND
12/01/87	TOTAL CHROMIUM (Cr Tot)	1	0.010	0.591
11/30/87	LEAD (Pb)	1	0.0005	0.030
11/19/87	MERCURY (Hg)	1	0.0005	ND
12/01/87	SELENIUM (Se)	1	0.010	0.038
12/01/87	SILVER (Ag)	1	0.010	0.021

* THE LISTED DETECTION LIMITS REFLECT ANY SAMPLE DILUTION.

NOTE: ND = NOT DETECTED
NA = NOT ANALYZED

PROJECT MANAGER: [signature] DATE: 12/10/87

8711120815

Analytical**Technologies**, Inc.

EPA METHOD 601/602
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 11/12/87
LAB RECEIPT DATE: 11/16/87
ANALYSIS DATE: 11/17/87
MATRIX: WATER
ANALYST: MGB

SAMPLE ID: 8711120815
LOCATION: 6BR-32
LAB SAMPLE #: 3574-7
UNITS: ug/l
DILUTION FACTOR: 1

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	0.2	ND
BROMOMETHANE	0.2	ND
DICHLORODIFLUOROMETHANE	0.2	ND
VINYL CHLORIDE	0.2	ND
CHLOROETHANE	0.2	ND
METHYLENE CHLORIDE	2.0	ND
TRICHLOROFLUOROMETHANE	2.0	ND
1,1-DICHLOROETHENE	0.2	ND
1,1-DICHLOROETHANE	0.2	10.7
TRANS-1,2-DICHLOROETHENE	0.2	106
CHLOROFORM	0.2	11.0
1,2-DICHLOROETHANE	0.2	ND
1,1,1-TRICHLOROETHANE	0.2	2.3
CARBON TETRACHLORIDE	0.2	ND
BROMODICHLOROMETHANE	0.2	ND
1,2-DICHLOROPROPANE	0.2	ND
TRANS-1,3-DICHLOROPROPENE	0.2	ND
TRICHLOROETHENE	0.2	11.4
DIBROMOCHLOROMETHANE	0.2	ND
1,1,2-TRICHLOROETHANE	0.2	ND
CIS-1,3-DICHLOROPROPENE	0.2	ND
2-CHLOROETHYLVINYL ETHER	0.2	ND
BROMOFORM	0.2	ND
1,1,2,2-TETRACHLOROETHANE	0.2	ND
TETRACHLOROETHENE	0.2	15.3
BENZENE	0.5	ND
TOLUENE	1.0	ND
CHLOROBENZENE	0.5	ND
ETHYLBENZENE	0.5	ND
1,3-DICHLOROBENZENE	0.5	ND
1,2-DICHLOROBENZENE	0.5	ND
1,4-DICHLOROBENZENE	0.5	ND
M-XYLENE	0.5	ND
O,P-XYLENE	0.5	ND

95.7 % SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED

PROJECT MANAGER: M. Bailey

DATE: 12/10/87

8711120915

Analytical**Technologies,** Inc.

METALS
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 11/12/87
LAB RECEIPT DATE: 11/16/87
MATRIX: WATER

SAMPLE ID: 8711120915
LOCATION: 6BR-17
LAB SAMPLE #: 3574-8
UNITS: mg/l

ANALYSIS DATE	CONSTITUENT NAME	DILUTION FACTOR	DETECTION LIMIT	RESULT
12/01/87	ARSENIC (As)	10	0.10	0.42
12/02/87	BARIUM (Ba)	1	0.060	1.52
12/01/87	CADMIUM (Cd)	1	0.003	0.018
11/16/87	HEXAVALENT CHROMIUM (CR+6)	1	0.03	ND
12/01/87	TOTAL CHROMIUM (Cr Tot)	4	0.04	2.91
11/30/87	LEAD (Pb)	2	0.004	0.060
11/19/87	MERCURY (Hg)	1	0.0005	ND
12/01/87	SELENIUM (Se)	1	0.010	ND
12/01/87	SILVER (Ag)	1	0.010	0.019

* THE LISTED DETECTION LIMITS REFLECT ANY SAMPLE DILUTION.

NOTE: ND = NOT DETECTED
NA = NOT ANALYZED

PROJECT MANAGER: M. Bailey DATE: 12/10/87

8711120915

Analytical**Technologies,** Inc.

EPA METHOD 601/602
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 11/12/87
LAB RECEIPT DATE: 11/16/87
ANALYSIS DATE: 11/17/87
MATRIX: WATER
ANALYST: MGB

SAMPLE ID: 8711120915
LOCATION: 6BR-17
LAB SAMPLE #: 3574-8
UNITS: ug/l
DILUTION FACTOR: 1

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	0.2	ND
BROMOMETHANE	0.2	ND
DICHLORODIFLUOROMETHANE	0.2	ND
VINYL CHLORIDE	0.2	ND
CHLOROETHANE	0.2	ND
METHYLENE CHLORIDE	2.0	ND
TRICHLOROFLUOROMETHANE	2.0	ND
1,1-DICHLOROETHENE	0.2	ND
1,1-DICHLOROETHANE	0.2	4.0
TRANS-1,2-DICHLOROETHENE	0.2	0.9
CHLOROFORM	0.2	1.3
1,2-DICHLOROETHANE	0.2	ND
1,1,1-TRICHLOROETHANE	0.2	2.1
CARBON TETRACHLORIDE	0.2	ND
BROMODICHLOROMETHANE	0.2	ND
1,2-DICHLOROPROPANE	0.2	ND
TRANS-1,3-DICHLOROPROPENE	0.2	ND
TRICHLOROETHENE	0.2	0.5
DIBROMOCHLOROMETHANE	0.2	ND
1,1,2-TRICHLOROETHANE	0.2	ND
CIS-1,3-DICHLOROPROPENE	0.2	ND
2-CHLOROETHYLVINYL ETHER	0.2	ND
BROMOFORM	0.2	ND
1,1,2,2-TETRACHLOROETHANE	0.2	ND
TETRACHLOROETHENE	0.2	0.6
BENZENE	0.5	ND
TOLUENE	1.0	ND
CHLOROBENZENE	0.5	ND
ETHYLBENZENE	0.5	ND
1,3-DICHLOROBENZENE	0.5	ND
1,2-DICHLOROBENZENE	0.5	ND
1,4-DICHLOROBENZENE	0.5	ND
M-XYLENE	0.5	ND
O,P-XYLENE	0.5	ND

98.6 % SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED

PROJECT MANAGER: M. Barry

DATE: 12/10/87

Analytical**Technologies,** Inc.

METALS
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 11/12/87
LAB RECEIPT DATE: 11/16/87
MATRIX: WATER

SAMPLE ID: 8711120947
LOCATION: 6BR-24D
LAB SAMPLE #: 3574-9
UNITS: mg/l

ANALYSIS DATE	CONSTITUENT NAME	DILUTION FACTOR	DETECTION LIMIT	RESULT
12/01/87	ARSENIC (As)	1	0.010	0.19
12/02/87	BARIUM (Ba)	1	0.060	0.21
12/01/87	CADMIUM (Cd)	1	0.003	0.011
11/16/87	HEXAVALENT CHROMIUM (CR+6)	1	0.03	ND
12/01/87	TOTAL CHROMIUM (Cr Tot)	1	0.010	0.093
11/30/87	LEAD (Pb)	1	0.002	0.019
11/19/87	MERCURY (Hg)	1	0.0005	ND
12/01/87	SELENIUM (Se)	1	0.010	ND
12/01/87	SILVER (Ag)	1	0.010	0.013

* THE LISTED DETECTION LIMITS REFLECT ANY SAMPLE DILUTION.

NOTE: ND = NOT DETECTED
NA = NOT ANALYZED

PROJECT MANAGER: W. Bailey DATE: 12/10/87

AnalyticalTechnologies, Inc

EPA METHOD 601/602
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE: 11/12/87
LAB RECEIPT DATE: 11/16/87
ANALYSIS DATE: 11/17/87
MATRIX: WATER
ANALYST: MGB

SAMPLE ID: 8711120947
LOCATION: 6BR-24D
LAB SAMPLE #: 3574-9
UNITS: ug/l
DILUTION FACTOR: 10

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	2.0	ND
BROMOMETHANE	2.0	ND
DICHLORODIFLUOROMETHANE	2.0	ND
VINYL CHLORIDE	2.0	ND
CHLOROETHANE	2.0	ND
METHYLENE CHLORIDE	20	ND
TRICHLOROFLUOROMETHANE	20	ND
1,1-DICHLOROETHENE	2.0	ND
1,1-DICHLOROETHANE	2.0	ND
TRANS-1,2-DICHLOROETHENE	2.0	ND
CHLOROFORM	2.0	23
1,2-DICHLOROETHANE	2.0	34
1,1,1-TRICHLOROETHANE	2.0	ND
CARBON TETRACHLORIDE	2.0	ND
BROMODICHLOROMETHANE	2.0	ND
1,2-DICHLOROPROPANE	2.0	ND
TRANS-1,3-DICHLOROPROPENE	2.0	ND
TRICHLOROETHENE	2.0	2.0
DIBROMOCHLOROMETHANE	2.0	ND
1,1,2-TRICHLOROETHANE	2.0	ND
CIS-1,3-DICHLOROPROPENE	2.0	ND
2-CHLOROETHYLVINYL ETHER	2.0	ND
BROMOFORM	2.0	ND
1,1,2,2-TETRACHLOROETHANE	2.0	ND
TETRACHLOROETHENE	2.0	2.9
BENZENE	5.0	1200
TOLUENE	10	22
CHLOROBENZENE	5.0	ND
ETHYLBENZENE	5.0	1100
1,3-DICHLOROBENZENE	5.0	ND
1,2-DICHLOROBENZENE	5.0	ND
1,4-DICHLOROBENZENE	5.0	ND
M-XYLENE	5.0	12
O,P-XYLENE	5.0	43

104 % SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED
HIGH LEVELS REQUIRED DILUTION

PROJECT MANAGER: M. Craig DATE: 12/10/87

8111110000

AnalyticalTechnologies, Inc.

EPA METHOD 601/602
PROJECT: GIANT MONITOR WELLS

SAMPLE DATE:
LAB RECEIPT DATE:
ANALYSIS DATE: 11/17/87
MATRIX: WATER
ANALYST: MGB

SAMPLE ID: TRIP BLANK
LOCATION:
LAB SAMPLE #: 3574
UNITS: ug/l
DILUTION FACTOR: 1

CONSTITUENT NAME	DETECTION LIMIT	RESULT
CHLOROMETHANE	0.2	ND
BROMOMETHANE	0.2	ND
DICHLORODIFLUOROMETHANE	0.2	ND
VINYL CHLORIDE	0.2	ND
CHLOROETHANE	0.2	ND
METHYLENE CHLORIDE	2.0	ND
TRICHLOROFLUOROMETHANE	2.0	ND
1,1-DICHLOROETHENE	0.2	ND
1,1-DICHLOROETHANE	0.2	ND
TRANS-1,2-DICHLOROETHENE	0.2	ND
CHLOROFORM	0.2	ND
1,2-DICHLOROETHANE	0.2	ND
1,1,1-TRICHLOROETHANE	0.2	ND
CARBON TETRACHLORIDE	0.2	ND
BROMODICHLOROMETHANE	0.2	ND
1,2-DICHLOROPROPANE	0.2	ND
TRANS-1,3-DICHLOROPROPENE	0.2	ND
TRICHLOROETHENE	0.2	ND
DIBROMOCHLOROMETHANE	0.2	ND
1,1,2-TRICHLOROETHANE	0.2	ND
CIS-1,3-DICHLOROPROPENE	0.2	ND
2-CHLOROETHYLVINYL ETHER	0.2	ND
BROMOFORM	0.2	ND
1,1,2,2-TETRACHLOROETHANE	0.2	ND
TETRACHLOROETHENE	0.2	ND
BENZENE	0.5	ND
TOLUENE	1.0	ND
CHLOROBENZENE	0.5	ND
ETHYLBENZENE	0.5	ND
1,3-DICHLOROBENZENE	0.5	ND
1,2-DICHLOROBENZENE	0.5	ND
1,4-DICHLOROBENZENE	0.5	ND
M-XYLENE	0.5	ND
O,P-XYLENE	0.5	ND

95.5 % SURROGATE RECOVERY

COMMENTS: ND = NOT DETECTED

PROJECT MANAGER: M. Daly

DATE: 12/10/87