RECR-10
Windmill Oil

BBC International
Data Gathering

2003

WORLD-WIDE ENVIRONMENTAL SPECIALISTS

BBC INTERNATIONAL
INCORPORATED

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E-MAIL: bbc@bbcinternational.com

January 16, 2003

Bill Olson
NMOCD
1220 S. St. Francis Drive
Santa Fe, NM 87505

Re: Windmill Oil Co.

Dear Bill:

On behalf of the Windmill Oil Group, BBC International, Inc. (BBC) respectfully submits the enclosed data CD and maps concerning our data gathering activities in the Windmill Oil area.

We have enclosed a CD Rom and 5 maps containing data on the Windmill Oil area in Section 30, Township 18 South, Range 38 East of Lea County, New Mexico. BBC obtained this information from January 2002 to August 2002. The CD contains a database created in Microsoft's Access software and also contains Acrobat (.pdf) files that are linked to the database. The information on the CD includes: 1) Water well drilling permits in Section 30 obtained from a records search of Section 30 at the New Mexico State Engineer's Office in Roswell, New Mexico. 2) Oil well, injection well, and windmill oil well reports obtained from a Section 30 records search at the Hobbs office of the NMOCD. 3) Water well analysis reports from select domestic water well reports obtained from the Santa Fe office of the NMOCD, Occidental Permian, and ChevronTexaco. 4) A Baseline Laboratories fingerprint analysis report performed on oil samples from a domestic water well, a windmill oil well, an oil production well (producing from the San Andres / Grayburg formation), and an oil production well (producing from the Bowers formation).

The five maps enclosed are an Oil Well Location Map, a Windmill Oil Well Location Map, a Domestic Water Well Location Map, a Right-of-Way Pipeline Easements Map, and a Hobbs City Water Well Location Map (5 mile radius from the center of Section 30).

All of the location points on the Oil Well Location Map, the Windmill Oil Well Location Map, and the Domestic Water Well Location Map were identified by walking the area and surveyed in using GPS instruments. The Right-of-Way Pipeline Easement map was drawn using information obtained by BBC from Occidental Permian, from public records at the Lea County Courthouse, and walking the area. The Water Well Location Map (5 mile radius from center of Section 30) was created using information that BBC obtained from the City of Hobbs Engineering Department.

There has been no attempt at interpreting the data at this time. This was only a data gathering exercise to determine at the best of our knowledge the location of producing or abandoned oil production wells, current or former Windmill Oil wells, and domestic water wells in Section 30. In addition, the right-of-way search was to attempt to identify any oil pipelines in the section. The purpose of the 5 mile radius map was to determine if any City of Hobbs source wells were nearby, which are not.

I will be in contact with you to set up a meeting for several of us to meet and discuss the enclosed data. If you have any questions, please feel free to contact myself or Ken Swinney at (505) 397-6388.

Sincerely,
BBC International, Inc.

Cliff P. Brunson, CEI, CRS
President

CPB:js

enclosures

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Jennifer A. Salisbury
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

September 11, 2000

Mr. Amador Rodriquez
1919 Carr Lane
Hobbs, New Mexico 88240

RE: WATER WELL SAMPLE ANALYSES

Dear Mr. Rodriquez:

Enclosed you will find a copy of the laboratory analytical results of the water samples that the New Mexico Oil Conservation Division (OCD) obtained from your private water well on June 8, 2000. The sample analyses did not detect any oil or natural gas related contaminants in your water well. However, fluoride was found to be present at a concentration in excess of the New Mexico Water Quality Control Commission standard of 1.6 mg/l for drinking water. Since this is not an oilfield-related constituent, I recommend that you contact Dennis McQuillan of the New Mexico Environment Department at (505) 827-2831 regarding the occurrence of fluoride in the area and possible effects of fluoride on human health.

The OCD is continuing to investigate oilfield ground water contamination in your area. If you have any questions regarding the laboratory analyses of your water or the OCD's investigations, please feel free to call me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrologist
Environmental Bureau

Enclosure

xc w/ enclosure: Chris Williams, OCD Hobbs District Supervisor
Dennis McQuillan, NMED Ground Water Quality Bureau

TRACEANALYSIS, INC.

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Analytical and Quality Control Report

Bill Olson
OCD
2040 S. Pacheco
Santa Fe, NM 87505

RECEIVED
JUN 3 0 2000
ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Report Date: June 27, 2000

Order ID Number: A00061004

Project Number: Amador Rodriquez
Project Name: Windmill Oil
Project Location: Amador Rodriquez

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
147744	0006081415 (Rodriquez)	Water	6/8/00	14:15	6/10/00

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 24 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Cation-Anion Balance Sheet

Sample # 147744 Date: 6/27/00

Cations	ppm	meq/L
Calcium	133	6.6367
Magnesium	21	1.72809
Sodium	59	2.5665
Potassium	2.5	0.06395

Total Cations 10.9952 in meq/L

Anions	ppm	meq/L
Alkalinity	206	4.12
Sulfate	150	3.123
Chloride	95	2.67995
Nitrate as N	5.7	0.406923
Fluoride	1.9	0.100016

Total Anions 10.4299 in meq/L

Percentage Error
5.27746 %
(needs to be <10%)

OTHER INFORMATION

TDS	0				
EC	0				
Measure EC and Cation Sums	1099.524	Range should be:	0	to	0
Measure EC and Anion Sums	1042.9889	Range should be:	0	to	0
Calculated TDS/Conductivity	#DIV/0!	Range should be:	0.55	to	0.77
Measure TDS and Cation Sums	0	Range should be:	0.55	to	0.77
Measure TDS and Anion Sums	0	Range should be:	0.55	to	0.77

Analytical and Quality Control Report

Sample: 147744 - 0006081415 (Rodriquez)

Analysis:	8260	Analytical Method:	S 8260B	QC Batch:	QC03195	Date Analyzed:	6/13/00
Analyst:	JG	Preparation Method:	E 5030B	Prep Batch:	PB02746	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Bromochloromethane		<2.00	µg/L	1	2
Dichlorodifluoromethane		<2.00	µg/L	1	2
Chloromethane (methyl chloride)		<2.00	µg/L	1	2
Vinyl Chloride		<2.00	µg/L	1	2
Bromomethane (methyl bromide)		<5.00	µg/L	1	5
Chloroethane		<2.00	µg/L	1	2
Trichlorofluoromethane		<2.00	µg/L	1	2
Acetone		<10.00	µg/L	1	10
Iodomethane (methyl iodide)		<2.00	µg/L	1	2
Carbon Disulfide		<2.00	µg/L	1	2
Acrylonitrile		<2.00	µg/L	1	2
2-Butanone (MEK)		<2.00	µg/L	1	2
4-methyl-2-pentanone (MIBK)		<10.00	µg/L	1	10
2-hexanone		<2.00	µg/L	1	2
trans 1,4-Dichloro-2-butene		<10.00	µg/L	1	10
1,1-Dichloroethene		<2.00	µg/L	1	2
Methylene chloride		<5.00	µg/L	1	5
MTBE		<2.00	µg/L	1	2
trans-1,2-Dichloroethene		<2.00	µg/L	1	2
1,1-Dichloroethane		<2.00	µg/L	1	2
cis-1,2-dichloroethene		<2.00	µg/L	1	2
2,2-Dichloropropane		<2.00	µg/L	1	2
1,2-Dichloroethane (EDC)		<2.00	µg/L	1	2
Chloroform		<2.00	µg/L	1	2
1,1,1-Trichloroethane		<2.00	µg/L	1	2
1,1-Dichloropropene		<2.00	µg/L	1	2
Benzene		<2.00	µg/L	1	2
Carbon Tetrachloride		<2.00	µg/L	1	2
1,2-Dichloropropane		<2.00	µg/L	1	2
Trichloroethene (TCE)		<2.00	µg/L	1	2
Dibromomethane (methylene bromide)		<2.00	µg/L	1	2
Bromodichloromethane		<2.00	µg/L	1	2
2-Chloroethyl vinyl ether		<10.00	µg/L	1	10
cis-1,3-Dichloropropene		<2.00	µg/L	1	2
trans-1,3-Dichloropropene		<2.00	µg/L	1	2
Toluene		<2.00	µg/L	1	2
1,1,2-Trichloroethane		<2.00	µg/L	1	2
1,3-Dichloropropane		<2.00	µg/L	1	2
Dibromochloromethane		<2.00	µg/L	1	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	1	2
Tetrachloroethene (PCE)		<2.00	µg/L	1	2
Chlorobenzene		<2.00	µg/L	1	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	1	2
Ethylbenzene		<2.00	µg/L	1	2
m,p-Xylene		<2.00	µg/L	1	2

Continued ...

... *Continued* Sample: 147744 Analysis: 8260

Param	Flag	Result	Units	Dilution	RDL
Bromoform		<2.00	µg/L	1	2
Styrene		<2.00	µg/L	1	2
o-Xylene		<2.00	µg/L	1	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	1	2
2-Chlorotoluene		<2.00	µg/L	1	2
1,2,3-Trichloropropane		<2.00	µg/L	1	2
Isopropylbenzene		<2.00	µg/L	1	2
Bromobenzene		<2.00	µg/L	1	2
n-Propylbenzene		<2.00	µg/L	1	2
1,3,5-Trimethylbenzene		<2.00	µg/L	1	2
tert-Butylbenzene		<2.00	µg/L	1	2
1,2,4-Trimethylbenzene		<2.00	µg/L	1	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	1	2
sec-Butylbenzene		<2.00	µg/L	1	2
1,3-Dichlorobenzene		<2.00	µg/L	1	2
p-Isopropyltoluene		<2.00	µg/L	1	2
4-Chlorotoluene		<2.00	µg/L	1	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	1	2
n-Butylbenzene		<2.00	µg/L	1	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5
Naphthalene		<2.00	µg/L	1	2
Hexachlorobutadiene		<5.00	µg/L	1	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		52.79	µg/L	1	50	105	84 - 116
Toluene-d8		52.29	µg/L	1	50	104	92 - 108
4-Bromofluorobenzene		42.98	µg/L	1	50	85	80 - 110

Sample: 147744 - 0006081415 (Rodriquez)

Analysis:	8270	Analytical Method:	S 8270C	QC Batch:	QC03142	Date Analyzed:	6/12/00
Analyst:	MA	Preparation Method:	E 3510C	Prep Batch:	PB02699	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Pyridine		<0.005	mg/L	1	0.005
n-Nitrosodimethylamine		<0.005	mg/L	1	0.005
2-Picoline		<0.005	mg/L	1	0.005
Methyl methanesulfonate		<0.005	mg/L	1	0.005
Ethyl methanesulfonate		<0.005	mg/L	1	0.005
Phenol		<0.005	mg/L	1	0.005
Aniline		<0.005	mg/L	1	0.005
bis (2-chloroethyl) ether		<0.005	mg/L	1	0.005
2-Chlorophenol		<0.005	mg/L	1	0.005
1,3-Dichlorobenzene		<0.005	mg/L	1	0.005
1,4-Dichlorobenzene		<0.005	mg/L	1	0.005
Benzyl alcohol		<0.005	mg/L	1	0.005

Continued ...

... *Continued* Sample: 147744 Analysis: 8270

Param	Flag	Result	Units	Dilution	RDL
1,2-Dichlorobenzene		<0.005	mg/L	1	0.005
2-Methylphenol		<0.005	mg/L	1	0.005
bis (2-chloroisopropyl) ether		<0.005	mg/L	1	0.005
4-Methylphenol/3-Methylphenol		<0.005	mg/L	1	0.005
Acetophenone		<0.005	mg/L	1	0.005
n-Nitrosodi-n-propylamine		<0.005	mg/L	1	0.005
Hexachloroethane		<0.005	mg/L	1	0.005
Nitrobenzene		<0.005	mg/L	1	0.005
n-Nitrosopiperidine		<0.005	mg/L	1	0.005
Isophorone		<0.005	mg/L	1	0.005
2-Nitrophenol		<0.005	mg/L	1	0.005
2,4-Dimethylphenol		<0.005	mg/L	1	0.005
bis (2-chloroethoxy) methane		<0.005	mg/L	1	0.005
Benzoic acid		<0.005	mg/L	1	0.005
2,4-Dichlorophenol		<0.005	mg/L	1	0.005
1,2,4-Trichlorobenzene		<0.005	mg/L	1	0.005
a,a-Dimethylphenethylamine		<0.005	mg/L	1	0.005
Naphthalene		<0.005	mg/L	1	0.005
4-Chloroaniline		<0.005	mg/L	1	0.005
2,6-Dichlorophenol		<0.005	mg/L	1	0.005
Hexachlorobutadiene		<0.005	mg/L	1	0.005
n-Nitroso-di-n-butylamine		<0.005	mg/L	1	0.005
4-Chloro-3-methylphenol		<0.005	mg/L	1	0.005
1-Methylnaphthalene		<0.005	mg/L	1	0.005
2-Methylnaphthalene		<0.005	mg/L	1	0.005
1,2,4,5-Tetrachlorobenzene		<0.005	mg/L	1	0.005
Hexachlorocyclopentadiene		<0.005	mg/L	1	0.005
2,4,6-Trichlorophenol		<0.005	mg/L	1	0.005
2,4,5-Trichlorophenol		<0.005	mg/L	1	0.005
2-Chloronaphthalene		<0.005	mg/L	1	0.005
1-Chloronaphthalene		<0.005	mg/L	1	0.005
2-Nitroaniline		<0.005	mg/L	1	0.005
Dimethylphthalate		<0.005	mg/L	1	0.005
Acenaphthylene		<0.005	mg/L	1	0.005
2,6-Dinitrotoluene		<0.005	mg/L	1	0.005
3-Nitroaniline		<0.005	mg/L	1	0.005
Acenaphthene		<0.005	mg/L	1	0.005
2,4-Dinitrophenol		<0.005	mg/L	1	0.005
Dibenzofuran		<0.005	mg/L	1	0.005
Pentachlorobenzene		<0.005	mg/L	1	0.005
4-Nitrophenol		<0.005	mg/L	1	0.005
1-Napthylamine		<0.005	mg/L	1	0.005
2,4-Dinitrotoluene		<0.005	mg/L	1	0.005
2-Napthylamine		<0.005	mg/L	1	0.005
2,3,4,6-Tetrachlorophenol		<0.005	mg/L	1	0.005
Fluorene		<0.005	mg/L	1	0.005
Diethylphthalate		<0.005	mg/L	1	0.005
4-Chlorophenyl-phenylether		<0.005	mg/L	1	0.005
4-Nitroaniline		<0.005	mg/L	1	0.005
4,6-Dinitro-2-methylphenol		<0.005	mg/L	1	0.005
Diphenylamine		<0.005	mg/L	1	0.005

Continued ...

... *Continued* Sample: 147744 Analysis: 8270

Param	Flag	Result	Units	Dilution	RDL
Diphenylhydrazine		<0.005	mg/L	1	0.005
4-Bromophenyl-phenylether		<0.005	mg/L	1	0.005
Phenacetin		<0.005	mg/L	1	0.005
Hexachlorobenzene		<0.005	mg/L	1	0.005
4-Aminobiphenyl		<0.005	mg/L	1	0.005
Pentachlorophenol		<0.005	mg/L	1	0.005
Pentachloronitrobenzene		<0.005	mg/L	1	0.005
Pronamide		<0.005	mg/L	1	0.005
Phenanthrene		<0.005	mg/L	1	0.005
Anthracene		<0.005	mg/L	1	0.005
Di-n-butylphthalate		<0.005	mg/L	1	0.005
Fluoranthene		<0.005	mg/L	1	0.005
Benzidine		<0.005	mg/L	1	0.005
Pyrene		<0.005	mg/L	1	0.005
p-Dimethylaminoazobenzene		<0.005	mg/L	1	0.005
Butylbenzylphthalate		<0.005	mg/L	1	0.005
Benzo(a)anthracene		<0.005	mg/L	1	0.005
3,3-Dichlorobenzidine		<0.005	mg/L	1	0.005
Chrysene		<0.005	mg/L	1	0.005
Bis (2-ethylhexyl) phthalate		<0.005	mg/L	1	0.005
Di-n-octylphthalate		<0.005	mg/L	1	0.005
Benzo(b)fluoranthene		<0.005	mg/L	1	0.005
7,12-Dimethylbenz(a)anthracene		<0.005	mg/L	1	0.005
Benzo(k)fluoranthene		<0.005	mg/L	1	0.005
Benzo(a)pyrene		<0.005	mg/L	1	0.005
3-Methylcholanthrene		<0.005	mg/L	1	0.005
Dibenzo(a,j)acridine		<0.005	mg/L	1	0.005
Indeno(1,2,3-cd)pyrene		<0.005	mg/L	1	0.005
Dibenzo(a,h)anthracene		<0.005	mg/L	1	0.005
Benzo(g,h,i)perylene		<0.005	mg/L	1	0.005

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		20.95	mg/L	1	80	26	8 - 73
Nitrobenzene-d5		57.65	mg/L	1	80	72	44 - 109
2-Fluorobiphenyl		55.91	mg/L	1	80	69	45 - 109
2,4,6-Tribromophenol		49.71	mg/L	1	80	62	39 - 132
Terphenyl-d14		53.07	mg/L	1	80	66	46 - 121

Sample: 147744 - 0006081415 (Rodriquez)

Analysis:	Alkalinity	Analytical Method:	E 310.1	QC Batch:	QC03238	Date Analyzed:	6/13/00
Analyst:	LD	Preparation Method:	N/A	Prep Batch:	PB02792	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		206	mg/L as CaCo3	1	1
Total Alkalinity		206	mg/L as CaCo3	1	1

Sample: 147744 - 0006081415 (Rodriquez)

Analysis:	Conductivity	Analytical Method:	SM 2510B	QC Batch:	QC03138	Date Analyzed:	6/12/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02696	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Specific Conductance		1000	uMHOS/cm	1	

Sample: 147744 - 0006081415 (Rodriquez)

Analysis:	Dissolved Metals	Analytical Method:	E 200.7	QC Batch:	QC03374	Date Analyzed:	6/20/00
Analyst:	RR	Preparation Method:	E 3005A	Prep Batch:	PB02731	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		133	mg/L	1	0.50
Dissolved Magnesium		21	mg/L	1	0.50
Dissolved Potassium		2.5	mg/L	1	0.50
Dissolved Sodium		59	mg/L	1	0.50

Sample: 147744 - 0006081415 (Rodriquez)

Analysis:	Hg, Total	Analytical Method:	S 7470A	QC Batch:	QC03390	Date Analyzed:	6/22/00
Analyst:	JM	Preparation Method:	N/A	Prep Batch:	PB02918	Date Prepared:	6/19/00

Param	Flag	Result	Units	Dilution	RDL
Total Mercury		<0.0002	mg/L	1	0.0002

Sample: 147744 - 0006081415 (Rodriquez)

Analysis:	Ion Chromatography (IC)	Analytical Method:	E 300.0	QC Batch:	QC03190	Date Analyzed:	6/10/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02742	Date Prepared:	6/10/00

Param	Flag	Result	Units	Dilution	RDL
CL		95	mg/L	1	0.50
Fluoride		1.9	mg/L	1	0.20
Nitrate-N		5.7	mg/L	1	0.20
Sulfate		150	mg/L	1	0.50

Sample: 147744 - 0006081415 (Rodriquez)

Analysis:	TDS	Analytical Method:	E 160.1	QC Batch:	QC03193	Date Analyzed:	6/13/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02733	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Total Dissolved Solids		690	mg/L	1	10

Sample: 147744 - 0006081415 (Rodriquez)

Analysis:	Total Metals	Analytical Method:	S 6010B	QC Batch:	QC03389	Date Analyzed:	6/17/00
Analyst:	RR	Preparation Method:	E 3010A	Prep Batch:	PB02676	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Total Aluminum		<0.10	mg/L	1	0.10
Total Arsenic		<0.10	mg/L	1	0.10
Total Barium		<0.10	mg/L	1	0.10
Total Boron		0.37	mg/L	1	0.10
Total Cadmium		<0.01	mg/L	1	0.01
Total Chromium		<0.05	mg/L	1	0.05
Total Cobalt		<0.05	mg/L	1	0.05
Total Copper		<0.10	mg/L	1	0.10
Total Iron		<0.10	mg/L	1	0.10
Total Lead		<0.05	mg/L	1	0.05
Total Manganese		<0.10	mg/L	1	0.10
Total Molybdenum		<0.10	mg/L	1	0.10
Total Nickel		<0.10	mg/L	1	0.10
Total Selenium		<0.05	mg/L	1	0.05
Total Silica		121	mg/L	1	0.50
Total Silver		<0.05	mg/L	1	0.05
Total Zinc		<0.10	mg/L	1	0.10

Sample: 147744 - 0006081415 (Rodriquez)

Analysis:	pH	Analytical Method:	E 150.1	QC Batch:	QC03271	Date Analyzed:	6/12/00
Analyst:	RS	Preparation Method:	N/A	Prep Batch:	PB02820	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
pH	[1]	7.5	s.u.	1	1

Quality Control Report
Method Blank

Sample: Method Blank QCBatch: QC03138

Param	Flag	Results	Units	Reporting Limit
Specific Conductance		2.8	uMHOS/cm	

Sample: Method Blank QCBatch: QC03142

Param	Flag	Results	Units	Reporting Limit
Pyridine		<0.005	mg/L	0.005
n-Nitrosodimethylamine		<0.005	mg/L	0.005
2-Picoline		<0.005	mg/L	0.005

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[1] Out of holding time.

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Param	Flag	Results	Units	Reporting Limit
Methyl methanesulfonate		<0.005	mg/L	0.005
Ethyl methanesulfonate		<0.005	mg/L	0.005
Phenol		<0.005	mg/L	0.005
Aniline		<0.005	mg/L	0.005
bis (2-chloroethyl) ether		<0.005	mg/L	0.005
2-Chlorophenol		<0.005	mg/L	0.005
1,3-Dichlorobenzene		<0.005	mg/L	0.005
1,4-Dichlorobenzene		<0.005	mg/L	0.005
Benzyl alcohol		<0.005	mg/L	0.005
1,2-Dichlorobenzene		<0.005	mg/L	0.005
2-Methylphenol		<0.005	mg/L	0.005
bis (2-chloroisopropyl) ether		<0.005	mg/L	0.005
4-Methylphenol/3-Methylphenol		<0.005	mg/L	0.005
Acetophenone		<0.005	mg/L	0.005
n-Nitrosodi-n-propylamine		<0.005	mg/L	0.005
Hexachloroethane		<0.005	mg/L	0.005
Nitrobenzene		<0.005	mg/L	0.005
n-Nitrosopiperidine		<0.005	mg/L	0.005
Isophorone		<0.005	mg/L	0.005
2-Nitrophenol		<0.005	mg/L	0.005
2,4-Dimethylphenol		<0.005	mg/L	0.005
bis (2-chloroethoxy) methane		<0.005	mg/L	0.005
Benzoic acid		<0.005	mg/L	0.005
2,4-Dichlorophenol		<0.005	mg/L	0.005
1,2,4-Trichlorobenzene		<0.005	mg/L	0.005
a,a-Dimethylphenethylamine		<0.005	mg/L	0.005
Naphthalene		<0.005	mg/L	0.005
4-Chloroaniline		<0.005	mg/L	0.005
2,6-Dichlorophenol		<0.005	mg/L	0.005
Hexachlorobutadiene		<0.005	mg/L	0.005
n-Nitroso-di-n-butylamine		<0.005	mg/L	0.005
4-Chloro-3-methylphenol		<0.005	mg/L	0.005
1-Methylnaphthalene		<0.005	mg/L	0.005
2-Methylnaphthalene		<0.005	mg/L	0.005
1,2,4,5-Tetrachlorobenzene		<0.005	mg/L	0.005
Hexachlorocyclopentadiene		<0.005	mg/L	0.005
2,4,6-Trichlorophenol		<0.005	mg/L	0.005
2,4,5-Trichlorophenol		<0.005	mg/L	0.005
2-Chloronaphthalene		<0.005	mg/L	0.005
1-Chloronaphthalene		<0.005	mg/L	0.005
2-Nitroaniline		<0.005	mg/L	0.005
Dimethylphthalate		<0.005	mg/L	0.005
Acenaphthylene		<0.005	mg/L	0.005
2,6-Dinitrotoluene		<0.005	mg/L	0.005
3-Nitroaniline		<0.005	mg/L	0.005
Acenaphthene		<0.005	mg/L	0.005
2,4-Dinitrophenol		<0.005	mg/L	0.005
Dibenzofuran		<0.005	mg/L	0.005
Pentachlorobenzene		<0.005	mg/L	0.005
4-Nitrophenol		<0.005	mg/L	0.005

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Param	Flag	Results	Units	Reporting Limit
1-Napthylamine		<0.005	mg/L	0.005
2,4-Dinitrotoluene		<0.005	mg/L	0.005
2-Napthylamine		<0.005	mg/L	0.005
2,3,4,6-Tetrachlorophenol		<0.005	mg/L	0.005
Fluorene		<0.005	mg/L	0.005
Diethylphthalate		<0.005	mg/L	0.005
4-Chlorophenyl-phenylether		<0.005	mg/L	0.005
4-Nitroaniline		<0.005	mg/L	0.005
4,6-Dinitro-2-methylphenol		<0.005	mg/L	0.005
Diphenylamine		<0.005	mg/L	0.005
Diphenylhydrazine		<0.005	mg/L	0.005
4-Bromophenyl-phenylether		<0.005	mg/L	0.005
Phenacetin		<0.005	mg/L	0.005
Hexachlorobenzene		<0.005	mg/L	0.005
4-Aminobiphenyl		<0.005	mg/L	0.005
Pentachlorophenol		<0.005	mg/L	0.005
Pentachloronitrobenzene		<0.005	mg/L	0.005
Pronamide		<0.005	mg/L	0.005
Phenanthrene		<0.005	mg/L	0.005
Anthracene		<0.005	mg/L	0.005
Di-n-butylphthalate		<0.005	mg/L	0.005
Fluoranthene		<0.005	mg/L	0.005
Benzidine		<0.005	mg/L	0.005
Pyrene		<0.005	mg/L	0.005
p-Dimethylaminoazobenzene		<0.005	mg/L	0.005
Butylbenzylphthalate		<0.005	mg/L	0.005
Benzo(a)anthracene		<0.005	mg/L	0.005
3,3-Dichlorobenzidine		<0.005	mg/L	0.005
Chrysene		<0.005	mg/L	0.005
Bis (2-ethylhexyl) phthalate		<0.005	mg/L	0.005
Di-n-octylphthalate		<0.005	mg/L	0.005
Benzo(b)fluoranthene		<0.005	mg/L	0.005
7,12-Dimethylbenz(a)anthracene		<0.005	mg/L	0.005
Benzo(k)fluoranthene		<0.005	mg/L	0.005
Benzo(a)pyrene		<0.005	mg/L	0.005
3-Methylcholanthrene		<0.005	mg/L	0.005
Dibenzo(a,j)acridine		<0.005	mg/L	0.005
Indeno(1,2,3-cd)pyrene		<0.005	mg/L	0.005
Dibenzo(a,h)anthracene		<0.005	mg/L	0.005
Benzo(g,h,i)perylene		<0.005	mg/L	0.005

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
2-Fluorophenol		25.50	mg/L	80	31	8 - 73
Nitrobenzene-d5		59.91	mg/L	80	74	44 - 109
2-Fluorobiphenyl		58.24	mg/L	80	72	45 - 109
2,4,6-Tribromophenol		57.84	mg/L	80	72	39 - 132
Terphenyl-d14		53.99	mg/L	80	67	46 - 121

Sample: Method Blank

QCBatch: QC03190

Param	Flag	Results	Units	Reporting Limit
CL		<0.5	mg/L	0.50
Fluoride		<0.2	mg/L	0.20
Nitrate-N		<0.2	mg/L	0.20
Sulfate		<0.5	mg/L	0.50

Sample: Method Blank

QCBatch: QC03193

Param	Flag	Results	Units	Reporting Limit
Total Dissolved Solids		10	mg/L	10

Sample: Method Blank

QCBatch: QC03195

Param	Flag	Results	Units	Reporting Limit
Bromochloromethane		<2.00	µg/L	2
Dichlorodifluoromethane		<2.00	µg/L	2
Chloromethane (methyl chloride)		<2.00	µg/L	2
Vinyl Chloride		<2.00	µg/L	2
Bromomethane (methyl bromide)		<5.00	µg/L	5
Chloroethane		<2.00	µg/L	2
Trichlorofluoromethane		<2.00	µg/L	2
Acetone		<10.00	µg/L	10
Iodomethane (methyl iodide)		<2.00	µg/L	2
Carbon Disulfide		<2.00	µg/L	2
Acrylonitrile		<2.00	µg/L	2
2-Butanone (MEK)		<2.00	µg/L	2
4-methyl-2-pentanone (MIBK)		<10.00	µg/L	10
2-hexanone		<2.00	µg/L	2
trans 1,4-Dichloro-2-butene		<10.00	µg/L	10
1,1-Dichloroethene		<2.00	µg/L	2
Methylene chloride		<5.00	µg/L	5
MTBE		<2.00	µg/L	2
trans-1,2-Dichloroethene		<2.00	µg/L	2
1,1-Dichloroethane		<2.00	µg/L	2
cis-1,2-dichloroethene		<2.00	µg/L	2
2,2-Dichloropropane		<2.00	µg/L	2
1,2-Dichloroethane (EDC)		<2.00	µg/L	2
Chloroform		<2.00	µg/L	2
1,1,1-Trichloroethane		<2.00	µg/L	2
1,1-Dichloropropene		<2.00	µg/L	2
Benzene		<2.00	µg/L	2
Carbon Tetrachloride		<2.00	µg/L	2
1,2-Dichloropropane		<2.00	µg/L	2
Trichloroethene (TCE)		<2.00	µg/L	2

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Param	Flag	Results	Units	Reporting Limit
Dibromomethane (methylene bromide)		<2.00	µg/L	2
Bromodichloromethane		<2.00	µg/L	2
2-Chloroethyl vinyl ether		<10.00	µg/L	10
cis-1,3-Dichloropropene		<2.00	µg/L	2
trans-1,3-Dichloropropene		<2.00	µg/L	2
Toluene		<2.00	µg/L	2
1,1,2-Trichloroethane		<2.00	µg/L	2
1,3-Dichloropropane		<2.00	µg/L	2
Dibromochloromethane		<2.00	µg/L	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	2
Tetrachloroethene (PCE)		<2.00	µg/L	2
Chlorobenzene		<2.00	µg/L	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	2
Ethylbenzene		<2.00	µg/L	2
m,p-Xylene		<2.00	µg/L	2
Bromoform		<2.00	µg/L	2
Styrene		<2.00	µg/L	2
o-Xylene		<2.00	µg/L	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	2
2-Chlorotoluene		<2.00	µg/L	2
1,2,3-Trichloropropane		<2.00	µg/L	2
Isopropylbenzene		<2.00	µg/L	2
Bromobenzene		<2.00	µg/L	2
n-Propylbenzene		<2.00	µg/L	2
1,3,5-Trimethylbenzene		<2.00	µg/L	2
tert-Butylbenzene		<2.00	µg/L	2
1,2,4-Trimethylbenzene		<2.00	µg/L	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	2
sec-Butylbenzene		<2.00	µg/L	2
1,3-Dichlorobenzene		<2.00	µg/L	2
p-Isopropyltoluene		<2.00	µg/L	2
4-Chlorotoluene		<2.00	µg/L	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	2
n-Butylbenzene		<2.00	µg/L	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5
1,2,3-Trichlorobenzene		<5.00	µg/L	5
1,2,4-Trichlorobenzene		<5.00	µg/L	5
Naphthalene		<2.00	µg/L	2
Hexachlorobutadiene		<5.00	µg/L	5

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
Dibromofluoromethane		51.65	µg/L	50	103	84 - 116
Toluene-d8		51.61	µg/L	50	103	92 - 108
4-Bromofluorobenzene		43.93	µg/L	50	87	80 - 110

Sample: Method Blank QCBatch: QC03238

Param	Flag	Results	Units	Reporting Limit
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1
Bicarbonate Alkalinity		<4.0	mg/L as CaCo3	1
Total Alkalinity		<4.0	mg/L as CaCo3	1

Sample: Method Blank QCBatch: QC03374

Param	Flag	Results	Units	Reporting Limit
Dissolved Calcium		<0.50	mg/L	0.50
Dissolved Magnesium		<0.50	mg/L	0.50
Dissolved Potassium		<0.50	mg/L	0.50
Dissolved Sodium		<0.50	mg/L	0.50

Sample: Method Blank QCBatch: QC03389

Param	Flag	Results	Units	Reporting Limit
Total Aluminum		<0.10	mg/L	0.10
Total Arsenic		<0.10	mg/L	0.10
Total Barium		<0.10	mg/L	0.10
Total Boron		<0.10	mg/L	0.10
Total Cadmium		<0.01	mg/L	0.01
Total Chromium		<0.05	mg/L	0.05
Total Cobalt		<0.05	mg/L	0.05
Total Copper		<0.10	mg/L	0.10
Total Iron		<0.10	mg/L	0.10
Total Lead		<0.05	mg/L	0.05
Total Manganese		<0.10	mg/L	0.10
Total Molybdenum		<0.10	mg/L	0.10
Total Nickel		<0.10	mg/L	0.10
Total Selenium		<0.05	mg/L	0.05
Total Silica		<0.50	mg/L	0.50
Total Silver		<0.05	mg/L	0.05
Total Zinc		<0.10	mg/L	0.10

Sample: Method Blank QCBatch: QC03390

Param	Flag	Results	Units	Reporting Limit
Total Mercury		<0.0002	mg/L	0.0002

Quality Control Report

Lab Control Spikes and Duplicate Spikes

Sample: LCS QC Batch: QC03142

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Phenol		42.824	mg/L	1	80	<0.005	53		5 - 57	20
2-Chlorophenol		43.416	mg/L	1	80	<0.005	54		29 - 110	20
1,4-Dichlorobenzene		54.708	mg/L	1	80	<0.005	68		25 - 94	20
n-Nitrosodi-n-propylamine		58.916	mg/L	1	80	<0.005	73		36 - 119	20
1,2,4-Trichlorobenzene		56.070	mg/L	1	80	<0.005	70		28 - 110	20
4-Chloro-3-methylphenol		49.008	mg/L	1	80	<0.005	61		40 - 126	20
Acenaphthene		50.649	mg/L	1	80	<0.005	63		47 - 118	20
4-Nitrophenol		38.123	mg/L	1	80	<0.005	47		0 - 69	20
2,4-Dinitrotoluene		62.227	mg/L	1	80	<0.005	77		46 - 133	20
Pentachlorophenol		33.291	mg/L	1	80	<0.005	41		21 - 131	20
Pyrene		49.127	mg/L	1	80	<0.005	61		44 - 125	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
2-Fluorophenol		49.05	mg/L	1	80	61	8 - 73
Phenol-d5		53.54	mg/L	1	80	66	8 - 62
Nitrobenzene-d5		53.51	mg/L	1	80	66	44 - 109
2-Fluorobiphenyl		53.68	mg/L	1	80	67	45 - 109
2,4,6-Tribromophenol		51.74	mg/L	1	80	64	39 - 132
Terphenyl-d14		53.77	mg/L	1	80	67	46 - 121

Sample: LCSD QC Batch: QC03142

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Phenol		45.977	mg/L	1	80	<0.005	57	7.10	5 - 57	20
2-Chlorophenol		46.473	mg/L	1	80	<0.005	58	6.80	29 - 110	20
1,4-Dichlorobenzene		56.488	mg/L	1	80	<0.005	70	3.20	25 - 94	20
n-Nitrosodi-n-propylamine		61.484	mg/L	1	80	<0.005	76	4.26	36 - 119	20
1,2,4-Trichlorobenzene		57.925	mg/L	1	80	<0.005	72	3.25	28 - 110	20
4-Chloro-3-methylphenol		54.881	mg/L	1	80	<0.005	68	11.30	40 - 126	20
Acenaphthene		53.894	mg/L	1	80	<0.005	67	6.20	47 - 118	20
4-Nitrophenol		43.909	mg/L	1	80	<0.005	54	14.10	0 - 69	20
2,4-Dinitrotoluene		68.147	mg/L	1	80	<0.005	85	9.08	46 - 133	20
Pentachlorophenol		38.058	mg/L	1	80	<0.005	47	13.36	21 - 131	20
Pyrene		45.151	mg/L	1	80	<0.005	56	8.43	44 - 125	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
2-Fluorophenol		51.82	mg/L	1	80	64	8 - 73

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Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Phenol-d5		56.70	mg/L	1	80	70	8 - 62
Nitrobenzene-d5		55.67	mg/L	1	80	69	44 - 109
2-Fluorobiphenyl		58.17	mg/L	1	80	72	45 - 109
2,4,6-Tribromophenol		54.87	mg/L	1	80	68	39 - 132
Terphenyl-d14		50.62	mg/L	1	80	63	46 - 121

Sample: LCS

QC Batch: QC03195

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
1,1-Dichloroethene		100	µg/L	1	100	<2.00	100		73 - 154	20
Benzene		98	µg/L	1	100	<2.00	98		84 - 126	20
Trichloroethene (TCE)		98	µg/L	1	100	<2.00	98		82 - 123	20
Toluene		97	µg/L	1	100	<2.00	97		81 - 122	20
Chlorobenzene		103	µg/L	1	100	<2.00	103		86 - 121	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Dibromofluoromethane		50.92	µg/L	1	50	101	84 - 116
Toluene-d8		50.07	µg/L	1	50	100	92 - 108
4-Bromofluorobenzene		44.30	µg/L	1	50	88	80 - 110

Sample: LCSD

QC Batch: QC03195

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
1,1-Dichloroethene		100	µg/L	1	100	<2.00	100	0.00	73 - 154	20
Benzene		99	µg/L	1	100	<2.00	99	1.01	84 - 126	20
Trichloroethene (TCE)		98	µg/L	1	100	<2.00	98	0.00	82 - 123	20
Toluene		99	µg/L	1	100	<2.00	99	2.04	81 - 122	20
Chlorobenzene		105	µg/L	1	100	<2.00	105	1.92	86 - 121	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Dibromofluoromethane		51.22	µg/L	1	50	102	84 - 116
Toluene-d8		49.81	µg/L	1	50	99	92 - 108
4-Bromofluorobenzene		45.19	µg/L	1	50	90	80 - 110

Sample: LCS

QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1063	mg/L	1	1000	<0.50	106		75 - 125	20
Dissolved Magnesium		982	mg/L	1	1000	<0.50	98		75 - 125	20
Dissolved Potassium		968	mg/L	1	1000	<0.50	97		75 - 125	20
Dissolved Sodium		955	mg/L	1	1000	<0.50	96		75 - 125	20

Sample: LCSD QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1077	mg/L	1	1000	<0.50	108	1.30	75 - 125	20
Dissolved Magnesium		992	mg/L	1	1000	<0.50	99	1.01	75 - 125	20
Dissolved Potassium		951	mg/L	1	1000	<0.50	95	1.77	75 - 125	20
Dissolved Sodium		960	mg/L	1	1000	<0.50	96	0.52	75 - 125	20

Sample: LCS QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		1.95	mg/L	1	2	<0.10	97		75 - 125	20
Total Arsenic		1.89	mg/L	1	2	<0.10	94		75 - 125	20
Total Barium		2.07	mg/L	1	2	<0.10	103		75 - 125	20
Total Boron		1.90	mg/L	1	2	<0.10	95		75 - 125	20
Total Cadmium		2.02	mg/L	1	2	<0.01	101		75 - 125	20
Total Chromium		2.07	mg/L	1	2	<0.05	103		75 - 125	20
Total Cobalt		2.13	mg/L	1	2	<0.05	106		75 - 125	20
Total Copper		2.06	mg/L	1	2	<0.10	103		75 - 125	20
Total Iron		2.08	mg/L	1	2	<0.10	104		75 - 125	20
Total Lead		2.01	mg/L	1	2	<0.05	100		75 - 125	20
Total Manganese		2.09	mg/L	1	2	<0.10	104		75 - 125	20
Total Molybdenum		2.14	mg/L	1	2	<0.10	107		75 - 125	20
Total Nickel		2.01	mg/L	1	2	<0.10	101		75 - 125	20
Total Selenium		1.66	mg/L	1	2	<0.05	83		75 - 125	20
Total Silica		9.75	mg/L	1	10	<0.50	97		75 - 125	20
Total Silver		0.35	mg/L	1	0.40	<0.05	87		75 - 125	20
Total Zinc		2.10	mg/L	1	2	<0.10	105		75 - 125	20

Sample: LCSD QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		1.95	mg/L	1	2	<0.10	97	0.00	75 - 125	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Arsenic		1.90	mg/L	1	2	<0.10	95	0.52	75 - 125	20
Total Barium		2.08	mg/L	1	2	<0.10	104	0.48	75 - 125	20
Total Boron		1.91	mg/L	1	2	<0.10	95	0.52	75 - 125	20
Total Cadmium		2.03	mg/L	1	2	<0.01	101	0.49	75 - 125	20
Total Chromium		2.07	mg/L	1	2	<0.05	103	0.00	75 - 125	20
Total Cobalt		2.14	mg/L	1	2	<0.05	107	0.46	75 - 125	20
Total Copper		2.07	mg/L	1	2	<0.10	103	0.48	75 - 125	20
Total Iron		2.09	mg/L	1	2	<0.10	104	0.47	75 - 125	20
Total Lead		2.02	mg/L	1	2	<0.05	101	0.49	75 - 125	20
Total Manganese		2.10	mg/L	1	2	<0.10	105	0.47	75 - 125	20
Total Molybdenum		2.14	mg/L	1	2	<0.10	107	0.00	75 - 125	20
Total Nickel		2.03	mg/L	1	2	<0.10	102	0.99	75 - 125	20
Total Selenium		1.69	mg/L	1	2	<0.05	84	1.79	75 - 125	20
Total Silica		9.84	mg/L	1	10	<0.50	98	0.91	75 - 125	20
Total Silver		0.36	mg/L	1	0.40	<0.05	90	2.81	75 - 125	20
Total Zinc		2.10	mg/L	1	2	<0.10	105	0.00	75 - 125	20

Sample: LCS QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00103	mg/L	1	0.001	<0.0002	103		80 - 120	20

Sample: LCSD QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00111	mg/L	1	0.001	<0.0002	111	7.47	80 - 120	20

Quality Control Report
Matrix Spikes and Duplicate Spikes

Sample: MS QC Batch: QC03190

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Cl		117.23	mg/L	1	62.50	58	94		80 - 120	20
Fluoride		13.97	mg/L	1	12.50	2.3	93		80 - 120	20

Continued ...

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Nitrate-N		26.33	mg/L	1	25	3.3	92		80 - 120	20
Sulfate		129.52	mg/L	1	62.50	69	96		80 - 120	20

Sample: MSD QC Batch: QC03190

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
CL		117.28	mg/L	1	62.50	58	94	0.08	80 - 120	20
Fluoride		13.75	mg/L	1	12.50	2.3	91	1.90	80 - 120	20
Nitrate-N		25.86	mg/L	1	25	3.3	90	2.06	80 - 120	20
Sulfate		129.38	mg/L	1	62.50	69	96	0.23	80 - 120	20

Sample: MS QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1182	mg/L	1	1000	162	102		75 - 125	20
Dissolved Magnesium		1010	mg/L	1	1000	26	98		75 - 125	20
Dissolved Potassium		953	mg/L	1	1000	2.9	95		75 - 125	20
Dissolved Sodium		1001	mg/L	1	1000	66	93		75 - 125	20

Sample: MSD QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1157	mg/L	1	1000	162	99	2.48	75 - 125	20
Dissolved Magnesium		997	mg/L	1	1000	26	97	1.32	75 - 125	20
Dissolved Potassium		938	mg/L	1	1000	2.9	93	1.59	75 - 125	20
Dissolved Sodium		968	mg/L	1	1000	66	90	3.59	75 - 125	20

Sample: MS QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		2.12	mg/L	1	2	<0.10	106		75 - 125	20
Total Arsenic		1.92	mg/L	1	2	<0.10	96		75 - 125	20
Total Barium		2.11	mg/L	1	2	0.10	100		75 - 125	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Boron		2.08	mg/L	1	2	0.21	93		75 - 125	20
Total Cadmium		1.92	mg/L	1	2	<0.01	96		75 - 125	20
Total Chromium		1.99	mg/L	1	2	<0.05	99		75 - 125	20
Total Cobalt		2.00	mg/L	1	2	<0.05	100		75 - 125	20
Total Copper		1.99	mg/L	1	2	<0.10	99		75 - 125	20
Total Iron		2.04	mg/L	1	2	<0.10	102		75 - 125	20
Total Lead		1.92	mg/L	1	2	<0.05	96		75 - 125	20
Total Manganese		2.02	mg/L	1	2	<0.10	101		75 - 125	20
Total Molybdenum		2.08	mg/L	1	2	<0.10	104		75 - 125	20
Total Nickel		1.94	mg/L	1	2	<0.10	98		75 - 125	20
Total Selenium		1.67	mg/L	1	2	<0.05	83		75 - 125	20
Total Silica		119	mg/L	1	10	107	120		75 - 125	20
Total Silver		0.34	mg/L	1	0.40	<0.05	85		75 - 125	20
Total Zinc		2.00	mg/L	1	2	<0.10	100		75 - 125	20

Sample: MSD

QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		2.16	mg/L	1	2	<0.10	108	1.86	75 - 125	20
Total Arsenic		1.93	mg/L	1	2	<0.10	96	0.51	75 - 125	20
Total Barium		2.12	mg/L	1	2	0.10	101	0.49	75 - 125	20
Total Boron		2.10	mg/L	1	2	0.21	94	1.06	75 - 125	20
Total Cadmium		1.91	mg/L	1	2	<0.01	95	0.52	75 - 125	20
Total Chromium		1.99	mg/L	1	2	<0.05	99	0.00	75 - 125	20
Total Cobalt		2.00	mg/L	1	2	<0.05	100	0.00	75 - 125	20
Total Copper		2.01	mg/L	1	2	<0.10	100	0.99	75 - 125	20
Total Iron		2.05	mg/L	1	2	<0.10	102	0.48	75 - 125	20
Total Lead		1.92	mg/L	1	2	<0.05	96	0.00	75 - 125	20
Total Manganese		2.03	mg/L	1	2	<0.10	101	0.49	75 - 125	20
Total Molybdenum		2.08	mg/L	1	2	<0.10	104	0.00	75 - 125	20
Total Nickel		1.95	mg/L	1	2	<0.10	98	0.51	75 - 125	20
Total Selenium		1.69	mg/L	1	2	<0.05	84	1.19	75 - 125	20
Total Silica		118	mg/L	1	10	107	110	8.69	75 - 125	20
Total Silver		0.36	mg/L	1	0.40	<0.05	90	5.71	75 - 125	20
Total Zinc		1.99	mg/L	1	2	<0.10	99	0.50	75 - 125	20

Sample: MS

QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00112	mg/L	1	0.001	<0.0002	112		80 - 120	20

Sample: MSD QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00103	mg/L	1	0.001	<0.0002	103	8.37	80 - 120	20

Quality Control Report
Duplicate Samples

Sample: Duplicate QC Batch: QC03138

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Specific Conductance		1222	1200	uMHOS/cm	1	1.81	20

Sample: Duplicate QC Batch: QC03193

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids		2118	1900	mg/L	1	10.85	20

Sample: Duplicate QC Batch: QC03238

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Hydroxide Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0.00	20
Carbonate Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0.00	20
Bicarbonate Alkalinity		180	172	mg/L as CaCo3	1	4.54	20
Total Alkalinity		180	172	mg/L as CaCo3	1	4.54	20

Sample: Duplicate QC Batch: QC03271

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH		7.1	7.1	s.u.	1	0.00	20

Quality Control Report
Continuing Calibration Verification Standards

Sample: CCV (1) QC Batch: QC03138

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1413	1419	100	80 - 120	6/12/00

Sample: ICV (1) QC Batch: QC03138

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1413	1406	99	80 - 120	6/12/00

Sample: CCV (1) QC Batch: QC03142

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Phenol		mg/L	60	63.48	105	5 - 57	6/12/00
1,4-Dichlorobenzene		mg/L	60	58.75	97	25 - 94	6/12/00
2-Nitrophenol		mg/L	60	59.98	99	80 - 120	6/12/00
2,4-Dichlorophenol		mg/L	60	62.59	104	80 - 120	6/12/00
Hexachlorobutadiene		mg/L	60	55.74	92	80 - 120	6/12/00
4-Chloro-3-methylphenol		mg/L	60	62.67	104	40 - 126	6/12/00
2,4,6-Trichlorophenol		mg/L	60	57.22	95	80 - 120	6/12/00
Acenaphthene		mg/L	60	58.12	96	47 - 118	6/12/00
Diphenylamine		mg/L	60	58.17	96	80 - 120	6/12/00
Pentachlorophenol		mg/L	60	58.45	97	21 - 131	6/12/00
Fluoranthene		mg/L	60	59.51	99	80 - 120	6/12/00
Di-n-octylphthalate		mg/L	60	60.38	100	80 - 120	6/12/00
Benzo(a)pyrene		mg/L	60	55.79	92	80 - 120	6/12/00
2-Fluorophenol		mg/L	60	59.39	98	8 - 73	6/12/00
Phenol-d5		mg/L	60	63.57	105	8 - 62	6/12/00
Nitrobenzene-d5		mg/L	60	59.40	99	44 - 109	6/12/00
2-Fluorobiphenyl		mg/L	60	57.74	96	45 - 109	6/12/00
2,4,6-Tribromophenol		mg/L	60	54.22	90	39 - 132	6/12/00
Terphenyl-d14		mg/L	60	53.41	89	46 - 121	6/12/00

Sample: CCV (1) QC Batch: QC03190

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
CL		mg/L	12.50	11.80	94	80 - 120	6/10/00
Fluoride		mg/L	2.50	2.45	98	80 - 120	6/10/00
Nitrate-N		mg/L	5	4.79	95	80 - 120	6/10/00

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		mg/L	12.50	12.07	96	80 - 120	6/10/00

Sample: ICV (1) QC Batch: QC03190

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
CL		mg/L	12.50	11.57	92	80 - 120	6/10/00
Fluoride		mg/L	2.50	2.50	100	80 - 120	6/10/00
Nitrate-N		mg/L	5	4.81	96	80 - 120	6/10/00
Sulfate		mg/L	12.50	11.98	95	80 - 120	6/10/00

Sample: CCV (1) QC Batch: QC03193

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	1005	100	80 - 120	6/13/00

Sample: ICV (1) QC Batch: QC03193

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	991	99	80 - 120	6/13/00

Sample: CCV (1) QC Batch: QC03195

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Vinyl Chloride		µg/L	100	96	96	80 - 120	6/13/00
1,1-Dichloroethene		µg/L	100	99	99	73 - 154	6/13/00
Chloroform		µg/L	100	100	100	80 - 120	6/13/00
1,2-Dichloropropane		µg/L	100	101	101	80 - 120	6/13/00
Toluene		µg/L	100	100	100	81 - 122	6/13/00
Chlorobenzene		µg/L	100	102	102	86 - 121	6/13/00
Ethylbenzene		µg/L	100	106	106	80 - 120	6/13/00
Dibromofluoromethane		µg/L	50	50.44	100	80 - 120	6/13/00
Toluene-d8		µg/L	50	49.03	98	80 - 120	6/13/00
4-Bromofluorobenzene		µg/L	50	50.36	100	80 - 120	6/13/00

Sample: CCV (1) QC Batch: QC03238

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	80 - 120	6/13/00
Carbonate Alkalinity		mg/L as CaCo3	0	204	0	80 - 120	6/13/00
Bicarbonate Alkalinity		mg/L as CaCo3	0	32	0	80 - 120	6/13/00
Total Alkalinity		mg/L as CaCo3	250	236	94	80 - 120	6/13/00

Sample: ICV (1) QC Batch: QC03238

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	80 - 120	6/13/00
Carbonate Alkalinity		mg/L as CaCo3	0	220	0	80 - 120	6/13/00
Bicarbonate Alkalinity		mg/L as CaCo3	0	31	0	80 - 120	6/13/00
Total Alkalinity		mg/L as CaCo3	250	251	100	80 - 120	6/13/00

Sample: CCV (1) QC Batch: QC03271

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.0	100	80 - 120	6/12/00

Sample: ICV (1) QC Batch: QC03271

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.0	100	80 - 120	6/12/00

Sample: CCV (1) QC Batch: QC03374

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	20	21.6	108	75 - 125	6/20/00
Dissolved Magnesium		mg/L	20	21.2	106	75 - 125	6/20/00
Dissolved Potassium		mg/L	20	20.9	104	75 - 125	6/20/00
Dissolved Sodium		mg/L	20	19.5	97	75 - 125	6/20/00

Sample: ICV (1)

QC Batch: QC03374

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	20	20.9	104	75 - 125	6/20/00
Dissolved Magnesium		mg/L	20	20.2	101	75 - 125	6/20/00
Dissolved Potassium		mg/L	20	20.3	101	75 - 125	6/20/00
Dissolved Sodium		mg/L	20	19.1	95	75 - 125	6/20/00

Sample: CCV (1)

QC Batch: QC03389

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	5	5.28	105	75 - 125	6/17/00
Total Arsenic		mg/L	2.50	2.63	105	75 - 125	6/17/00
Total Barium		mg/L	5	5.28	105	75 - 125	6/17/00
Total Boron		mg/L	2.50	2.64	105	75 - 125	6/17/00
Total Cadmium		mg/L	0.50	0.52	104	75 - 125	6/17/00
Total Chromium		mg/L	1	1.05	105	75 - 125	6/17/00
Total Cobalt		mg/L	2.50	2.61	104	75 - 125	6/17/00
Total Copper		mg/L	1	1.06	106	75 - 125	6/17/00
Total Iron		mg/L	5	5.25	104	75 - 125	6/17/00
Total Lead		mg/L	2.50	2.64	104	75 - 125	6/17/00
Total Manganese		mg/L	0.50	0.53	106	75 - 125	6/17/00
Total Molybdenum		mg/L	2.50	2.63	104	75 - 125	6/17/00
Total Nickel		mg/L	2.50	2.64	104	75 - 125	6/17/00
Total Selenium		mg/L	2.50	2.66	104	75 - 125	6/17/00
Total Silica		mg/L	2.50	2.60	104	75 - 125	6/17/00
Total Silver		mg/L	0.50	0.52	104	75 - 125	6/17/00
Total Zinc		mg/L	0.50	0.53	106	75 - 125	6/17/00

Sample: ICV (1)

QC Batch: QC03389

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	5	4.99	99	75 - 125	6/17/00
Total Arsenic		mg/L	2.50	2.48	99	75 - 125	6/17/00
Total Barium		mg/L	5	5.04	100	75 - 125	6/17/00
Total Boron		mg/L	2.50	2.57	102	75 - 125	6/17/00
Total Cadmium		mg/L	0.50	0.50	100	75 - 125	6/17/00
Total Chromium		mg/L	1	1.00	100	75 - 125	6/17/00
Total Cobalt		mg/L	2.50	2.50	100	75 - 125	6/17/00
Total Copper		mg/L	1	1.00	100	75 - 125	6/17/00
Total Iron		mg/L	5	5.03	101	75 - 125	6/17/00
Total Lead		mg/L	2.50	2.52	100	75 - 125	6/17/00
Total Manganese		mg/L	0.50	0.50	100	75 - 125	6/17/00

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Molybdenum		mg/L	2.50	2.50	100	75 - 125	6/17/00
Total Nickel		mg/L	2.50	2.51	100	75 - 125	6/17/00
Total Selenium		mg/L	2.50	2.50	100	75 - 125	6/17/00
Total Silica		mg/L	2.50	2.45	100	75 - 125	6/17/00
Total Silver		mg/L	0.50	0.50	100	75 - 125	6/17/00
Total Zinc		mg/L	0.50	0.51	100	75 - 125	6/17/00

Sample: CCV (1)

QC Batch: QC03390

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.001	0.00088	88	80 - 120	6/22/00

Sample: ICV (1)

QC Batch: QC03390

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.001	0.00092	92	80 - 120	6/22/00

147744

Page 1 of 1

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Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

TraceAnalysis, Inc.

4725 Ripley Dr., Ste A
El Paso, Texas 79922-1028
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # A00Ael004

Company Name: NM Oil Conservation Division
Phone #: (505) 827-7154
Address: (Street, City, Zip) 2040 S. Pacheco
Fax #: (505) 827-8177
Contact Person: Bill Olson
Invoice to: (If different from above)
Project #:
Project Name: Windmill Oil
Project Location: Amador Rodriguez
Sampler Signature: Bill Olson

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	NaHSO4	H2SO4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
147744	000608 1415 (Rodriguez)	2	40ml	✓				✓					✓		6/8/00	1415
	000608 1415 (Rodriguez)	1	liter	✓									✓		6/8/00	1415
	000608 1415 (Rodriguez)	1	liter	✓									✓		6/8/00	1415
	000608 1415 (Rodriguez)	1	500ml	✓					✓				✓		6/8/00	1415

	MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC-MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	Gen Chem (OCD contract Item #24)	OCD metals (OCD contract Item #23)		Turn Around Time if different from standard	Hold
											2									
												1								
																1				
																	1			

Relinquished by: Bill Olson Date: 6/9/00 Time: 1200
Received by: Date: Time:
Relinquished by: Date: Time:
Received by: Date: Time:
Relinquished by: Date: Time:
Received at Laboratory by: Vicki Hensley 6/10/00 10:00 10.0°C

LAB USE ONLY
Intact (Y) N
Headspace Y / N
Temp °
Log-in Review

REMARKS:

Carrier # BUS 902421373 7

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.

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TRACEANALYSIS, INC.

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Analytical and Quality Control Report

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JUN 30 2000
ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Report Date: June 27, 2000

Order ID Number: A00061006

Project Number: Ayers Well
Project Name: Windmill Oil
Project Location: Ayers Well

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
147747	0006081800 (Ayers)	Water	6/8/00	18:00	6/10/00

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

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Dr. Blair Leftwich, Director

Ayers well
1700 N. Roberts Road

Cation-Anion Balance Sheet

Sample # 147747 MB Date: 6/27/00

Cations

	ppm	meq/L
Calcium	99	4.9401
Magnesium	16	1.31664
Sodium	44	1.914
Potassium	1.9	0.048602

Total Cations 8.21934 in meq/L

Anions

	ppm	meq/L
Alkalinity	232	4.64
Sulfate	69	1.43658
Chloride	58	1.63618
Nitrate as N	3.3	0.235587
Fluoride	2.3	0.121072

Total Anions 8.06942 in meq/L

Percentage Error
1.84082 %
(needs to be <10%)

OTHER INFORMATION

TDS	0
EC	0

Measure EC and Cation Sums	821.9342	Range should be:	0	to	0
Measure EC and Anion Sums	806.9419	Range should be:	0	to	0
Calculated TDS/Conductivity	#DIV/0!	Range should be:	0.55	to	0.77
Measure TDS and Cation Sums	0	Range should be:	0.55	to	0.77
Measure TDS and Anion Sums	0	Range should be:	0.55	to	0.77

Analytical and Quality Control Report

Sample: 147747 - 0006081800 (Ayers)

Analysis:	8260	Analytical Method:	S 8260B	QC Batch:	QC03195	Date Analyzed:	6/13/00
Analyst:	JG	Preparation Method:	E 5030B	Prep Batch:	PB02746	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Bromochloromethane		<2.00	µg/L	1	2
Dichlorodifluoromethane		<2.00	µg/L	1	2
Chloromethane (methyl chloride)		<2.00	µg/L	1	2
Vinyl Chloride		<2.00	µg/L	1	2
Bromomethane (methyl bromide)		<5.00	µg/L	1	5
Chloroethane		<2.00	µg/L	1	2
Trichlorofluoromethane		<2.00	µg/L	1	2
Acetone		<10.00	µg/L	1	10
Iodomethane (methyl iodide)		<2.00	µg/L	1	2
Carbon Disulfide		<2.00	µg/L	1	2
Acrylonitrile		<2.00	µg/L	1	2
2-Butanone (MEK)		<2.00	µg/L	1	2
4-methyl-2-pentanone (MIBK)		<10.00	µg/L	1	10
2-hexanone		<2.00	µg/L	1	2
trans 1,4-Dichloro-2-butene		<10.00	µg/L	1	10
1,1-Dichloroethene		<2.00	µg/L	1	2
Methylene chloride		<5.00	µg/L	1	5
MTBE		<2.00	µg/L	1	2
trans-1,2-Dichloroethene		<2.00	µg/L	1	2
1,1-Dichloroethane		<2.00	µg/L	1	2
cis-1,2-dichloroethene		<2.00	µg/L	1	2
2,2-Dichloropropane		<2.00	µg/L	1	2
1,2-Dichloroethane (EDC)		<2.00	µg/L	1	2
Chloroform		<2.00	µg/L	1	2
1,1,1-Trichloroethane		<2.00	µg/L	1	2
1,1-Dichloropropene		<2.00	µg/L	1	2
Benzene		<2.00	µg/L	1	2
Carbon Tetrachloride		<2.00	µg/L	1	2
1,2-Dichloropropane		<2.00	µg/L	1	2
Trichloroethene (TCE)		<2.00	µg/L	1	2
Dibromomethane (methylene bromide)		<2.00	µg/L	1	2
Bromodichloromethane		<2.00	µg/L	1	2
2-Chloroethyl vinyl ether		<10.00	µg/L	1	10
cis-1,3-Dichloropropene		<2.00	µg/L	1	2
trans-1,3-Dichloropropene		<2.00	µg/L	1	2
Toluene		<2.00	µg/L	1	2
1,1,2-Trichloroethane		<2.00	µg/L	1	2
1,3-Dichloropropane		<2.00	µg/L	1	2
Dibromochloromethane		<2.00	µg/L	1	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	1	2
Tetrachloroethene (PCE)		<2.00	µg/L	1	2
Chlorobenzene		<2.00	µg/L	1	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	1	2
Ethylbenzene		<2.00	µg/L	1	2
m,p-Xylene		<2.00	µg/L	1	2

Continued ...

... *Continued* Sample: 147747 Analysis: 8260

Param	Flag	Result	Units	Dilution	RDL
Bromoform		<2.00	µg/L	1	2
Styrene		<2.00	µg/L	1	2
o-Xylene		<2.00	µg/L	1	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	1	2
2-Chlorotoluene		<2.00	µg/L	1	2
1,2,3-Trichloropropane		<2.00	µg/L	1	2
Isopropylbenzene		<2.00	µg/L	1	2
Bromobenzene		<2.00	µg/L	1	2
n-Propylbenzene		<2.00	µg/L	1	2
1,3,5-Trimethylbenzene		<2.00	µg/L	1	2
tert-Butylbenzene		<2.00	µg/L	1	2
1,2,4-Trimethylbenzene		<2.00	µg/L	1	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	1	2
sec-Butylbenzene		<2.00	µg/L	1	2
1,3-Dichlorobenzene		<2.00	µg/L	1	2
p-Isopropyltoluene		<2.00	µg/L	1	2
4-Chlorotoluene		<2.00	µg/L	1	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	1	2
n-Butylbenzene		<2.00	µg/L	1	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5
Naphthalene		<2.00	µg/L	1	2
Hexachlorobutadiene		<5.00	µg/L	1	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		53.81	µg/L	1	50	107	84 - 116
Toluene-d8		52.67	µg/L	1	50	105	92 - 108
4-Bromofluorobenzene		42.78	µg/L	1	50	85	80 - 110

Sample: 147747 - 0006081800 (Ayers)

Analysis:	8270	Analytical Method:	S 8270C	QC Batch:	QC03142	Date Analyzed:	6/12/00
Analyst:	MA	Preparation Method:	E 3510C	Prep Batch:	PB02699	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Pyridine		<0.005	mg/L	1	0.005
n-Nitrosodimethylamine		<0.005	mg/L	1	0.005
2-Picoline		<0.005	mg/L	1	0.005
Methyl methanesulfonate		<0.005	mg/L	1	0.005
Ethyl methanesulfonate		<0.005	mg/L	1	0.005
Phenol		<0.005	mg/L	1	0.005
Aniline		<0.005	mg/L	1	0.005
bis (2-chloroethyl) ether		<0.005	mg/L	1	0.005
2-Chlorophenol		<0.005	mg/L	1	0.005
1,3-Dichlorobenzene		<0.005	mg/L	1	0.005
1,4-Dichlorobenzene		<0.005	mg/L	1	0.005
Benzyl alcohol		<0.005	mg/L	1	0.005

Continued ...

... *Continued* Sample: 147747 Analysis: 8270

Param	Flag	Result	Units	Dilution	RDL
Diphenylhydrazine		<0.005	mg/L	1	0.005
4-Bromophenyl-phenylether		<0.005	mg/L	1	0.005
Phenacetin		<0.005	mg/L	1	0.005
Hexachlorobenzene		<0.005	mg/L	1	0.005
4-Aminobiphenyl		<0.005	mg/L	1	0.005
Pentachlorophenol		<0.005	mg/L	1	0.005
Pentachloronitrobenzene		<0.005	mg/L	1	0.005
Pronamide		<0.005	mg/L	1	0.005
Phenanthrene		<0.005	mg/L	1	0.005
Anthracene		<0.005	mg/L	1	0.005
Di-n-butylphthalate		<0.005	mg/L	1	0.005
Fluoranthene		<0.005	mg/L	1	0.005
Benzidine		<0.005	mg/L	1	0.005
Pyrene		<0.005	mg/L	1	0.005
p-Dimethylaminoazobenzene		<0.005	mg/L	1	0.005
Butylbenzylphthalate		<0.005	mg/L	1	0.005
Benzo(a)anthracene		<0.005	mg/L	1	0.005
3,3-Dichlorobenzidine		<0.005	mg/L	1	0.005
Chrysene		<0.005	mg/L	1	0.005
Bis (2-ethylhexyl) phthalate		<0.005	mg/L	1	0.005
Di-n-octylphthalate		<0.005	mg/L	1	0.005
Benzo(b)fluoranthene		<0.005	mg/L	1	0.005
7,12-Dimethylbenz(a)anthracene		<0.005	mg/L	1	0.005
Benzo(k)fluoranthene		<0.005	mg/L	1	0.005
Benzo(a)pyrene		<0.005	mg/L	1	0.005
3-Methylcholanthrene		<0.005	mg/L	1	0.005
Dibenzo(a,j)acridine		<0.005	mg/L	1	0.005
Indeno(1,2,3-cd)pyrene		<0.005	mg/L	1	0.005
Dibenzo(a,h)anthracene		<0.005	mg/L	1	0.005
Benzo(g,h,i)perylene		<0.005	mg/L	1	0.005

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		21.79	mg/L	1	80	27	8 - 73
Nitrobenzene-d5		57.36	mg/L	1	80	71	44 - 109
2-Fluorobiphenyl		56.05	mg/L	1	80	70	45 - 109
2,4,6-Tribromophenol		55.12	mg/L	1	80	68	39 - 132
Terphenyl-d14		55.83	mg/L	1	80	69	46 - 121

Sample: 147747 - 0006081800 (Ayers)

Analysis:	Alkalinity	Analytical Method:	E 310.1	QC Batch:	QC03240	Date Analyzed:	6/16/00
Analyst:	LD	Preparation Method:	N/A	Prep Batch:	PB02794	Date Prepared:	6/16/00

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		232	mg/L as CaCo3	1	1
Total Alkalinity		232	mg/L as CaCo3	1	1

Sample: 147747 - 0006081800 (Ayers)

Analysis:	Conductivity	Analytical Method:	SM 2510B	QC Batch:	QC03137	Date Analyzed:	6/12/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02696	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Specific Conductance		770	uMHOS/cm	1	

Sample: 147747 - 0006081800 (Ayers)

Analysis:	Dissolved Metals	Analytical Method:	E 200.7	QC Batch:	QC03374	Date Analyzed:	6/20/00
Analyst:	RR	Preparation Method:	E 3005A	Prep Batch:	PB02731	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		99	mg/L	1	0.50
Dissolved Magnesium		16	mg/L	1	0.50
Dissolved Potassium		1.9	mg/L	1	0.50
Dissolved Sodium		44	mg/L	1	0.50

Sample: 147747 - 0006081800 (Ayers)

Analysis:	Hg, Total	Analytical Method:	S 7470A	QC Batch:	QC03390	Date Analyzed:	6/22/00
Analyst:	JM	Preparation Method:	N/A	Prep Batch:	PB02918	Date Prepared:	6/19/00

Param	Flag	Result	Units	Dilution	RDL
Total Mercury		<0.0002	mg/L	1	0.0002

Sample: 147747 - 0006081800 (Ayers)

Analysis:	Ion Chromatography (IC)	Analytical Method:	E 300.0	QC Batch:	QC03190	Date Analyzed:	6/10/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02742	Date Prepared:	6/10/00

Param	Flag	Result	Units	Dilution	RDL
CL		58	mg/L	1	0.50
Fluoride		2.3	mg/L	1	0.20
Nitrate-N		3.3	mg/L	1	0.20
Sulfate		69	mg/L	1	0.50

Sample: 147747 - 0006081800 (Ayers)

Analysis:	TDS	Analytical Method:	E 160.1	QC Batch:	QC03193	Date Analyzed:	6/13/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02733	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Total Dissolved Solids		520	mg/L	1	10

Sample: 147747 - 0006081800 (Ayers)

Analysis:	Total Metals	Analytical Method:	S 6010B	QC Batch:	QC03389	Date Analyzed:	6/17/00
Analyst:	RR	Preparation Method:	E 3010A	Prep Batch:	PB02676	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Total Aluminum		<0.10	mg/L	1	0.10
Total Arsenic		<0.10	mg/L	1	0.10
Total Barium		0.12	mg/L	1	0.10
Total Boron		0.20	mg/L	1	0.10
Total Cadmium		<0.01	mg/L	1	0.01
Total Chromium		<0.05	mg/L	1	0.05
Total Cobalt		<0.05	mg/L	1	0.05
Total Copper		<0.10	mg/L	1	0.10
Total Iron		<0.10	mg/L	1	0.10
Total Lead		<0.05	mg/L	1	0.05
Total Manganese		<0.10	mg/L	1	0.10
Total Molybdenum		<0.10	mg/L	1	0.10
Total Nickel		<0.10	mg/L	1	0.10
Total Selenium		<0.05	mg/L	1	0.05
Total Silica		114	mg/L	1	0.50
Total Silver		<0.05	mg/L	1	0.05
Total Zinc		0.12	mg/L	1	0.10

Sample: 147747 - 0006081800 (Ayers)

Analysis:	pH	Analytical Method:	E 150.1	QC Batch:	QC03271	Date Analyzed:	6/12/00
Analyst:	RS	Preparation Method:	N/A	Prep Batch:	PB02820	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
pH	[1]	7.3	s.u.	1	1

Quality Control Report
Method Blank

Sample: Method Blank QCBatch: QC03137

Param	Flag	Results	Units	Reporting Limit
Specific Conductance		2.8	uMHOS/cm	

Sample: Method Blank QCBatch: QC03142

Param	Flag	Results	Units	Reporting Limit
Pyridine		<0.005	mg/L	0.005
n-Nitrosodimethylamine		<0.005	mg/L	0.005
2-Picoline		<0.005	mg/L	0.005

Continued ...

[1] Out of holding time.

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Param	Flag	Results	Units	Reporting Limit
Methyl methanesulfonate		<0.005	mg/L	0.005
Ethyl methanesulfonate		<0.005	mg/L	0.005
Phenol		<0.005	mg/L	0.005
Aniline		<0.005	mg/L	0.005
bis (2-chloroethyl) ether		<0.005	mg/L	0.005
2-Chlorophenol		<0.005	mg/L	0.005
1,3-Dichlorobenzene		<0.005	mg/L	0.005
1,4-Dichlorobenzene		<0.005	mg/L	0.005
Benzyl alcohol		<0.005	mg/L	0.005
1,2-Dichlorobenzene		<0.005	mg/L	0.005
2-Methylphenol		<0.005	mg/L	0.005
bis (2-chloroisopropyl) ether		<0.005	mg/L	0.005
4-Methylphenol/3-Methylphenol		<0.005	mg/L	0.005
Acetophenone		<0.005	mg/L	0.005
n-Nitrosodi-n-propylamine		<0.005	mg/L	0.005
Hexachloroethane		<0.005	mg/L	0.005
Nitrobenzene		<0.005	mg/L	0.005
n-Nitrosopiperidine		<0.005	mg/L	0.005
Isophorone		<0.005	mg/L	0.005
2-Nitrophenol		<0.005	mg/L	0.005
2,4-Dimethylphenol		<0.005	mg/L	0.005
bis (2-chloroethoxy) methane		<0.005	mg/L	0.005
Benzoic acid		<0.005	mg/L	0.005
2,4-Dichlorophenol		<0.005	mg/L	0.005
1,2,4-Trichlorobenzene		<0.005	mg/L	0.005
a,a-Dimethylphenethylamine		<0.005	mg/L	0.005
Naphthalene		<0.005	mg/L	0.005
4-Chloroaniline		<0.005	mg/L	0.005
2,6-Dichlorophenol		<0.005	mg/L	0.005
Hexachlorobutadiene		<0.005	mg/L	0.005
n-Nitroso-di-n-butylamine		<0.005	mg/L	0.005
4-Chloro-3-methylphenol		<0.005	mg/L	0.005
1-Methylnaphthalene		<0.005	mg/L	0.005
2-Methylnaphthalene		<0.005	mg/L	0.005
1,2,4,5-Tetrachlorobenzene		<0.005	mg/L	0.005
Hexachlorocyclopentadiene		<0.005	mg/L	0.005
2,4,6-Trichlorophenol		<0.005	mg/L	0.005
2,4,5-Trichlorophenol		<0.005	mg/L	0.005
2-Chloronaphthalene		<0.005	mg/L	0.005
1-Chloronaphthalene		<0.005	mg/L	0.005
2-Nitroaniline		<0.005	mg/L	0.005
Dimethylphthalate		<0.005	mg/L	0.005
Acenaphthylene		<0.005	mg/L	0.005
2,6-Dinitrotoluene		<0.005	mg/L	0.005
3-Nitroaniline		<0.005	mg/L	0.005
Acenaphthene		<0.005	mg/L	0.005
2,4-Dinitrophenol		<0.005	mg/L	0.005
Dibenzofuran		<0.005	mg/L	0.005
Pentachlorobenzene		<0.005	mg/L	0.005
4-Nitrophenol		<0.005	mg/L	0.005

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Param	Flag	Results	Units	Reporting Limit
1-Napthylamine		<0.005	mg/L	0.005
2,4-Dinitrotoluene		<0.005	mg/L	0.005
2-Napthylamine		<0.005	mg/L	0.005
2,3,4,6-Tetrachlorophenol		<0.005	mg/L	0.005
Fluorene		<0.005	mg/L	0.005
Diethylphthalate		<0.005	mg/L	0.005
4-Chlorophenyl-phenylether		<0.005	mg/L	0.005
4-Nitroaniline		<0.005	mg/L	0.005
4,6-Dinitro-2-methylphenol		<0.005	mg/L	0.005
Diphenylamine		<0.005	mg/L	0.005
Diphenylhydrazine		<0.005	mg/L	0.005
4-Bromophenyl-phenylether		<0.005	mg/L	0.005
Phenacetin		<0.005	mg/L	0.005
Hexachlorobenzene		<0.005	mg/L	0.005
4-Aminobiphenyl		<0.005	mg/L	0.005
Pentachlorophenol		<0.005	mg/L	0.005
Pentachloronitrobenzene		<0.005	mg/L	0.005
Pronamide		<0.005	mg/L	0.005
Phenanthrene		<0.005	mg/L	0.005
Anthracene		<0.005	mg/L	0.005
Di-n-butylphthalate		<0.005	mg/L	0.005
Fluoranthene		<0.005	mg/L	0.005
Benzidine		<0.005	mg/L	0.005
Pyrene		<0.005	mg/L	0.005
p-Dimethylaminoazobenzene		<0.005	mg/L	0.005
Butylbenzylphthalate		<0.005	mg/L	0.005
Benzo(a)anthracene		<0.005	mg/L	0.005
3,3-Dichlorobenzidine		<0.005	mg/L	0.005
Chrysene		<0.005	mg/L	0.005
Bis (2-ethylhexyl) phthalate		<0.005	mg/L	0.005
Di-n-octylphthalate		<0.005	mg/L	0.005
Benzo(b)fluoranthene		<0.005	mg/L	0.005
7,12-Dimethylbenz(a)anthracene		<0.005	mg/L	0.005
Benzo(k)fluoranthene		<0.005	mg/L	0.005
Benzo(a)pyrene		<0.005	mg/L	0.005
3-Methylcholanthrene		<0.005	mg/L	0.005
Dibenzo(a,j)acridine		<0.005	mg/L	0.005
Indeno(1,2,3-cd)pyrene		<0.005	mg/L	0.005
Dibenzo(a,h)anthracene		<0.005	mg/L	0.005
Benzo(g,h,i)perylene		<0.005	mg/L	0.005

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
2-Fluorophenol		25.50	mg/L	80	31	8 - 73
Nitrobenzene-d5		59.91	mg/L	80	74	44 - 109
2-Fluorobiphenyl		58.24	mg/L	80	72	45 - 109
2,4,6-Tribromophenol		57.84	mg/L	80	72	39 - 132
Terphenyl-d14		53.99	mg/L	80	67	46 - 121

Sample: Method Blank QCBatch: QC03190

Param	Flag	Results	Units	Reporting Limit
CL		<0.5	mg/L	0.50
Fluoride		<0.2	mg/L	0.20
Nitrate-N		<0.2	mg/L	0.20
Sulfate		<0.5	mg/L	0.50

Sample: Method Blank QCBatch: QC03193

Param	Flag	Results	Units	Reporting Limit
Total Dissolved Solids		10	mg/L	10

Sample: Method Blank QCBatch: QC03195

Param	Flag	Results	Units	Reporting Limit
Bromochloromethane		<2.00	µg/L	2
Dichlorodifluoromethane		<2.00	µg/L	2
Chloromethane (methyl chloride)		<2.00	µg/L	2
Vinyl Chloride		<2.00	µg/L	2
Bromomethane (methyl bromide)		<5.00	µg/L	5
Chloroethane		<2.00	µg/L	2
Trichlorofluoromethane		<2.00	µg/L	2
Acetone		<10.00	µg/L	10
Iodomethane (methyl iodide)		<2.00	µg/L	2
Carbon Disulfide		<2.00	µg/L	2
Acrylonitrile		<2.00	µg/L	2
2-Butanone (MEK)		<2.00	µg/L	2
4-methyl-2-pentanone (MIBK)		<10.00	µg/L	10
2-hexanone		<2.00	µg/L	2
trans 1,4-Dichloro-2-butene		<10.00	µg/L	10
1,1-Dichloroethene		<2.00	µg/L	2
Methylene chloride		<5.00	µg/L	5
MTBE		<2.00	µg/L	2
trans-1,2-Dichloroethene		<2.00	µg/L	2
1,1-Dichloroethane		<2.00	µg/L	2
cis-1,2-dichloroethene		<2.00	µg/L	2
2,2-Dichloropropane		<2.00	µg/L	2
1,2-Dichloroethane (EDC)		<2.00	µg/L	2
Chloroform		<2.00	µg/L	2
1,1,1-Trichloroethane		<2.00	µg/L	2
1,1-Dichloropropene		<2.00	µg/L	2
Benzene		<2.00	µg/L	2
Carbon Tetrachloride		<2.00	µg/L	2
1,2-Dichloropropane		<2.00	µg/L	2
Trichloroethene (TCE)		<2.00	µg/L	2

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Param	Flag	Results	Units	Reporting Limit
Dibromomethane (methylene bromide)		<2.00	µg/L	2
Bromodichloromethane		<2.00	µg/L	2
2-Chloroethyl vinyl ether		<10.00	µg/L	10
cis-1,3-Dichloropropene		<2.00	µg/L	2
trans-1,3-Dichloropropene		<2.00	µg/L	2
Toluene		<2.00	µg/L	2
1,1,2-Trichloroethane		<2.00	µg/L	2
1,3-Dichloropropane		<2.00	µg/L	2
Dibromochloromethane		<2.00	µg/L	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	2
Tetrachloroethene (PCE)		<2.00	µg/L	2
Chlorobenzene		<2.00	µg/L	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	2
Ethylbenzene		<2.00	µg/L	2
m,p-Xylene		<2.00	µg/L	2
Bromoform		<2.00	µg/L	2
Styrene		<2.00	µg/L	2
o-Xylene		<2.00	µg/L	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	2
2-Chlorotoluene		<2.00	µg/L	2
1,2,3-Trichloropropane		<2.00	µg/L	2
Isopropylbenzene		<2.00	µg/L	2
Bromobenzene		<2.00	µg/L	2
n-Propylbenzene		<2.00	µg/L	2
1,3,5-Trimethylbenzene		<2.00	µg/L	2
tert-Butylbenzene		<2.00	µg/L	2
1,2,4-Trimethylbenzene		<2.00	µg/L	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	2
sec-Butylbenzene		<2.00	µg/L	2
1,3-Dichlorobenzene		<2.00	µg/L	2
p-Isopropyltoluene		<2.00	µg/L	2
4-Chlorotoluene		<2.00	µg/L	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	2
n-Butylbenzene		<2.00	µg/L	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5
1,2,3-Trichlorobenzene		<5.00	µg/L	5
1,2,4-Trichlorobenzene		<5.00	µg/L	5
Naphthalene		<2.00	µg/L	2
Hexachlorobutadiene		<5.00	µg/L	5

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
Dibromofluoromethane		51.65	µg/L	50	103	84 - 116
Toluene-d8		51.61	µg/L	50	103	92 - 108
4-Bromofluorobenzene		43.93	µg/L	50	87	80 - 110

Sample: Method Blank QCBatch: QC03240

Param	Flag	Results	Units	Reporting Limit
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1
Bicarbonate Alkalinity		<2.0	mg/L as CaCo3	1
Total Alkalinity		<2.0	mg/L as CaCo3	1

Sample: Method Blank QCBatch: QC03374

Param	Flag	Results	Units	Reporting Limit
Dissolved Calcium		<0.50	mg/L	0.50
Dissolved Magnesium		<0.50	mg/L	0.50
Dissolved Potassium		<0.50	mg/L	0.50
Dissolved Sodium		<0.50	mg/L	0.50

Sample: Method Blank QCBatch: QC03389

Param	Flag	Results	Units	Reporting Limit
Total Aluminum		<0.10	mg/L	0.10
Total Arsenic		<0.10	mg/L	0.10
Total Barium		<0.10	mg/L	0.10
Total Boron		<0.10	mg/L	0.10
Total Cadmium		<0.01	mg/L	0.01
Total Chromium		<0.05	mg/L	0.05
Total Cobalt		<0.05	mg/L	0.05
Total Copper		<0.10	mg/L	0.10
Total Iron		<0.10	mg/L	0.10
Total Lead		<0.05	mg/L	0.05
Total Manganese		<0.10	mg/L	0.10
Total Molybdenum		<0.10	mg/L	0.10
Total Nickel		<0.10	mg/L	0.10
Total Selenium		<0.05	mg/L	0.05
Total Silica		<0.50	mg/L	0.50
Total Silver		<0.05	mg/L	0.05
Total Zinc		<0.10	mg/L	0.10

Sample: Method Blank QCBatch: QC03390

Param	Flag	Results	Units	Reporting Limit
Total Mercury		<0.0002	mg/L	0.0002

Quality Control Report

Lab Control Spikes and Duplicate Spikes

Sample: LCS

QC Batch: QC03142

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Phenol		42.824	mg/L	1	80	<0.005	53		5 - 57	20
2-Chlorophenol		43.416	mg/L	1	80	<0.005	54		29 - 110	20
1,4-Dichlorobenzene		54.708	mg/L	1	80	<0.005	68		25 - 94	20
n-Nitrosodi-n-propylamine		58.916	mg/L	1	80	<0.005	73		36 - 119	20
1,2,4-Trichlorobenzene		56.070	mg/L	1	80	<0.005	70		28 - 110	20
4-Chloro-3-methylphenol		49.008	mg/L	1	80	<0.005	61		40 - 126	20
Acenaphthene		50.649	mg/L	1	80	<0.005	63		47 - 118	20
4-Nitrophenol		38.123	mg/L	1	80	<0.005	47		0 - 69	20
2,4-Dinitrotoluene		62.227	mg/L	1	80	<0.005	77		46 - 133	20
Pentachlorophenol		33.291	mg/L	1	80	<0.005	41		21 - 131	20
Pyrene		49.127	mg/L	1	80	<0.005	61		44 - 125	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
2-Fluorophenol		49.05	mg/L	1	80	61	8 - 73
Phenol-d5		53.54	mg/L	1	80	66	8 - 62
Nitrobenzene-d5		53.51	mg/L	1	80	66	44 - 109
2-Fluorobiphenyl		53.68	mg/L	1	80	67	45 - 109
2,4,6-Tribromophenol		51.74	mg/L	1	80	64	39 - 132
Terphenyl-d14		53.77	mg/L	1	80	67	46 - 121

Sample: LCSD

QC Batch: QC03142

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Phenol		45.977	mg/L	1	80	<0.005	57	7.10	5 - 57	20
2-Chlorophenol		46.473	mg/L	1	80	<0.005	58	6.80	29 - 110	20
1,4-Dichlorobenzene		56.488	mg/L	1	80	<0.005	70	3.20	25 - 94	20
n-Nitrosodi-n-propylamine		61.484	mg/L	1	80	<0.005	76	4.26	36 - 119	20
1,2,4-Trichlorobenzene		57.925	mg/L	1	80	<0.005	72	3.25	28 - 110	20
4-Chloro-3-methylphenol		54.881	mg/L	1	80	<0.005	68	11.30	40 - 126	20
Acenaphthene		53.894	mg/L	1	80	<0.005	67	6.20	47 - 118	20
4-Nitrophenol		43.909	mg/L	1	80	<0.005	54	14.10	0 - 69	20
2,4-Dinitrotoluene		68.147	mg/L	1	80	<0.005	85	9.08	46 - 133	20
Pentachlorophenol		38.058	mg/L	1	80	<0.005	47	13.36	21 - 131	20
Pyrene		45.151	mg/L	1	80	<0.005	56	8.43	44 - 125	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
2-Fluorophenol		51.82	mg/L	1	80	64	8 - 73

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Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Phenol-d5		56.70	mg/L	1	80	70	8 - 62
Nitrobenzene-d5		55.67	mg/L	1	80	69	44 - 109
2-Fluorobiphenyl		58.17	mg/L	1	80	72	45 - 109
2,4,6-Tribromophenol		54.87	mg/L	1	80	68	39 - 132
Terphenyl-d14		50.62	mg/L	1	80	63	46 - 121

Sample: LCS

QC Batch: QC03195

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
1,1-Dichloroethene		100	µg/L	1	100	<2.00	100		73 - 154	20
Benzene		98	µg/L	1	100	<2.00	98		84 - 126	20
Trichloroethene (TCE)		98	µg/L	1	100	<2.00	98		82 - 123	20
Toluene		97	µg/L	1	100	<2.00	97		81 - 122	20
Chlorobenzene		103	µg/L	1	100	<2.00	103		86 - 121	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Dibromofluoromethane		50.92	µg/L	1	50	101	84 - 116
Toluene-d8		50.07	µg/L	1	50	100	92 - 108
4-Bromofluorobenzene		44.30	µg/L	1	50	88	80 - 110

Sample: LCSD

QC Batch: QC03195

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
1,1-Dichloroethene		100	µg/L	1	100	<2.00	100	0.00	73 - 154	20
Benzene		99	µg/L	1	100	<2.00	99	1.01	84 - 126	20
Trichloroethene (TCE)		98	µg/L	1	100	<2.00	98	0.00	82 - 123	20
Toluene		99	µg/L	1	100	<2.00	99	2.04	81 - 122	20
Chlorobenzene		105	µg/L	1	100	<2.00	105	1.92	86 - 121	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Dibromofluoromethane		51.22	µg/L	1	50	102	84 - 116
Toluene-d8		49.81	µg/L	1	50	99	92 - 108
4-Bromofluorobenzene		45.19	µg/L	1	50	90	80 - 110

Sample: LCS

QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1063	mg/L	1	1000	<0.50	106		75 - 125	20
Dissolved Magnesium		982	mg/L	1	1000	<0.50	98		75 - 125	20
Dissolved Potassium		968	mg/L	1	1000	<0.50	97		75 - 125	20
Dissolved Sodium		955	mg/L	1	1000	<0.50	96		75 - 125	20

Sample: LCSD QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1077	mg/L	1	1000	<0.50	108	1.30	75 - 125	20
Dissolved Magnesium		992	mg/L	1	1000	<0.50	99	1.01	75 - 125	20
Dissolved Potassium		951	mg/L	1	1000	<0.50	95	1.77	75 - 125	20
Dissolved Sodium		960	mg/L	1	1000	<0.50	96	0.52	75 - 125	20

Sample: LCS QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		1.95	mg/L	1	2	<0.10	97		75 - 125	20
Total Arsenic		1.89	mg/L	1	2	<0.10	94		75 - 125	20
Total Barium		2.07	mg/L	1	2	<0.10	103		75 - 125	20
Total Boron		1.90	mg/L	1	2	<0.10	95		75 - 125	20
Total Cadmium		2.02	mg/L	1	2	<0.01	101		75 - 125	20
Total Chromium		2.07	mg/L	1	2	<0.05	103		75 - 125	20
Total Cobalt		2.13	mg/L	1	2	<0.05	106		75 - 125	20
Total Copper		2.06	mg/L	1	2	<0.10	103		75 - 125	20
Total Iron		2.08	mg/L	1	2	<0.10	104		75 - 125	20
Total Lead		2.01	mg/L	1	2	<0.05	100		75 - 125	20
Total Manganese		2.09	mg/L	1	2	<0.10	104		75 - 125	20
Total Molybdenum		2.14	mg/L	1	2	<0.10	107		75 - 125	20
Total Nickel		2.01	mg/L	1	2	<0.10	101		75 - 125	20
Total Selenium		1.66	mg/L	1	2	<0.05	83		75 - 125	20
Total Silica		9.75	mg/L	1	10	<0.50	97		75 - 125	20
Total Silver		0.35	mg/L	1	0.40	<0.05	87		75 - 125	20
Total Zinc		2.10	mg/L	1	2	<0.10	105		75 - 125	20

Sample: LCSD QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		1.95	mg/L	1	2	<0.10	97	0.00	75 - 125	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Arsenic		1.90	mg/L	1	2	<0.10	95	0.52	75 - 125	20
Total Barium		2.08	mg/L	1	2	<0.10	104	0.48	75 - 125	20
Total Boron		1.91	mg/L	1	2	<0.10	95	0.52	75 - 125	20
Total Cadmium		2.03	mg/L	1	2	<0.01	101	0.49	75 - 125	20
Total Chromium		2.07	mg/L	1	2	<0.05	103	0.00	75 - 125	20
Total Cobalt		2.14	mg/L	1	2	<0.05	107	0.46	75 - 125	20
Total Copper		2.07	mg/L	1	2	<0.10	103	0.48	75 - 125	20
Total Iron		2.09	mg/L	1	2	<0.10	104	0.47	75 - 125	20
Total Lead		2.02	mg/L	1	2	<0.05	101	0.49	75 - 125	20
Total Manganese		2.10	mg/L	1	2	<0.10	105	0.47	75 - 125	20
Total Molybdenum		2.14	mg/L	1	2	<0.10	107	0.00	75 - 125	20
Total Nickel		2.03	mg/L	1	2	<0.10	102	0.99	75 - 125	20
Total Selenium		1.69	mg/L	1	2	<0.05	84	1.79	75 - 125	20
Total Silica		9.84	mg/L	1	10	<0.50	98	0.91	75 - 125	20
Total Silver		0.36	mg/L	1	0.40	<0.05	90	2.81	75 - 125	20
Total Zinc		2.10	mg/L	1	2	<0.10	105	0.00	75 - 125	20

Sample: LCS QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00103	mg/L	1	0.001	<0.0002	103		80 - 120	20

Sample: LCSD QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00111	mg/L	1	0.001	<0.0002	111	7.47	80 - 120	20

Quality Control Report
Matrix Spikes and Duplicate Spikes

Sample: MS QC Batch: QC03190

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
CL		117.23	mg/L	1	62.50	58	94		80 - 120	20
Fluoride		13.97	mg/L	1	12.50	2.3	93		80 - 120	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Nitrate-N		26.33	mg/L	1	25	3.3	92		80 - 120	20
Sulfate		129.52	mg/L	1	62.50	69	96		80 - 120	20

Sample: MSD QC Batch: QC03190

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
CL		117.28	mg/L	1	62.50	58	94	0.08	80 - 120	20
Fluoride		13.75	mg/L	1	12.50	2.3	91	1.90	80 - 120	20
Nitrate-N		25.86	mg/L	1	25	3.3	90	2.06	80 - 120	20
Sulfate		129.38	mg/L	1	62.50	69	96	0.23	80 - 120	20

Sample: MS QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1182	mg/L	1	1000	162	102		75 - 125	20
Dissolved Magnesium		1010	mg/L	1	1000	26	98		75 - 125	20
Dissolved Potassium		953	mg/L	1	1000	2.9	95		75 - 125	20
Dissolved Sodium		1001	mg/L	1	1000	66	93		75 - 125	20

Sample: MSD QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1157	mg/L	1	1000	162	99	2.48	75 - 125	20
Dissolved Magnesium		997	mg/L	1	1000	26	97	1.32	75 - 125	20
Dissolved Potassium		938	mg/L	1	1000	2.9	93	1.59	75 - 125	20
Dissolved Sodium		968	mg/L	1	1000	66	90	3.59	75 - 125	20

Sample: MS QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		2.12	mg/L	1	2	<0.10	106		75 - 125	20
Total Arsenic		1.92	mg/L	1	2	<0.10	96		75 - 125	20
Total Barium		2.11	mg/L	1	2	0.10	100		75 - 125	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Boron		2.08	mg/L	1	2	0.21	93		75 - 125	20
Total Cadmium		1.92	mg/L	1	2	<0.01	96		75 - 125	20
Total Chromium		1.99	mg/L	1	2	<0.05	99		75 - 125	20
Total Cobalt		2.00	mg/L	1	2	<0.05	100		75 - 125	20
Total Copper		1.99	mg/L	1	2	<0.10	99		75 - 125	20
Total Iron		2.04	mg/L	1	2	<0.10	102		75 - 125	20
Total Lead		1.92	mg/L	1	2	<0.05	96		75 - 125	20
Total Manganese		2.02	mg/L	1	2	<0.10	101		75 - 125	20
Total Molybdenum		2.08	mg/L	1	2	<0.10	104		75 - 125	20
Total Nickel		1.94	mg/L	1	2	<0.10	98		75 - 125	20
Total Selenium		1.67	mg/L	1	2	<0.05	83		75 - 125	20
Total Silica		119	mg/L	1	10	107	120		75 - 125	20
Total Silver		0.34	mg/L	1	0.40	<0.05	85		75 - 125	20
Total Zinc		2.00	mg/L	1	2	<0.10	100		75 - 125	20

Sample: MSD QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		2.16	mg/L	1	2	<0.10	108	1.86	75 - 125	20
Total Arsenic		1.93	mg/L	1	2	<0.10	96	0.51	75 - 125	20
Total Barium		2.12	mg/L	1	2	0.10	101	0.49	75 - 125	20
Total Boron		2.10	mg/L	1	2	0.21	94	1.06	75 - 125	20
Total Cadmium		1.91	mg/L	1	2	<0.01	95	0.52	75 - 125	20
Total Chromium		1.99	mg/L	1	2	<0.05	99	0.00	75 - 125	20
Total Cobalt		2.00	mg/L	1	2	<0.05	100	0.00	75 - 125	20
Total Copper		2.01	mg/L	1	2	<0.10	100	0.99	75 - 125	20
Total Iron		2.05	mg/L	1	2	<0.10	102	0.48	75 - 125	20
Total Lead		1.92	mg/L	1	2	<0.05	96	0.00	75 - 125	20
Total Manganese		2.03	mg/L	1	2	<0.10	101	0.49	75 - 125	20
Total Molybdenum		2.08	mg/L	1	2	<0.10	104	0.00	75 - 125	20
Total Nickel		1.95	mg/L	1	2	<0.10	98	0.51	75 - 125	20
Total Selenium		1.69	mg/L	1	2	<0.05	84	1.19	75 - 125	20
Total Silica		118	mg/L	1	10	107	110	8.69	75 - 125	20
Total Silver		0.36	mg/L	1	0.40	<0.05	90	5.71	75 - 125	20
Total Zinc		1.99	mg/L	1	2	<0.10	99	0.50	75 - 125	20

Sample: MS QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00112	mg/L	1	0.001	<0.0002	112		80 - 120	20

Sample: CCV (1) QC Batch: QC03137

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1413	1406	99	80 - 120	6/12/00

Sample: ICV (1) QC Batch: QC03137

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1413	1406	99	80 - 120	6/12/00

Sample: CCV (1) QC Batch: QC03142

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Phenol		mg/L	60	63.48	105	5 - 57	6/12/00
1,4-Dichlorobenzene		mg/L	60	58.75	97	25 - 94	6/12/00
2-Nitrophenol		mg/L	60	59.98	99	80 - 120	6/12/00
2,4-Dichlorophenol		mg/L	60	62.59	104	80 - 120	6/12/00
Hexachlorobutadiene		mg/L	60	55.74	92	80 - 120	6/12/00
4-Chloro-3-methylphenol		mg/L	60	62.67	104	40 - 126	6/12/00
2,4,6-Trichlorophenol		mg/L	60	57.22	95	80 - 120	6/12/00
Acenaphthene		mg/L	60	58.12	96	47 - 118	6/12/00
Diphenylamine		mg/L	60	58.17	96	80 - 120	6/12/00
Pentachlorophenol		mg/L	60	58.45	97	21 - 131	6/12/00
Fluoranthene		mg/L	60	59.51	99	80 - 120	6/12/00
Di-n-octylphthalate		mg/L	60	60.38	100	80 - 120	6/12/00
Benzo(a)pyrene		mg/L	60	55.79	92	80 - 120	6/12/00
2-Fluorophenol		mg/L	60	59.39	98	8 - 73	6/12/00
Phenol-d5		mg/L	60	63.57	105	8 - 62	6/12/00
Nitrobenzene-d5		mg/L	60	59.40	99	44 - 109	6/12/00
2-Fluorobiphenyl		mg/L	60	57.74	96	45 - 109	6/12/00
2,4,6-Tribromophenol		mg/L	60	54.22	90	39 - 132	6/12/00
Terphenyl-d14		mg/L	60	53.41	89	46 - 121	6/12/00

Sample: CCV (1) QC Batch: QC03190

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
CL		mg/L	12.50	11.80	94	80 - 120	6/10/00
Fluoride		mg/L	2.50	2.45	98	80 - 120	6/10/00
Nitrate-N		mg/L	5	4.79	95	80 - 120	6/10/00

Continued ...

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		mg/L	12.50	12.07	96	80 - 120	6/10/00

Sample: ICV (1) QC Batch: QC03190

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
CL		mg/L	12.50	11.57	92	80 - 120	6/10/00
Fluoride		mg/L	2.50	2.50	100	80 - 120	6/10/00
Nitrate-N		mg/L	5	4.81	96	80 - 120	6/10/00
Sulfate		mg/L	12.50	11.98	95	80 - 120	6/10/00

Sample: CCV (1) QC Batch: QC03193

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	1005	100	80 - 120	6/13/00

Sample: ICV (1) QC Batch: QC03193

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	991	99	80 - 120	6/13/00

Sample: CCV (1) QC Batch: QC03195

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Vinyl Chloride		µg/L	100	96	96	80 - 120	6/13/00
1,1-Dichloroethene		µg/L	100	99	99	73 - 154	6/13/00
Chloroform		µg/L	100	100	100	80 - 120	6/13/00
1,2-Dichloropropane		µg/L	100	101	101	80 - 120	6/13/00
Toluene		µg/L	100	100	100	81 - 122	6/13/00
Chlorobenzene		µg/L	100	102	102	86 - 121	6/13/00
Ethylbenzene		µg/L	100	106	106	80 - 120	6/13/00
Dibromofluoromethane		µg/L	50	50.44	100	80 - 120	6/13/00
Toluene-d8		µg/L	50	49.03	98	80 - 120	6/13/00
4-Bromofluorobenzene		µg/L	50	50.36	100	80 - 120	6/13/00

Sample: CCV (1) QC Batch: QC03240

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	80 - 120	6/16/00
Carbonate Alkalinity		mg/L as CaCo3	0	198	0	80 - 120	6/16/00
Bicarbonate Alkalinity		mg/L as CaCo3	0	36	0	80 - 120	6/16/00
Total Alkalinity		mg/L as CaCo3	250	234	93	80 - 120	6/16/00

Sample: ICV (1) QC Batch: QC03240

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	80 - 120	6/16/00
Carbonate Alkalinity		mg/L as CaCo3	0	230	0	80 - 120	6/16/00
Bicarbonate Alkalinity		mg/L as CaCo3	0	17	0	80 - 120	6/16/00
Total Alkalinity		mg/L as CaCo3	250	247	98	80 - 120	6/16/00

Sample: CCV (1) QC Batch: QC03271

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.0	100	80 - 120	6/12/00

Sample: ICV (1) QC Batch: QC03271

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.0	100	80 - 120	6/12/00

Sample: CCV (1) QC Batch: QC03374

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	20	21.6	108	75 - 125	6/20/00
Dissolved Magnesium		mg/L	20	21.2	106	75 - 125	6/20/00
Dissolved Potassium		mg/L	20	20.9	104	75 - 125	6/20/00
Dissolved Sodium		mg/L	20	19.5	97	75 - 125	6/20/00

Sample: MSD QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00103	mg/L	1	0.001	<0.0002	103	8.37	80 - 120	20

Quality Control Report
Duplicate Samples

Sample: Duplicate QC Batch: QC03137

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Specific Conductance		943	940	uMHOS/cm	1	0.31	20

Sample: Duplicate QC Batch: QC03193

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids		2118	1900	mg/L	1	10.85	20

Sample: Duplicate QC Batch: QC03240

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Hydroxide Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0.00	20
Carbonate Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0.00	20
Bicarbonate Alkalinity		313	316	mg/L as CaCo3	1	0.95	20
Total Alkalinity		313	316	mg/L as CaCo3	1	0.95	20

Sample: Duplicate QC Batch: QC03271

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH		7.1	7.1	s.u.	1	0.00	20

Quality Control Report
Continuing Calibration Verification Standards

Sample: ICV (1)

QC Batch: QC03374

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	20	20.9	104	75 - 125	6/20/00
Dissolved Magnesium		mg/L	20	20.2	101	75 - 125	6/20/00
Dissolved Potassium		mg/L	20	20.3	101	75 - 125	6/20/00
Dissolved Sodium		mg/L	20	19.1	95	75 - 125	6/20/00

Sample: CCV (1)

QC Batch: QC03389

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	5	5.28	105	75 - 125	6/17/00
Total Arsenic		mg/L	2.50	2.63	105	75 - 125	6/17/00
Total Barium		mg/L	5	5.28	105	75 - 125	6/17/00
Total Boron		mg/L	2.50	2.64	105	75 - 125	6/17/00
Total Cadmium		mg/L	0.50	0.52	104	75 - 125	6/17/00
Total Chromium		mg/L	1	1.05	105	75 - 125	6/17/00
Total Cobalt		mg/L	2.50	2.61	104	75 - 125	6/17/00
Total Copper		mg/L	1	1.06	106	75 - 125	6/17/00
Total Iron		mg/L	5	5.25	104	75 - 125	6/17/00
Total Lead		mg/L	2.50	2.64	104	75 - 125	6/17/00
Total Manganese		mg/L	0.50	0.53	106	75 - 125	6/17/00
Total Molybdenum		mg/L	2.50	2.63	104	75 - 125	6/17/00
Total Nickel		mg/L	2.50	2.64	104	75 - 125	6/17/00
Total Selenium		mg/L	2.50	2.66	104	75 - 125	6/17/00
Total Silica		mg/L	2.50	2.60	104	75 - 125	6/17/00
Total Silver		mg/L	0.50	0.52	104	75 - 125	6/17/00
Total Zinc		mg/L	0.50	0.53	106	75 - 125	6/17/00

Sample: ICV (1)

QC Batch: QC03389

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	5	4.99	99	75 - 125	6/17/00
Total Arsenic		mg/L	2.50	2.48	99	75 - 125	6/17/00
Total Barium		mg/L	5	5.04	100	75 - 125	6/17/00
Total Boron		mg/L	2.50	2.57	102	75 - 125	6/17/00
Total Cadmium		mg/L	0.50	0.50	100	75 - 125	6/17/00
Total Chromium		mg/L	1	1.00	100	75 - 125	6/17/00
Total Cobalt		mg/L	2.50	2.50	100	75 - 125	6/17/00
Total Copper		mg/L	1	1.00	100	75 - 125	6/17/00
Total Iron		mg/L	5	5.03	101	75 - 125	6/17/00
Total Lead		mg/L	2.50	2.52	100	75 - 125	6/17/00
Total Manganese		mg/L	0.50	0.50	100	75 - 125	6/17/00

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Molybdenum		mg/L	2.50	2.50	100	75 - 125	6/17/00
Total Nickel		mg/L	2.50	2.51	100	75 - 125	6/17/00
Total Selenium		mg/L	2.50	2.50	100	75 - 125	6/17/00
Total Silica		mg/L	2.50	2.45	100	75 - 125	6/17/00
Total Silver		mg/L	0.50	0.50	100	75 - 125	6/17/00
Total Zinc		mg/L	0.50	0.51	100	75 - 125	6/17/00

Sample: CCV (1) QC Batch: QC03390

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.001	0.00088	88	80 - 120	6/22/00

Sample: ICV (1) QC Batch: QC03390

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.001	0.00092	92	80 - 120	6/22/00

147747

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Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

TraceAnalysis, Inc.

4725 Ripley Dr., Ste A
El Paso, Texas 79922-1028
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # A000608004

Company Name: NM OIL CONSERVATION DIV. Phone #: 505-827-7154

Address: (Street, City, Zip) 2040 S. PACHECO SANTA FE NM 87505 Fax #: 505-827-8177

Contact Person: BILL OLSON

Invoice to: (If different from above)

Project #: Project Name: WARD MILL OIL

Project Location: Ayers Well Sampler Signature: X Will Olson

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME
147747	000608 1800 (Ayers)	2	40 ml	✓				✓		✓		6/8/00	1800
	000608 1800 (Ayers)	1	liter	✓						✓		6/8/00	1800
	000608 1800 (Ayers)	1	liter	✓						✓		6/8/00	1800
	000608 1800 (Ayers)	1	500 ml	✓					✓	✓		6/8/00	1800

ANALYSIS REQUEST (Circle or Specify Method No.)

MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC-MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	GEN CHEM 1 EA. #24	CCD METALS 1 EA. #33	Turn Around Time if different from standard	Hold
										2								
											1							
															1			
																1		

Relinquished by: Will Olson Date: 6/9/00 Time: 1200

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received at Laboratory by: Vicki Hensley Date: 6-10-00 Time: 10:00am

LAB USE ONLY

Intact Y / N

Headspace Y / N

Temp 4 °

Log-in Review

REMARKS:

Carrier # Bus 900 421 3337

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.

BASELINE DGSI
ANALYTICAL LABORATORIES

EVALUATION OF GAS CHROMATOGRAPHIC FINGERPRINTS OF FOUR OILS FOR RESERVOIR CONTINUITY

Prepared For:

BBC INTERNATIONAL, INC.
1324 West Marland
Hobbs, New Mexico 88240

Performed By:
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Baseline DGSI

Project: 02-140-A
March 26, 2002

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EVALUATION OF GAS CHROMATOGRAPHIC FINGERPRINTS OF FOUR OILS FOR RESERVOIR CONTINUITY

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Table 1

Whole Oil GC Data

Evaluation of Gas Chromatographic Fingerprints of Four Oils for Reservoir Continuity

SUMMARY

Comparison of high-resolution gas chromatographic (HRGC) fingerprints of the four oils identified as Bowers, San Andres, King W-W, and Roberts-Mahan WW suggests the following conclusions on reservoir fluid continuity. According to client information the Bowers and the San Andres oil samples are from oil producing formations. The King W-W and the Roberts-Mahan WW oils are water table samples.

(1) The Bowers oil is unaltered and shows a fingerprint pattern that is different from the fingerprints of the other oils. It indicates the Bowers oil was produced from an independent oil pool. The pool of the Bowers oil has no fluid continuity with that of the other oils.

(2) The San Andres oil and the King W-W oil show an identical fingerprint pattern. Both are lightly biodegraded and have the same degree of biodegradation. It suggests that these two oils are coming from a common oil pool. The reservoirs of the two oils are expected to be in fluid continuity.

(3) The Roberts-Mahan WW oil is slightly more biodegraded compared to the San Andres and King W-W oils. The Roberts-Mahan WW oil shows a fingerprint pattern different from the pattern of the Bowers oil and the pattern of the San Andres/King W-W oils. If well locations/reservoir formations/depths and other engineering information do not demand a contrary opinion (i.e. separate pools), then it is possible that the Roberts-Mahan WW oil is coming from the same pool of the San Andres/King W-W oils, and the observed differences are suggesting that the Roberts-Mahan WW oil is probably closer to the water table compared to the San Andres/King W-W oils.

Objective

To compare the HRGC fingerprints and determine fluid continuity among the reservoirs of the four oils identified as Bowers, San Andres, King W-W, and Roberts-Mahan WW.

Analysis

Whole oil high-resolution gas chromatography (HRGC) on the four oils identified as Bowers, San Andres, King W-W, and Roberts-Mahan WW.

Background

Crude oils produced from reservoirs that are in fluid communication have virtually the same molecular composition as revealed by high-resolution gas chromatography. This is true even for reservoirs that may have initially received different charges of oil, either from separate source rocks or different stages of generation from the same source, because "mixing" within the overall accumulation occurs on a geological time scale. In contrast, reservoirs not in communication will, in general, contain non-identical oils even if the oils are from the same source. This is because no two reservoirs receive exactly the same oil charge due to differences in the precise migration pathway and/or portion of the source formation that is being drained. Differences in oil alteration in different reservoir compartments if present also introduce compositional differences. Although these differences in composition may be small, they are preserved and they can be readily detected by HRGC. It is possible, however, that two oils in different reservoirs may have virtually identical compositions even though other data, such as pressure tests, indicate a lack of fluid continuity. Thus, it is possible to prove discontinuities in fluid systems; continuity cannot be proven.

In practice, it is the small, inter-n-paraffin peaks that are used to compare oil samples. The HRGC traces of the samples are visually compared, and adjacent pairs of peaks showing the most variability among the samples are selected. The traces were also compared using a computer program, Reserview, developed by Infologic/Baseline Resolution, Inc. Adjacent peaks are used to minimize the effect that evaporation during sampling might have on composition (adjacent peaks would have very similar volatility and thus be equally affected). Ratios of these pairs of peaks throughout the chromatogram are calculated for each of the oils and displayed in a polar plot or so-called star diagram. The star plots thus allow a visual comparison of the similarity or dissimilarity of the oils.

Results and Discussion

The Bowers oil is an unaltered original oil and has no trace of biodegradation. Both the San Andres and the King W-W oils are lightly biodegraded and have the same intensity of biodegradation. The Roberts-Mahan WW oil is slightly more biodegraded than the San Andres/King W-W oils. These can be suggested based on the two C7 plots namely the P1-P2-P3 diagram (Figure 1), the Thompson Oil alteration diagram (Figure 2), and C7 transformation ratios diagram (Figure 5). It is also evident by the pristine/nC17 versus phytane/nC17 plots of the oils obtained from the C15+ data (Figure 3).

On the source of the oils, the Bowers oil has a slightly different source than that of the other oils. The other three oils San Andres, King W-W, and Roberts-Mahan WW have the same source. It is shown by the C7 correlation diagram (Figure 4), by the differences in pristine/phytane ratios (1.42 for the Bowers oil, 1.00-1.04 for the other three oils), and by the difference in the pristine/nC17 versus phytane/nC18 trends (Figure 3).

As regards to the maturity, the C7 maturity parameter gives similar expulsion temperatures for the three oils San Andres, King W-W, and Roberts-Mahan WW

(117.35-117.80 degC) and a somewhat higher expulsion temperature for the Bowers oil (123.2 degC). The Ro estimates based on expulsion temperatures suggest about 0.85%Ro maturity for the Bowers oil and about 0.80%Ro for the three oils San Andres, King W-W, and Roberts-Mahan WW.

Detailed comparison of the HRGC traces of the four oils using ReserView, proprietary computer software developed by Baseline Resolution Inc. and InfoLogic, resulted in the selection of eighteen pairs of neighboring peaks in the nC9-nC16 range showing the most variability among all the four oil samples. Peak ratio values between 0.5 and 2.0 within the nC9-nC16 range are used for comparison. Values of these eightteen peak ratios are given in Table 1. Star plots based on these peak ratios are used to compare the four oils for reservoir continuity.

The star plots in Figure 6 drawn based on the eighteen peak ratios in Table 1 compare in detail the fingerprints of the four oils Bowers, San Andres, King W-W, and Roberts-Mahan WW . In this diagram the Bowers oil and the Roberts-Mahan oil have two different star patterns, and the two oils San Andres, King W-W show an identical star pattern distinctly different both the fingerprints of the Bowers oil and the Roberts-Mahan WW oil (see also Figures 7 and 8 for better clarity).

Based on the differences of the Bowers oil from the others in star pattern, and minor differences in source and maturity, and differences in alteration (the Bowers oil is an unaltered oil) we conclude the Bowers oil was produced from an independent oil pool. The pool of the Bowers oil has no fluid continuity with that of the other oils.

The San Andres oil and the King W-W oil both show an identical star pattern. Both are lightly biodegraded and have the same degree of biodegradation. They are also of the same source and maturity. Based on these observations, we conclude that the two oils San Andres oil and the King W-W are coming from a common oil pool. The reservoirs of the two oils are expected to be in fluid continuity.

The Roberts-Mahan WW oil is slightly more biodegraded compared to the San Andres and King W-W oils. The oil has the same source and maturity of the San Andres and King W-W oils. The Roberts-Mahan WW oil shows a fingerprint pattern different from the pattern of the Bowers oil and the pattern of the San Andres/King W-W oils. If well locations/reservoir formations/depths and other engineering information do not demand a contrary opinion (i.e. separate pools), then these geochemical observations might suggest that the Roberts-Mahan WW oil is coming from the same pool of the San Andres/King W-W oils, and the observed differences in star pattern reflect that the Roberts-Mahan WW oil is probably closer to the water table compared to the San Andres/King W-W oils.

APPENDIX

Figures

Figiure 1. P1-P2-P3 Diagram
C7 Biodegradation Plot

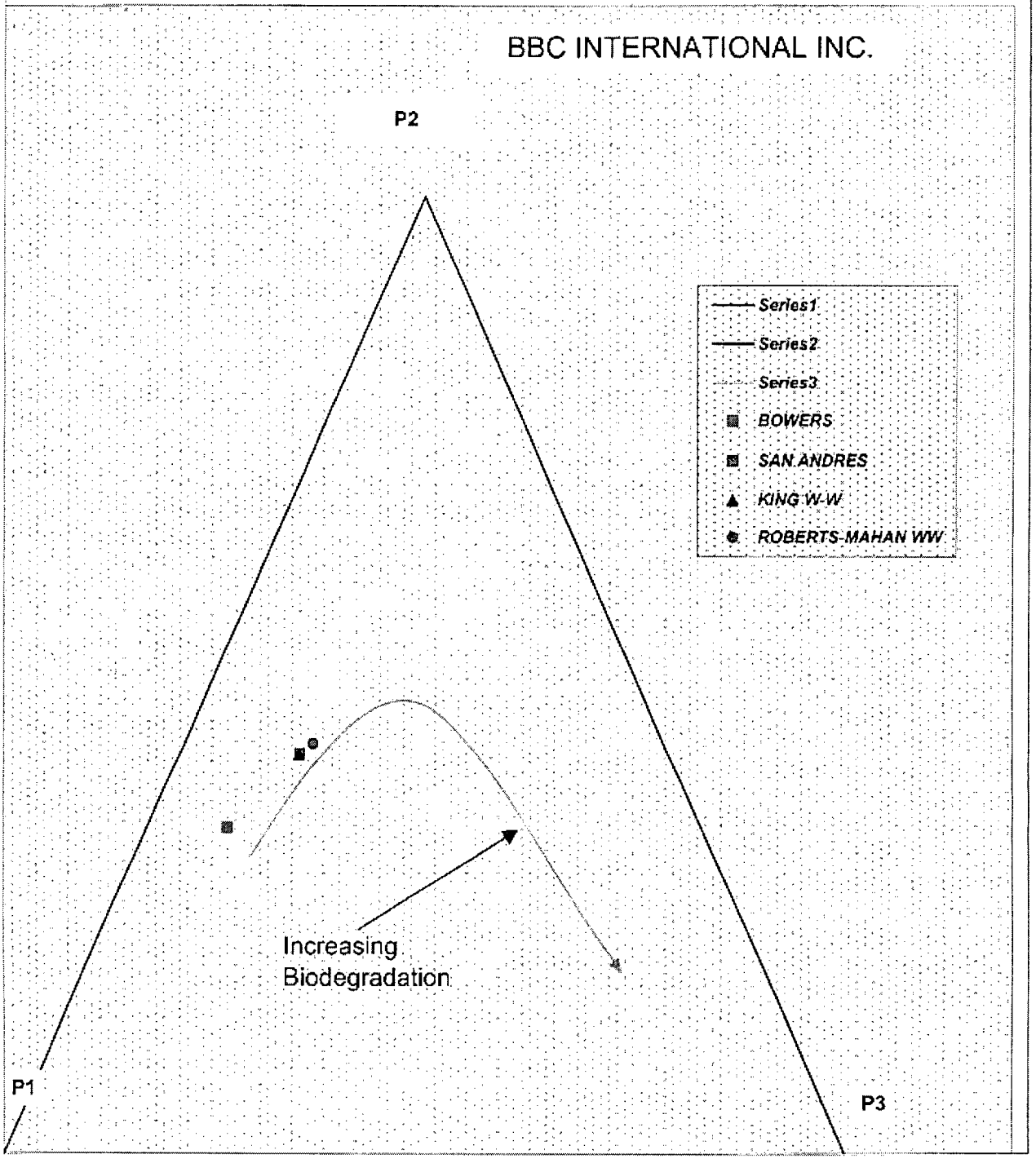


Figure 2. Thompson Oil Alteration Plot

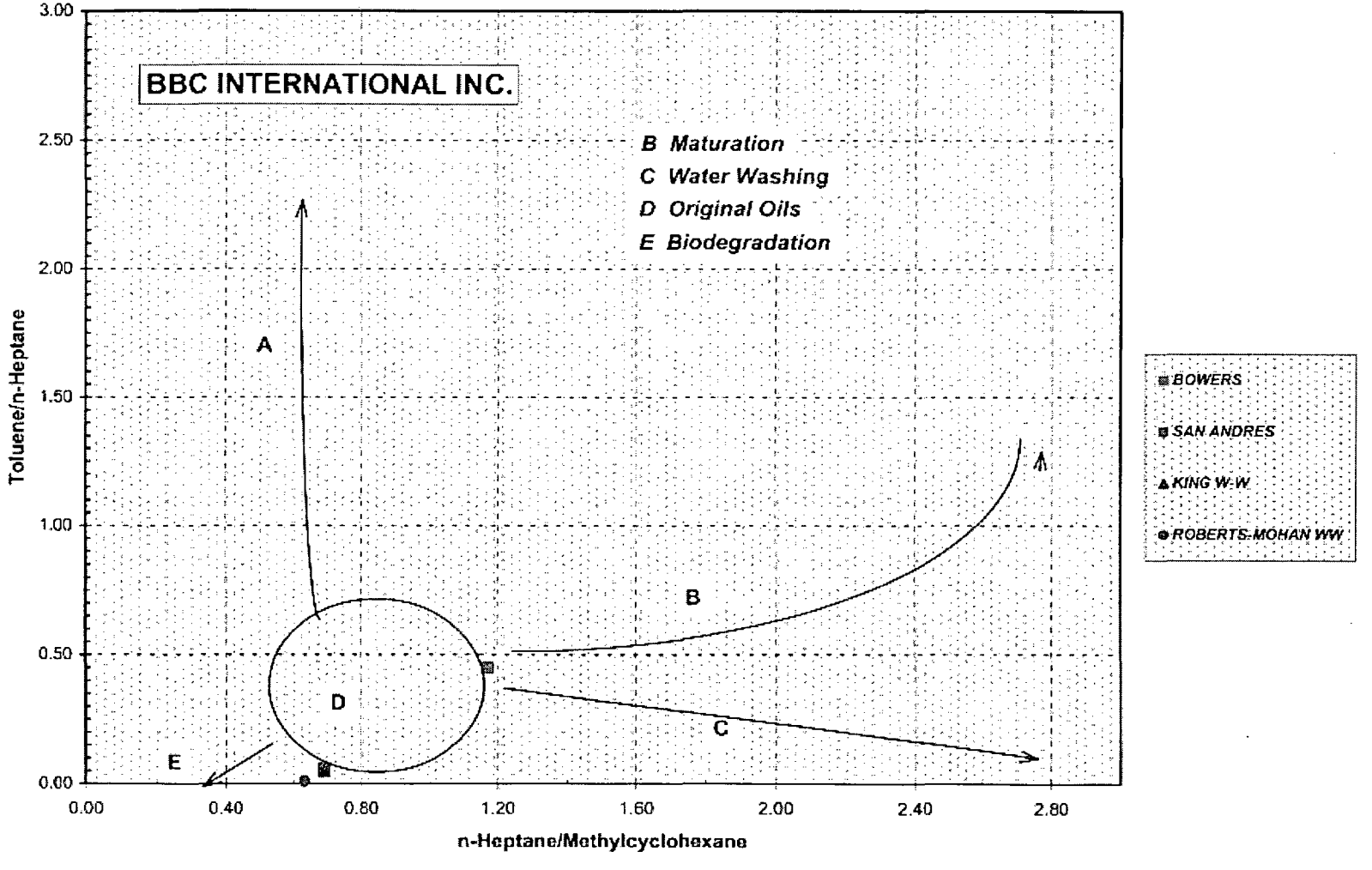


Figure 3. Pristane/nC17 versus Phytane/nC18 Diagram

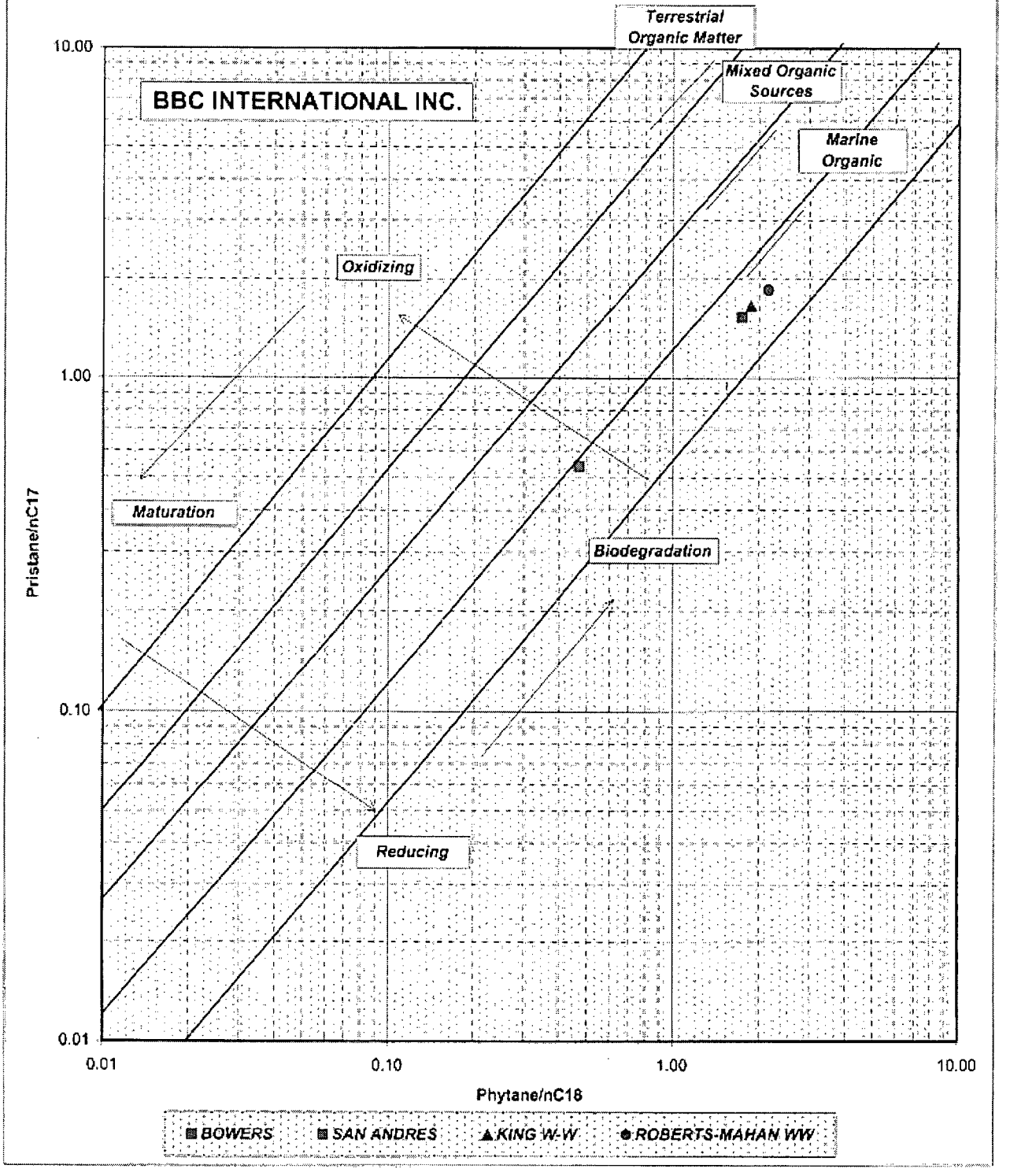


Figure 4. Starplots of the Oils C7 Correlation Parameters

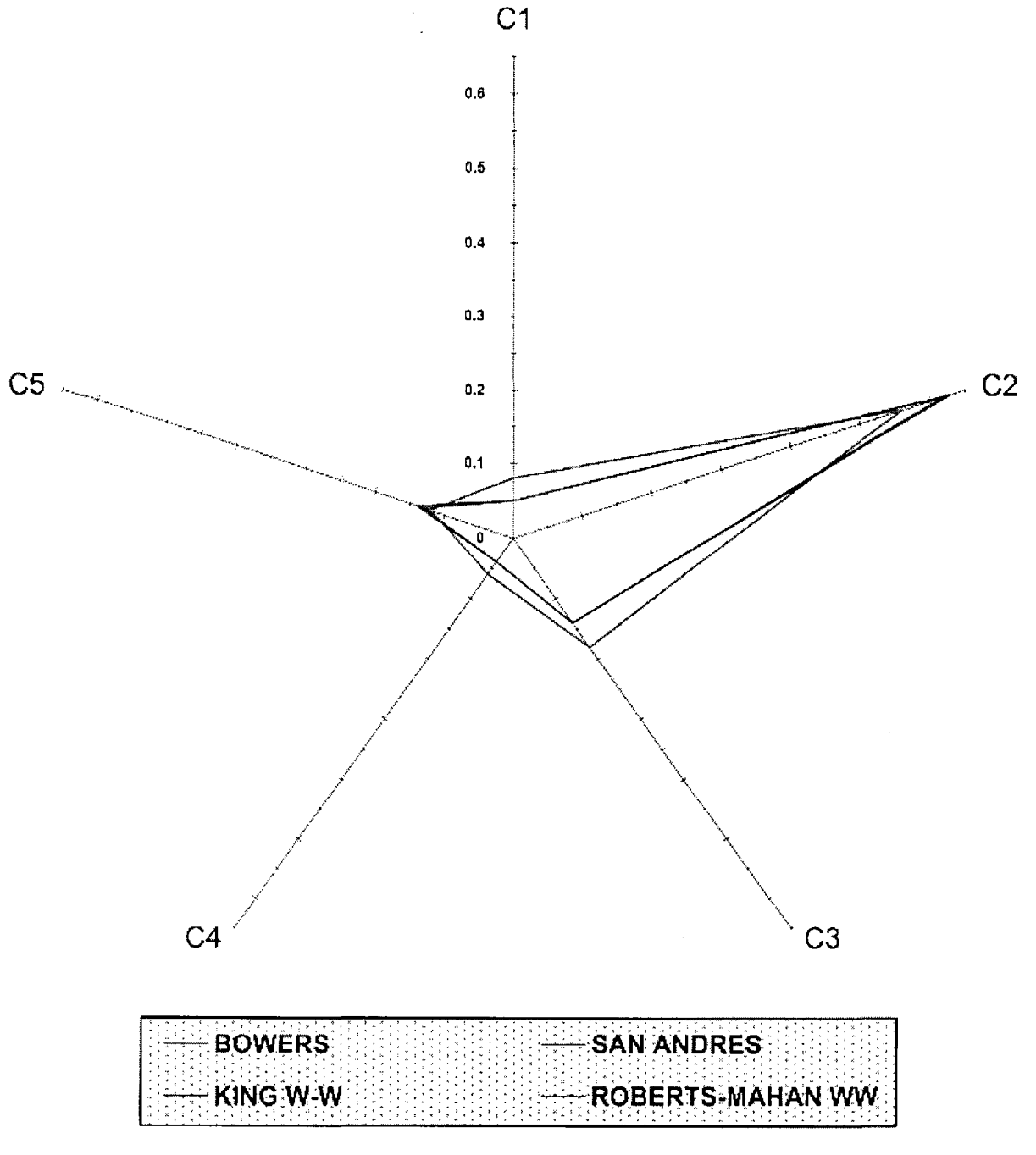


Figure 5. Starplots of the Oils
C7 Transformation Ratios

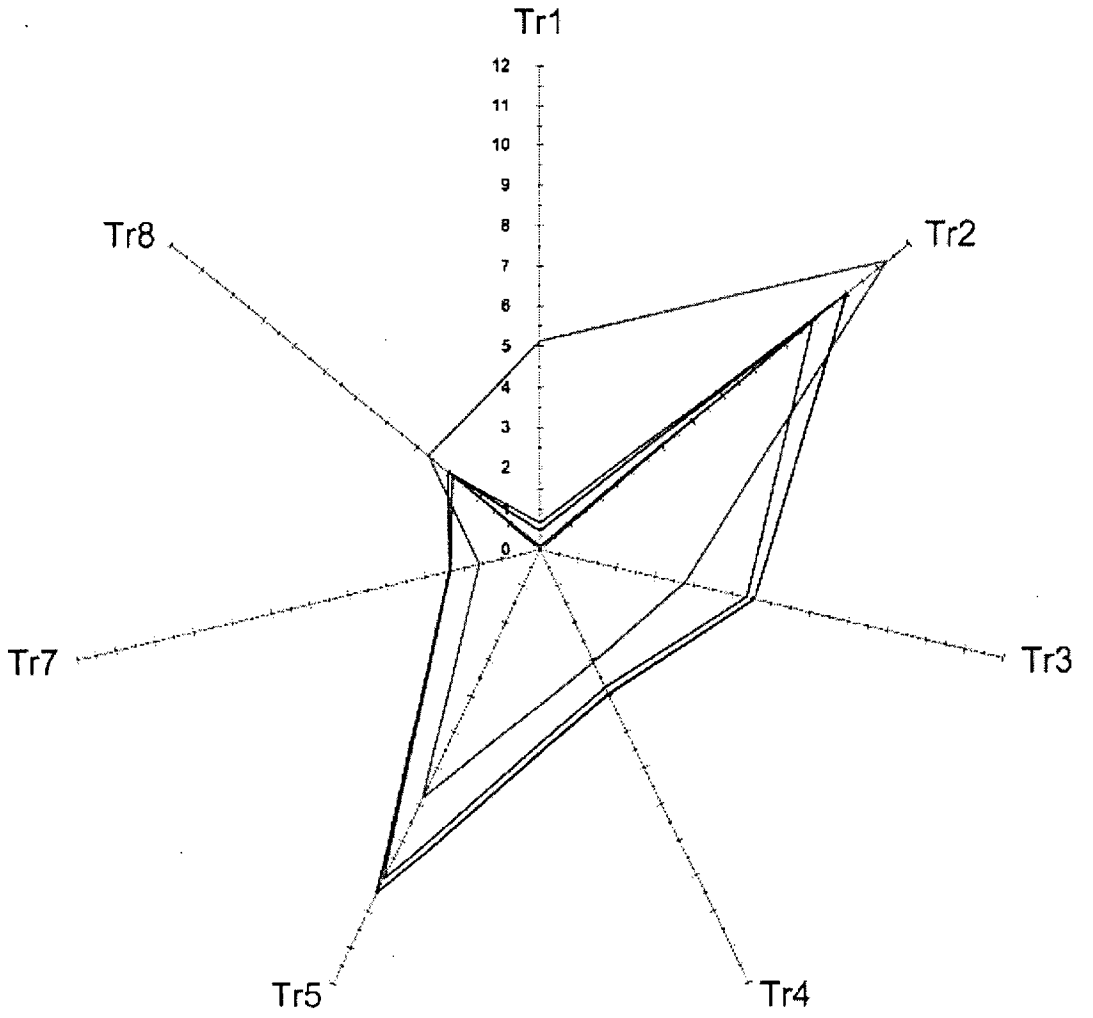


Figure 6. Starplots of the Oils
Range:nC9-nC16

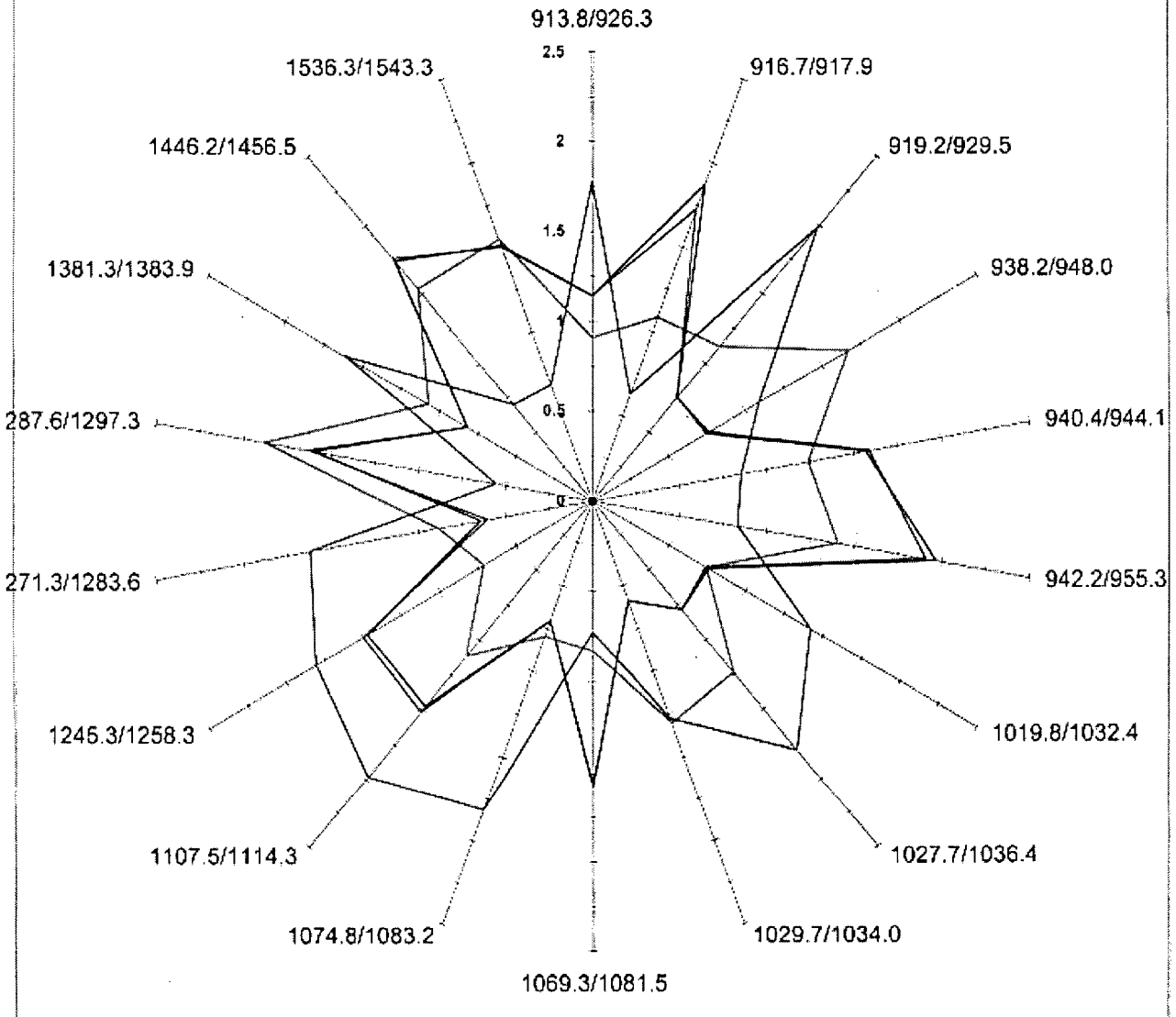


Figure 7. Starplots of the Oils Range:nC9-nC16

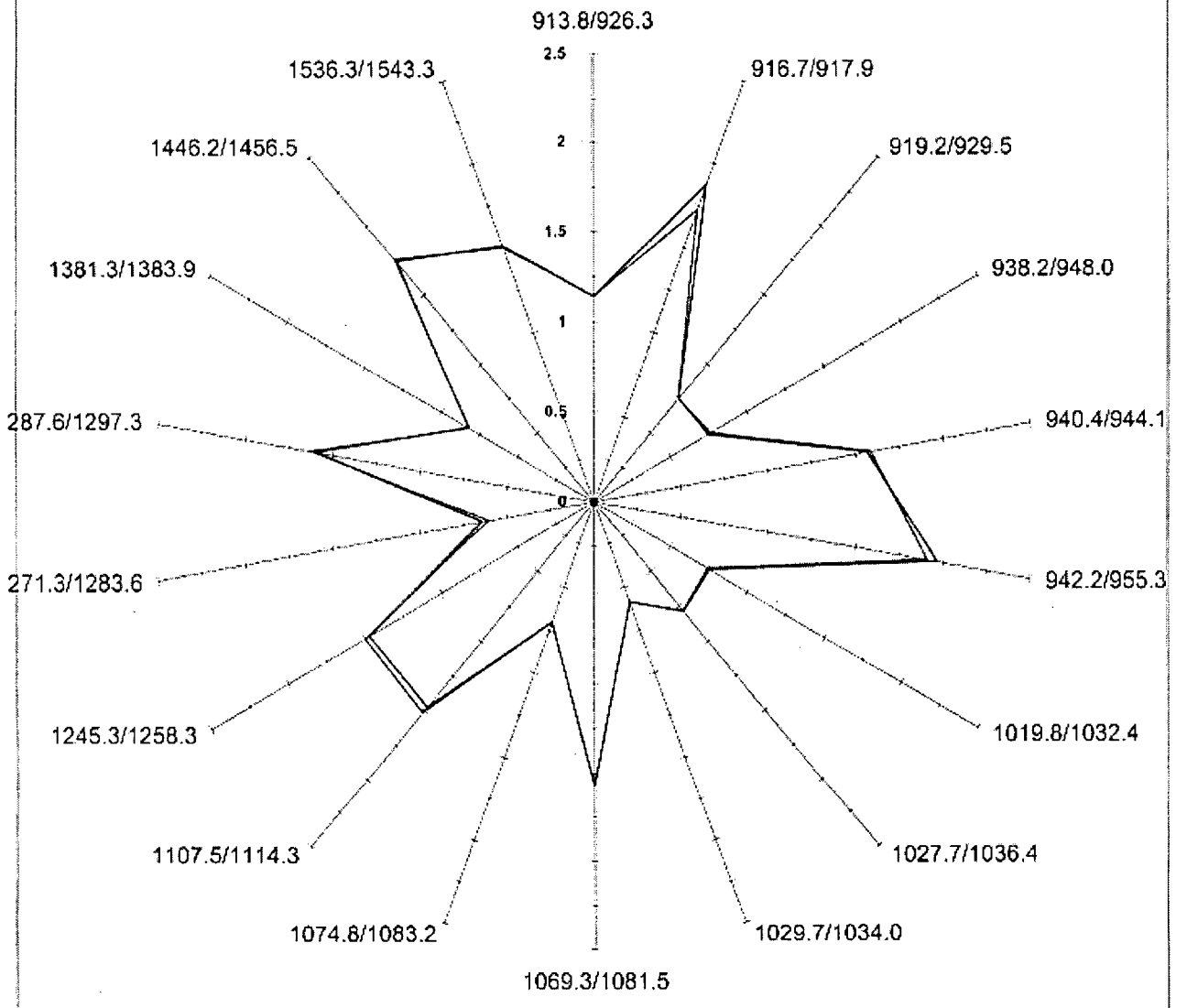
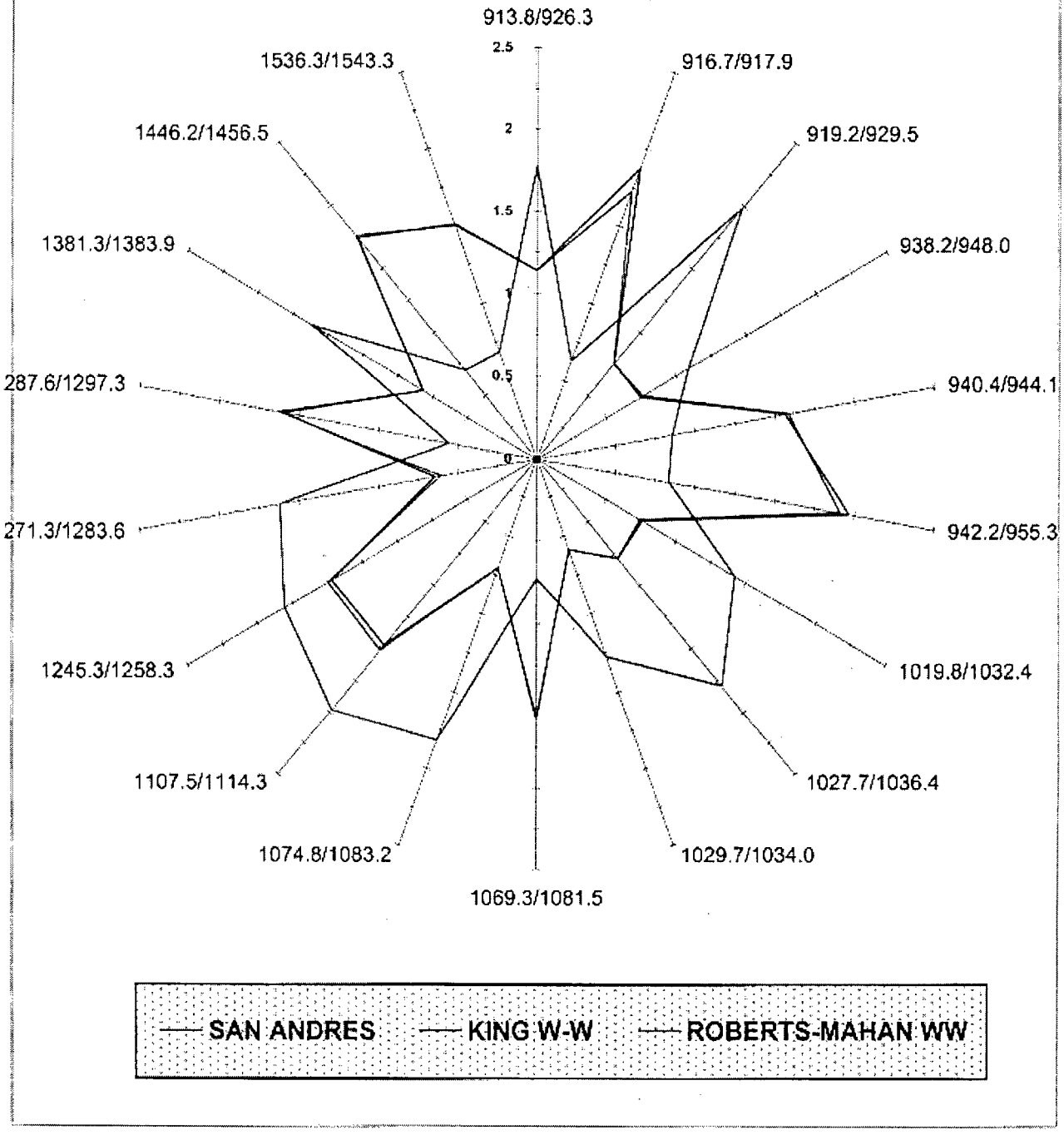


Figure 8. Starplots of the Oils
Range:nC9-nC16



Table

Table 1. Peak height ratios in the nC9-nC16 range for the four oils: Bowers, San Andres, King W-W, and Roberts-Maham WW (Peak ratio values between 0.5 and 2.0)

Peak	BOWERS G2020253	SAN ANDRES G2020257	KING W-W G2020256	ROBERTS-MAHAN WW G1020255	SD
913.8/926.3	0.908	1.136	1.136	1.775	0.3234
916.7/917.9	1.085	1.726	1.875	0.626	0.5024
919.2/929.5	1.121	0.744	0.749	1.982	0.5049
938.2/948.0	1.67	0.762	0.744	1.089	0.3746
940.4/944.1	1.238	1.586	1.566	0.856	0.2973
942.2/955.3	1.406	1.907	1.965	0.834	0.4558
1019.8/1032.4	0.743	0.741	0.756	1.421	0.2922
1027.7/1036.4	1.239	0.786	0.788	1.793	0.4138
1029.7/1034.0	1.304	0.588	0.586	1.276	0.3515
1069.3/1081.5	0.829	1.563	1.576	0.727	0.3973
1074.8/1083.2	0.795	0.703	0.702	1.819	0.4716
1107.5/1114.3	1.117	1.518	1.477	1.981	0.3069
1245.3/1258.3	0.713	1.5	1.471	1.809	0.4036
1271.3/1283.6	0.888	0.605	0.643	1.621	0.4084
1287.6/1297.3	1.88	1.632	1.599	0.556	0.5086
1381.3/1383.9	1.071	0.816	0.821	1.618	0.3264
1446.2/1456.5	1.535	1.757	1.738	0.692	0.435
1536.3/1543.3	1.546	1.497	1.511	0.685	0.3612

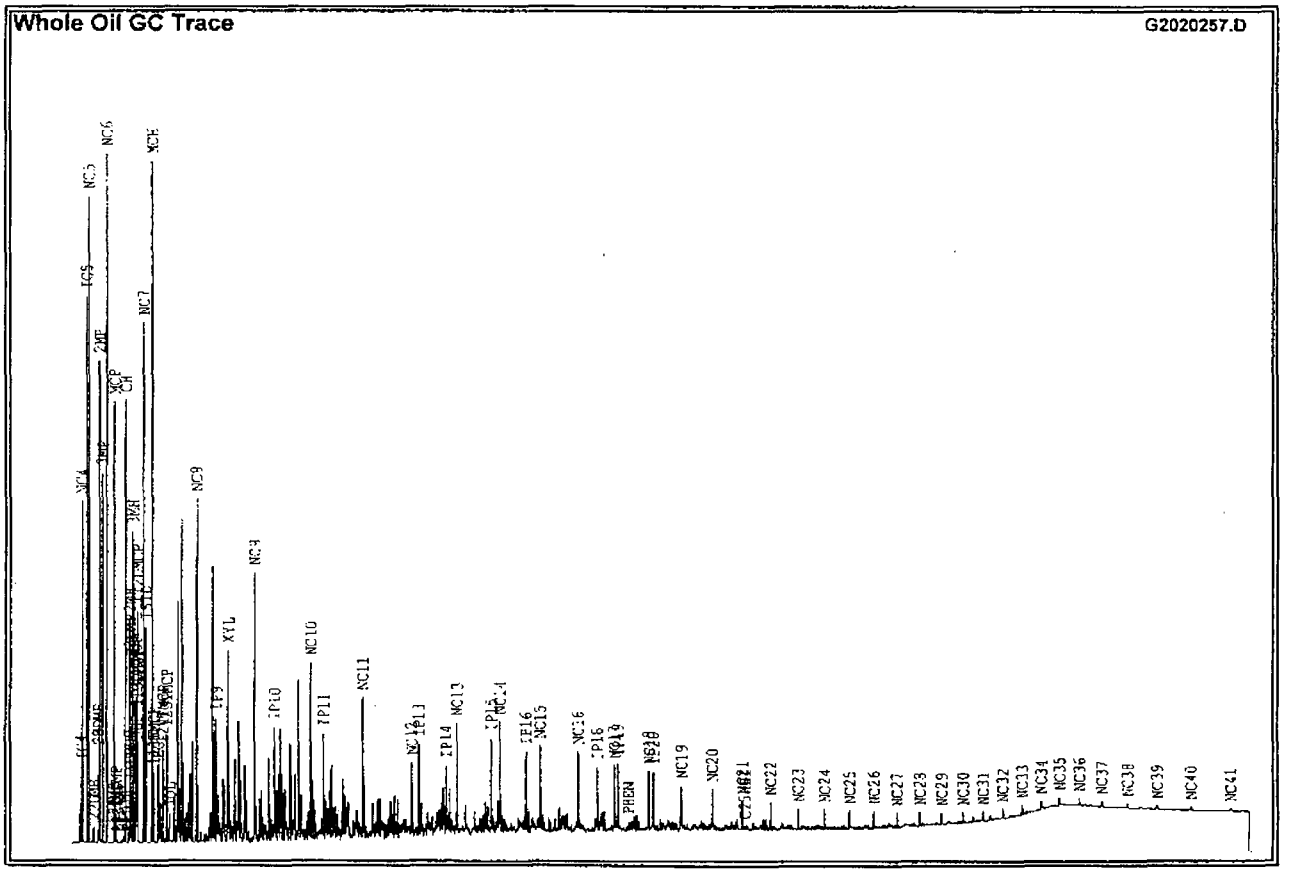
Whole Oil GC Data

BASELINE DGSI
ANALYTICAL LABORATORIES

WHOLE OIL GC

Company:	BBC INTERNATIONAL INC.	**Client ID:**	SUN ANDRES
Country:	UNITED STATES	**Project #:**	02-140-A
Basin:		**Lab ID:**	BB000001
Lease:		**Sample Type:**	OIL
Block:		**Sampling Point:**	
Field:		**Formation:**	
Well Name:	WINDMILL	**Geologic Age:**	
Latitude:		**Top Depth:**	
Longitude:		**Bottom Depth:**	

Whole Oil GC Trace G2020257.D



WGC parameters	
Pristane/Phytane	1.02
Pristane/*n* C_{17}	1.53
Phytane/*n* C_{18}	1.74
n C_{18}/*n* C_{19}	1.27
n C_{17}/*n* C_{29}	4.53
CPI Marzi[4]	0.96
Normal Paraffins	17.3
Isoprenoids	5.8
Cycloparaffins	9.5
Branched (iso-) Paraffins	6.2
BTX aromatics	1.1
Resolved unknowns	60.1

Thompson[1]		
A.	BZ/*n* C_6	0.00
B.	TOL/*n* C_7	0.06
C.	(*n* C_6+*n* C_7)/(CH+MCH)	0.89
I.	Isoheptane Value	1.01
F.	*n* C_7/MCH	0.69
U.	CH/MCP	1.11
R.	*n* C_7/2MH	2.52
S.	*n* C_8/22DMB	57.34
H.	Heptane Value	18.47
	MCH/*n* C_7	1.45
	mpXYL/*n* C_8	0.52

Mango[2]	
P_1	20.03
P_2	19.13
P_3	6.42
$5N_1$	12.14
N_2	12.03
$6N_1$	30.24
K_1	0.99
K_2	0.61
$5N_1/^6N_1$	0.40
P_3/N_2	0.53
ln(24DMP/23DMP)	-1.51

Halpern[3]	
Tr_1	0.65
Tr_2	9.97
Tr_3	5.57
Tr_4	3.96
Tr_5	9.52
Tr_7	2.38
Tr_8	3.01
C_1	0.05
C_2	0.63
C_3	0.14
C_4	0.04
C_5	0.14

[1]Thompson, K.F.M.,1983,GCA;V.47, p.303. [2]Mango, F.D.,1994,GCA: V.58, p.895. [3]Halpern,H.I.,1995,AAPG Bull.: V.79, p.801. [4]Marzi,1993,OrgG;20,1301.

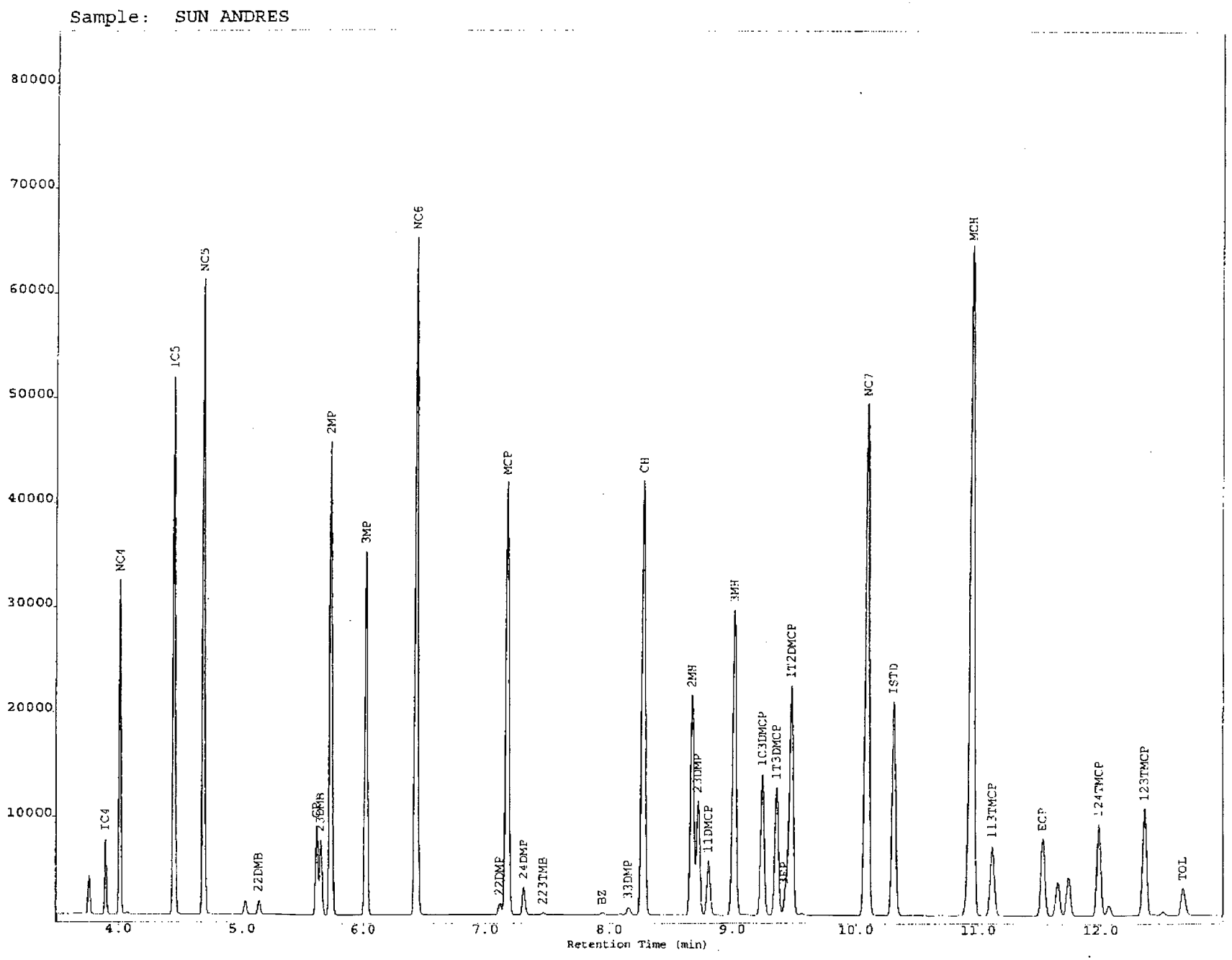
Company:	**BBC INTERNATIONAL INC.**	**Client ID:**	**SUN ANDRES**
Well Name:	**WINDMILL**	**Project #:**	**02-140-A**
Depth:	**-**	**Lab ID:**	**BB000001**
Sampling Point:		**File Name:**	**G2020257.D**

Peak Label	Compound Name	Ret. Time	Area	Height	ppt (Area)	ppt (Hght)
IC4	Iso-alkane C4	3.894	7386	7152	0.61	1.25
NC4	Normal Alkane C4	4.010	33728	31884	2.76	5.59
IC5	Iso-alkane C5	4.443	58829	51263	4.82	8.99
NC5	Normal Alkane C5	4.683	73598	60836	6.03	10.67
22DMB	2,2-Dimethylbutane	5.134	1787	1342	0.15	0.24
CP	Cyclopentane	5.603	12376	8458	1.01	1.48
23DMB	2,3-Dimethylbutane	5.637	10368	7110	0.85	1.25
2MP	2-Methylpentane	5.720	65233	45076	5.34	7.91
3MP	3-Methylpentane	6.020	52701	34515	4.32	6.05
NC6	Normal Alkane C6	6.436	102472	64941	8.39	11.39
22DMP	2,2-Dimethylpentane	7.114	1730	1055	0.14	0.19
MCP	Methylcyclopentane	7.171	73037	41359	5.98	7.25
24DMP	2,4-Dimethylpentane	7.309	4650	2624	0.38	0.46
223TMB	2,2,3-Trimethylbutane	7.466	402	195	0.03	0.03
BZ	Benzene	7.943	510	242	0.04	0.04
33DMP	3,3-Dimethylpentane	8.154	1476	746	0.12	0.13
CH	Cyclohexane	8.270	80948	41370	6.63	7.26
2MH	2-Methylhexane	8.665	41880	20919	3.43	3.67
23DMP	2,3-Dimethylpentane	8.714	20954	10793	1.72	1.89
11DMCP	1,1-Dimethylcyclopentane	8.802	10588	5188	0.87	0.91
3MH	3-Methylhexane	9.012	58961	29113	4.83	5.11
1C3DMCP	1-cis-3-Dimethylcyclopentane	9.244	27605	13317	2.26	2.34
1T3DMCP	1-trans-3-Dimethylcyclopentane	9.359	25206	12075	2.06	2.12
3EP	3-Ethylpentane	9.422	4647	3861	0.38	0.68
1T2DMCP	1-trans-2-Dimethylcyclopentane	9.476	47212	21748	3.87	3.81
NC7	Normal Alkane C7	10.089	105571	49014	8.65	8.60
ISTD	Internal Standard	10.308	43354	20244	3.55	3.55
MCH	Methylcyclohexane	10.948	152561	63987	12.49	11.22
113TMCP	1,1,3,-Trimethylcyclopentane	11.113	15476	6610	1.27	1.16
ECP	Ethylcyclopentane	11.527	16765	7322	1.37	1.28
124TMCP	1,2,4-Trimethylcyclopentane	11.983	20341	8682	1.67	1.52
123TMCP	1,2,3-Trimethylcyclopentane	12.357	24222	10182	1.98	1.79
TOL	Toluene	12.675	6832	2674	0.56	0.47
NC8	Normal Alkane C8	15.368	95066	32197	7.78	5.65
IP9	Isoprenoid C9	17.246	31618	11695	2.59	2.05
XYL	Xylene	18.457	49115	18078	4.02	3.17
NC9	Normal Alkane C9	21.146	74816	25302	6.13	4.44
IP10	Isoprenoid C10	23.130	33349	10778	2.73	1.89
NC10	Normal Alkane C10	26.750	50334	16860	4.12	2.96
IP11	Isoprenoid C11	28.054	29862	10085	2.45	1.77
NC11	Normal Alkane C11	32.012	46772	13535	3.83	2.37
NC12	Normal Alkane C12	36.934	24558	7150	2.01	1.25
IP13	Isoprenoid C13	37.682	30668	8752	2.51	1.54
IP14	Isoprenoid C14	40.443	20937	6634	1.71	1.16
NC13	Normal Alkane C13	41.546	35744	10620	2.93	1.86
IP15	Isoprenoid C15	44.999	29598	9107	2.42	1.60
NC14	Normal Alkane C14	45.883	36075	10703	2.95	1.88
IP16	Isoprenoid C16	48.552	34269	7778	2.81	1.36
NC15	Normal Alkane C15	49.965	33642	8371	2.76	1.47
NC16	Normal Alkane C16	53.829	28329	7747	2.32	1.36
IP18	Isoprenoid C18	55.771	30252	6183	2.48	1.08

Company:	**BBC INTERNATIONAL INC.**	**Client ID:**	**SUN ANDRES**
Well Name:	**WINDMILL**	**Project #:**	**02-140-A**
Depth:	**-**	**Lab ID:**	**BB000001**
Sampling Point:		**File Name:**	**G2020257.D**

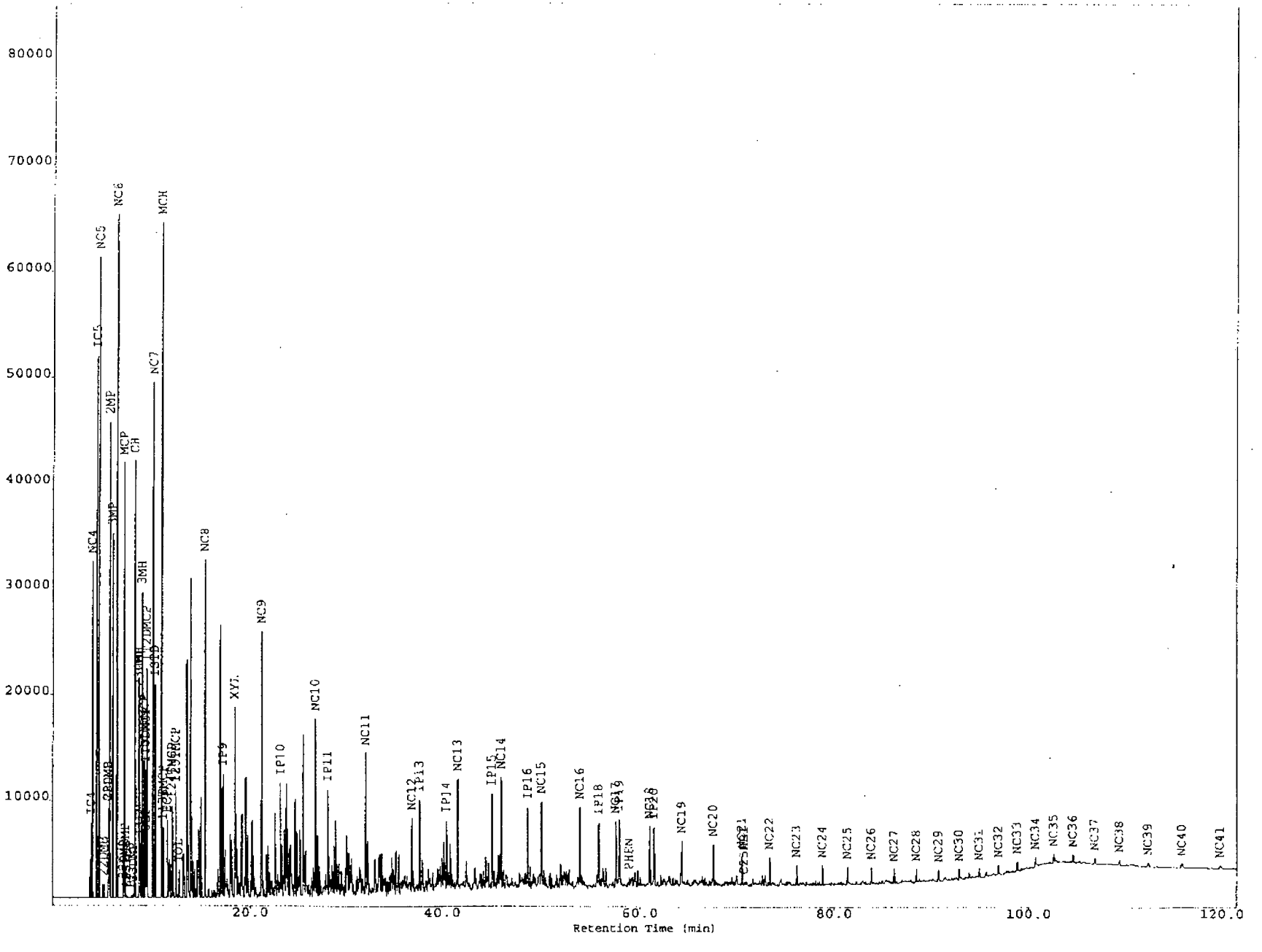
Peak Label	Compound Name	Ret. Time	Area	Height	ppt (Area)	ppt (Hght)
NC17	Normal Alkane C17	57.488	23297	6356	1.91	1.12
IP19	Isoprenoid C19 (Pristane)	57.851	35697	6463	2.92	1.13
PHEN	Phenanthrene	58.892	4562	983	0.37	0.17
NC18	Normal Alkane C18	60.969	20042	5754	1.64	1.01
IP20	Isoprenoid C20 (Phytane)	61.440	34919	5653	2.86	0.99
NC19	Normal Alkane C19	64.282	15761	4376	1.29	0.77
NC20	Normal Alkane C20	67.440	16750	4035	1.37	0.71
NC21	Normal Alkane C21	70.461	10570	2892	0.87	0.51
C25HBI	Highly Branch Isoprenoid C25	70.715	2092	473	0.17	0.08
NC22	Normal Alkane C22	73.349	10259	2785	0.84	0.49
NC23	Normal Alkane C23	76.122	7732	2068	0.63	0.36
NC24	Normal Alkane C24	78.776	6961	1949	0.57	0.34
NC25	Normal Alkane C25	81.336	6730	1785	0.55	0.31
NC26	Normal Alkane C26	83.794	7236	1699	0.59	0.30
NC27	Normal Alkane C27	86.166	5590	1421	0.46	0.25
NC28	Normal Alkane C28	88.453	5338	1372	0.44	0.24
NC29	Normal Alkane C29	90.669	5146	1161	0.42	0.20
NC30	Normal Alkane C30	92.801	4807	1062	0.39	0.19
NC31	Normal Alkane C31	94.868	3712	939	0.30	0.17
NC32	Normal Alkane C32	96.875	3974	953	0.33	0.17
NC33	Normal Alkane C33	98.814	4163	954	0.34	0.17
NC34	Normal Alkane C34	100.701	4126	937	0.34	0.16
NC35	Normal Alkane C35	102.553	4053	850	0.33	0.15
NC36	Normal Alkane C36	104.568	3749	760	0.31	0.13
NC37	Normal Alkane C37	106.831	3434	590	0.28	0.10
NC38	Normal Alkane C38	109.401	3426	522	0.28	0.09
NC39	Normal Alkane C39	112.373	3185	410	0.26	0.07
NC40	Normal Alkane C40	115.810	3890	425	0.32	0.07
NC41	Normal Alkane C41	119.836	3393	321	0.28	0.06

Parameter	Formula
WGC Parameters	
Pristane/Phytane	IP19/IP20
Pristane/nC17	IP19/NC17
Phytane/nC18	IP20/NC18
nC18/nC19	NC18/NC19
nC17/nC29	NC17/NC29
CPI Marzi[4]	((NC23+NC25+NC27)+(NC25+NC27+NC29))/(2*(NC24+NC26+NC28))
Normal Paraffins	100*(NC4+NC5+NC6+NC7+NC8+NC9+NC10+NC11+NC12+NC13+NC14+NC15+NC16+NC17+NC18+NC19+NC20+NC21+NC22+NC23+NC24+NC25+NC26+NC27+NC28+NC29+NC30+NC31+NC32+NC33+NC34+NC35+NC36+NC37+NC38+NC39+NC40+NC41)/TOTAL_RESOLVED
Isoprenoids	100*(IP9+IP10+IP11+IP13+IP14+IP15+IP16+IP18+IP19+IP20+CH25HBI)/TOTAL_RESOLVED
Cycloparaffins	100*(CP+MCP+CH+11DMCP+1T3DMCP+1T2DMCP+MCH+113TMCP+ECP+124TMCP+123TMCP+1C3DMCP+1C2DMCP)/TOTAL_RESOLVED
Branched (iso-) Paraffins	100*(IC4+IC5+22DMB+23DMB+2MP+3MP+22DMP+24DMP+223TMB+33DMP+2MH+23DMP+3MH+3EP)/TOTAL_RESOLVED
BTX aromatics	100*(BZ+TOL+XYL)/TOTAL_RESOLVED
Thompson[1]	
BZ/nC6	BZ/NC6
TOL/nC7	TOL/NC7
(nC6+nC7)/(CH+MCH)	(NC6+NC7)/(CH+MCH)
Isoheptane Value	(2MH+3MH)/(1C3DMCP+1T3DMCP+1T2DMCP)
nC7/MCH	NC7/MCH
CH/MCP	CH/MCP
nC7/2MH	NC7/2MH
nC6/22DMB	NC6/22DMB
Heptane Value	100*NC7/(CH+2MH+23DMP+11DMCP+3MH+1C3DMCP+1T3DMCP+1T2DMCP+MCH+NC7)
MCH/nC7	MCH/NC7
mpXYL/nC8	XYL/NC8
Mango[2]	
P1	100*NC7/(22DMP+24DMP+223TMB+33DMP+2MH+23DMP+11DMCP+3MH+1C3DMCP+1T3DMCP+3EP+1T2DMCP+NC7+MCH+ECP+TOL)
P2	100*(2MH+3MH)/(22DMP+24DMP+223TMB+33DMP+2MH+23DMP+11DMCP+3MH+1C3DMCP+1T3DMCP+3EP+1T2DMCP+NC7+MCH+ECP+TOL)
P3	100*(3EP+33DMP+23DMP+24DMP+22DMP+223TMB)/(22DMP+24DMP+223TMB+33DMP+2MH+23DMP+11DMCP+3MH+1C3DMCP+1T3DMCP+3EP+1T2DMCP+NC7+MCH+ECP+TOL)
5N1	100*(ECP+1T2DMCP)/(22DMP+24DMP+223TMB+33DMP+2MH+23DMP+11DMCP+3MH+1C3DMCP+1T3DMCP+3EP+1T2DMCP+NC7+MCH+ECP+TOL)
N2	100*(11DMCP+1C3DMCP+1T3DMCP)/(22DMP+24DMP+223TMB+33DMP+2MH+23DMP+11DMCP+3MH+1C3DMCP+1T3DMCP+3EP+1T2DMCP+NC7+MCH+ECP+TOL)
6N1	100*(MCH+TOL)/(22DMP+24DMP+223TMB+33DMP+2MH+23DMP+11DMCP+3MH+1C3DMCP+1T3DMCP+3EP+1T2DMCP+NC7+MCH+ECP+TOL)
K1	(2MH+23DMP)/(3MH+24DMP)
K2	(2MH+3MH)/(2MH+3MH+11DMCP+1C3DMCP+1T3DMCP)
5N1/6N1	(ECP+1T2DMCP)/(MCH+TOL)
P3/N2	(3EP+33DMP+23DMP+24DMP+22DMP+223TMB)/(11DMCP+1C3DMCP+1T3DMCP)
ln(24DMP/23DMP)	ln(24DMP/23DMP)
Halpern[3]	
Tr1	TOL/11DMCP
Tr2	NC7/11DMCP
Tr3	3MH/11DMCP
Tr4	2MH/11DMCP
Tr5	(2MH+3MH)/11DMCP
Tr7	1T3DMCP/11DMCP
Tr8	(2MH+3MH)/(22DMP+23DMP+24DMP+33DMP+3EP)
C1	22DMP/(22DMP+23DMP+24DMP+33DMP+3EP)
C2	23DMP/(22DMP+23DMP+24DMP+33DMP+3EP)
C3	24DMP/(22DMP+23DMP+24DMP+33DMP+3EP)
C4	33DMP/(22DMP+23DMP+24DMP+33DMP+3EP)
C5	3EP/(22DMP+23DMP+24DMP+33DMP+3EP)
C4	33DMP/(22DMP+23DMP+24DMP+33DMP+3EP)



File: G2020257.D\FID1A.CH
Date & Time: 12-Mar-02, 19:33:47

Sample: SUN ANDRES



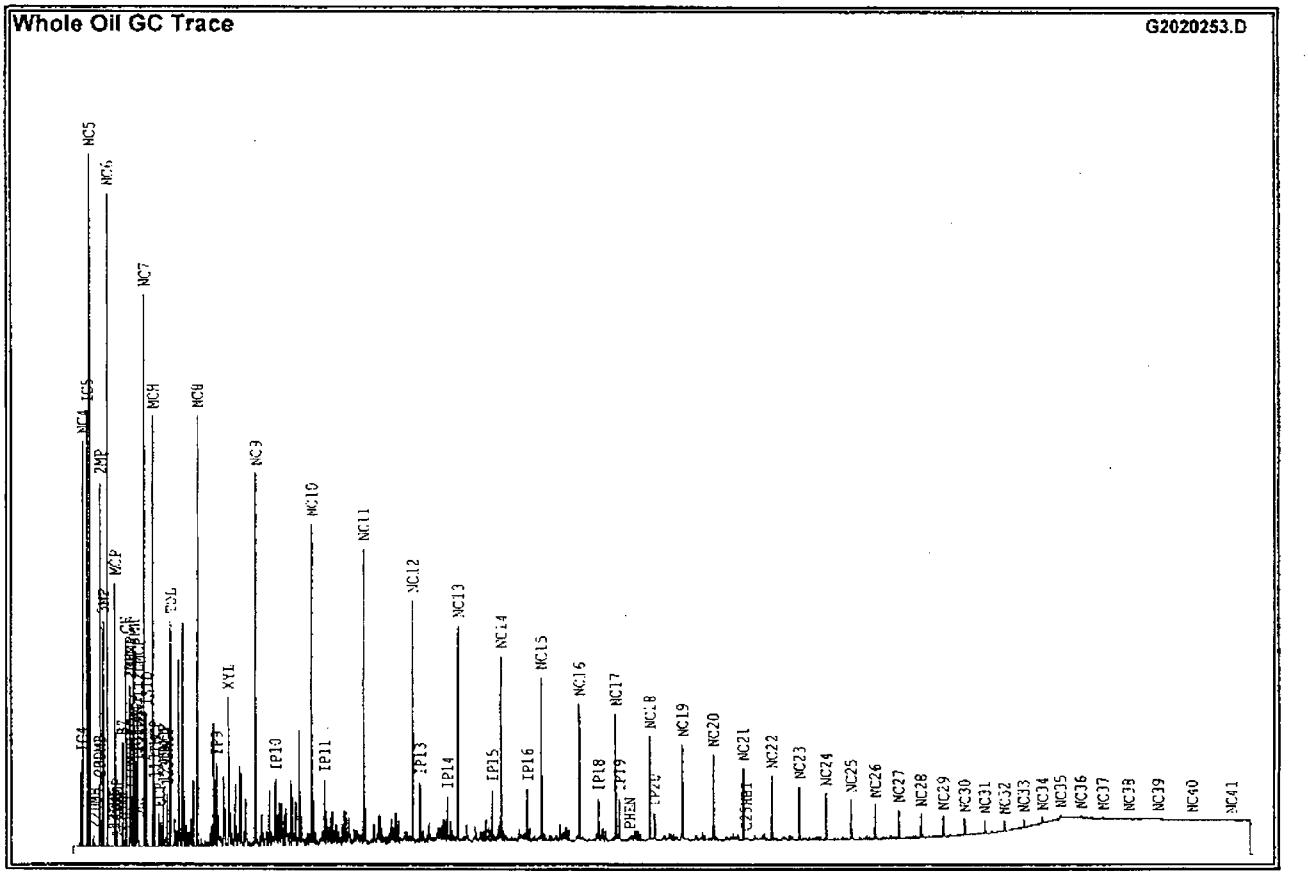
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BASELINE DGSI ANALYTICAL LABORATORIES

WHOLE OIL GC

Company:	BBC INTERNATIONAL INC.	**Client ID:**	BOWERS
Country:	UNITED STATES	**Project #:**	02-140-A
Basin:		**Lab ID:**	BB000002
Lease:		**Sample Type:**	OIL
Block:		**Sampling Point:**	
Field:		**Formation:**	
Well Name:	WINDMILL	**Geologic Age:**	
Latitude:		**Top Depth:**	
Longitude:		**Bottom Depth:**	

Whole Oil GC Trace G2020253.D



WGC parameters	
Pristane/Phytane	1.42
Pristane/$n\,C_{17}$	0.54
Phytane/$n\,C_{18}$	0.47
$n\,C_{18}/n\,C_{19}$	1.07
$n\,C_{17}/n\,C_{29}$	5.19
CPI Marzi[4]	1.00
Normal Paraffins	32.3
Isoprenoids	4.7
Cycloparaffins	7.5
Branched (iso-) Paraffins	5.7
BTX aromatics	2.7
Resolved unknowns	47.0

Thompson[1]		
A.	BZ/$n\,C_6$	0.20
B.	TOL/$n\,C_7$	0.45
C.	$(n\,C_6+n\,C_7)/(CH+MCH)$	1.57
I.	Isoheptane Value	1.10
F.	$n\,C_7$/MCH	1.17
U.	CH/MCP	0.87
R.	$n\,C_7$/2MH	3.67
S.	$n\,C_8$/22DMB	70.44
H.	Heptane Value	28.31
	MCH/$n\,C_7$	0.86
	mpXYL/$n\,C_8$	0.34

Mango[2]	
P_1	26.42
P_2	15.97
P_3	4.45
$5N_1$	8.53
N_2	10.01
$6N_1$	34.61
K_1	1.01
K_2	0.61
$5N_1/^6N_1$	0.25
P_3/N_2	0.44
ln(24DMP/23DMP)	-1.12

Halpern[3]	
Tr_1	5.13
Tr_2	11.30
Tr_3	3.75
Tr_4	3.08
Tr_5	6.83
Tr_7	1.58
Tr_8	3.64
C_1	0.08
C_2	0.56
C_3	0.18
C_4	0.06
C_5	0.12

[1]Thompson, K.F.M., 1983,GCA:V.47, p.303. [2]Mango, F.D., 1994,GCA: V.58, p.895. [3]Halpern,H.I., 1995,AAPG Bull.: V.79, p.801. [4]Marzi,1993,OrgG;20,1301.

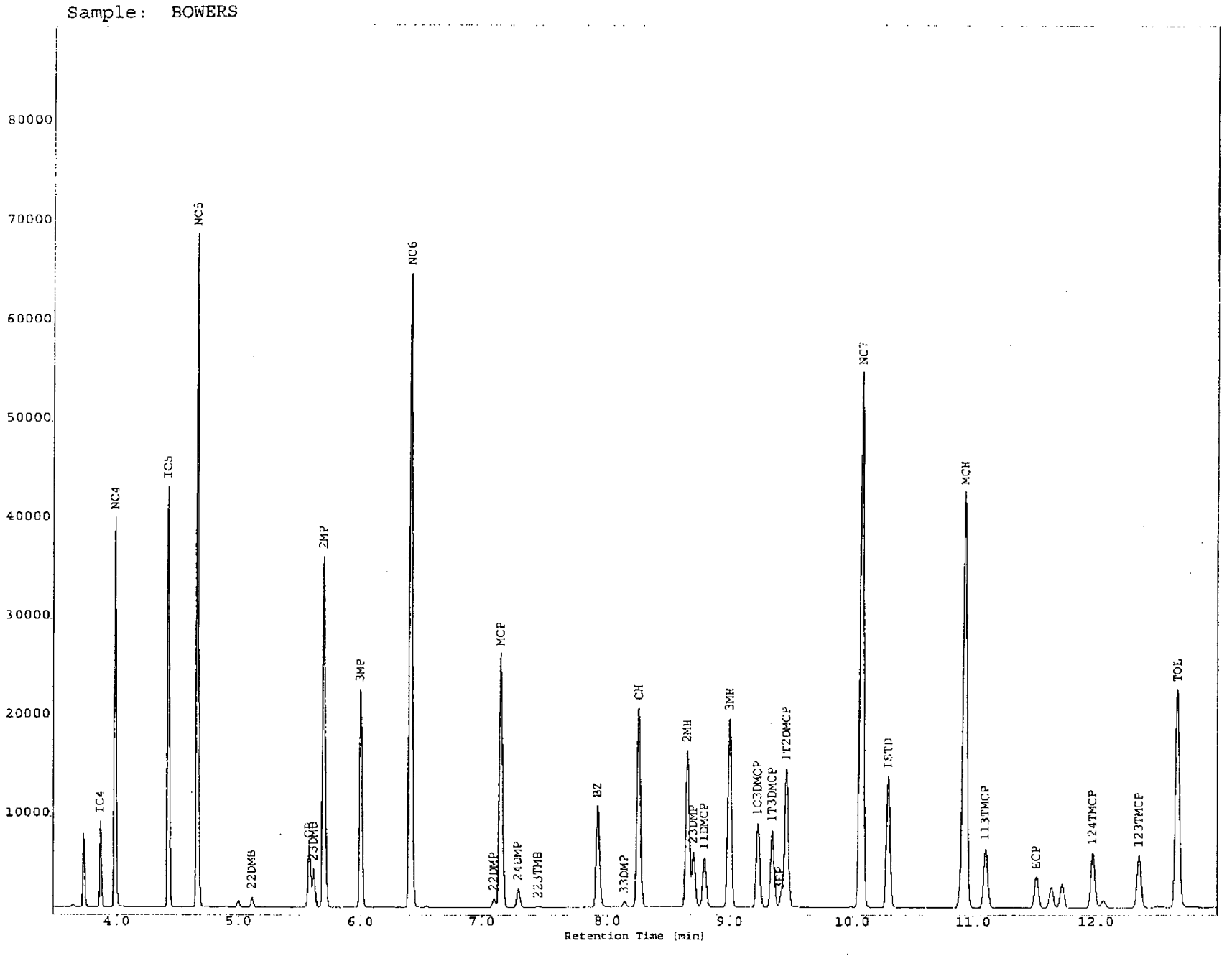
Company:	**BBC INTERNATIONAL INC.**	**Client ID:**	**BOWERS**
Well Name:	**WINDMILL**	**Project #:**	**02-140-A**
Depth:	**-**	**Lab ID:**	**BB000002**
Sampling Point:		**File Name:**	**G2020253.D**

Peak Label	Compound Name	Ret. Time	Area	Height	ppt (Area)	ppt (Hght)
IC4	Iso-alkane C4	3.871	9099	8811	1.12	2.34
NC4	Normal Alkane C4	3.987	41959	39713	5.17	10.54
IC5	Iso-alkane C5	4.421	50111	43322	6.18	11.49
NC5	Normal Alkane C5	4.661	83068	68830	10.24	18.26
22DMB	2,2-Dimethylbutane	5.114	1466	1063	0.18	0.28
CP	Cyclopentane	5.584	9203	6216	1.14	1.65
23DMB	2,3-Dimethylbutane	5.618	5770	3962	0.71	1.05
2MP	2-Methylpentane	5.701	51942	35604	6.40	9.45
3MP	3-Methylpentane	6.001	33918	22167	4.18	5.88
NC6	Normal Alkane C6	6.419	103266	64889	12.73	17.21
22DMP	2,2-Dimethylpentane	7.098	1491	895	0.18	0.24
MCP	Methylcyclopentane	7.155	45814	25894	5.65	6.87
24DMP	2,4-Dimethylpentane	7.294	3544	1960	0.44	0.52
223TMB	2,2,3-Trimethylbutane	7.451	293	130	0.04	0.03
BZ	Benzene	7.922	20378	10377	2.51	2.75
33DMP	3,3-Dimethylpentane	8.141	1169	575	0.14	0.15
CH	Cyclohexane	8.255	39968	20301	4.93	5.39
2MH	2-Methylhexane	8.651	31932	15930	3.94	4.23
23DMP	2,3-Dimethylpentane	8.701	10841	5628	1.34	1.49
11DMCP	1,1-Dimethylcyclopentane	8.789	10368	5053	1.28	1.34
3MH	3-Methylhexane	8.998	38893	19180	4.80	5.09
1C3DMCP	1-cis-3-Dimethylcyclopentane	9.231	17670	8534	2.18	2.26
1T3DMCP	1-trans-3-Dimethylcyclopentane	9.347	16358	7828	2.02	2.08
3EP	3-Ethylpentane	9.410	2406	2060	0.30	0.55
1T2DMCP	1-trans-2-Dimethylcyclopentane	9.463	30439	14008	3.75	3.72
NC7	Normal Alkane C7	10.079	117172	54331	14.45	14.41
ISTD	Internal Standard	10.297	28387	13194	3.50	3.50
MCH	Methylcyclohexane	10.934	100306	42151	12.37	11.18
113TMCP	1,1,3,-Trimethylcyclopentane	11.103	14225	6054	1.75	1.61
ECP	Ethylcyclopentane	11.518	7409	3210	0.91	0.85
124TMCP	1,2,4-Trimethylcyclopentane	11.974	13235	5641	1.63	1.50
123TMCP	1,2,3-Trimethylcyclopentane	12.349	12843	5377	1.58	1.43
TOL	Toluene	12.666	53155	22183	6.55	5.89
NC8	Normal Alkane C8	15.368	118845	42352	14.65	11.24
IP9	Isoprenoid C9	17.240	22314	8328	2.75	2.21
XYL	Xylene	18.452	40103	14840	4.95	3.94
NC9	Normal Alkane C9	21.149	104528	36517	12.89	9.69
IP10	Isoprenoid C10	23.127	21181	6794	2.61	1.80
NC10	Normal Alkane C10	26.756	92355	31449	11.39	8.34
IP11	Isoprenoid C11	28.049	19789	6631	2.44	1.76
NC11	Normal Alkane C11	32.020	88186	29010	10.87	7.70
NC12	Normal Alkane C12	36.941	73299	23927	9.04	6.35
IP13	Isoprenoid C13	37.678	21215	6134	2.62	1.63
IP14	Isoprenoid C14	40.438	14605	4733	1.80	1.26
NC13	Normal Alkane C13	41.551	66655	21367	8.22	5.67
IP15	Isoprenoid C15	44.993	16795	5337	2.07	1.42
NC14	Normal Alkane C14	45.883	58577	18397	7.22	4.88
IP16	Isoprenoid C16	48.543	22532	5389	2.78	1.43
NC15	Normal Alkane C15	49.967	56722	16362	6.99	4.34
NC16	Normal Alkane C16	53.829	45725	13831	5.64	3.67
IP18	Isoprenoid C18	55.766	20937	4357	2.58	1.16

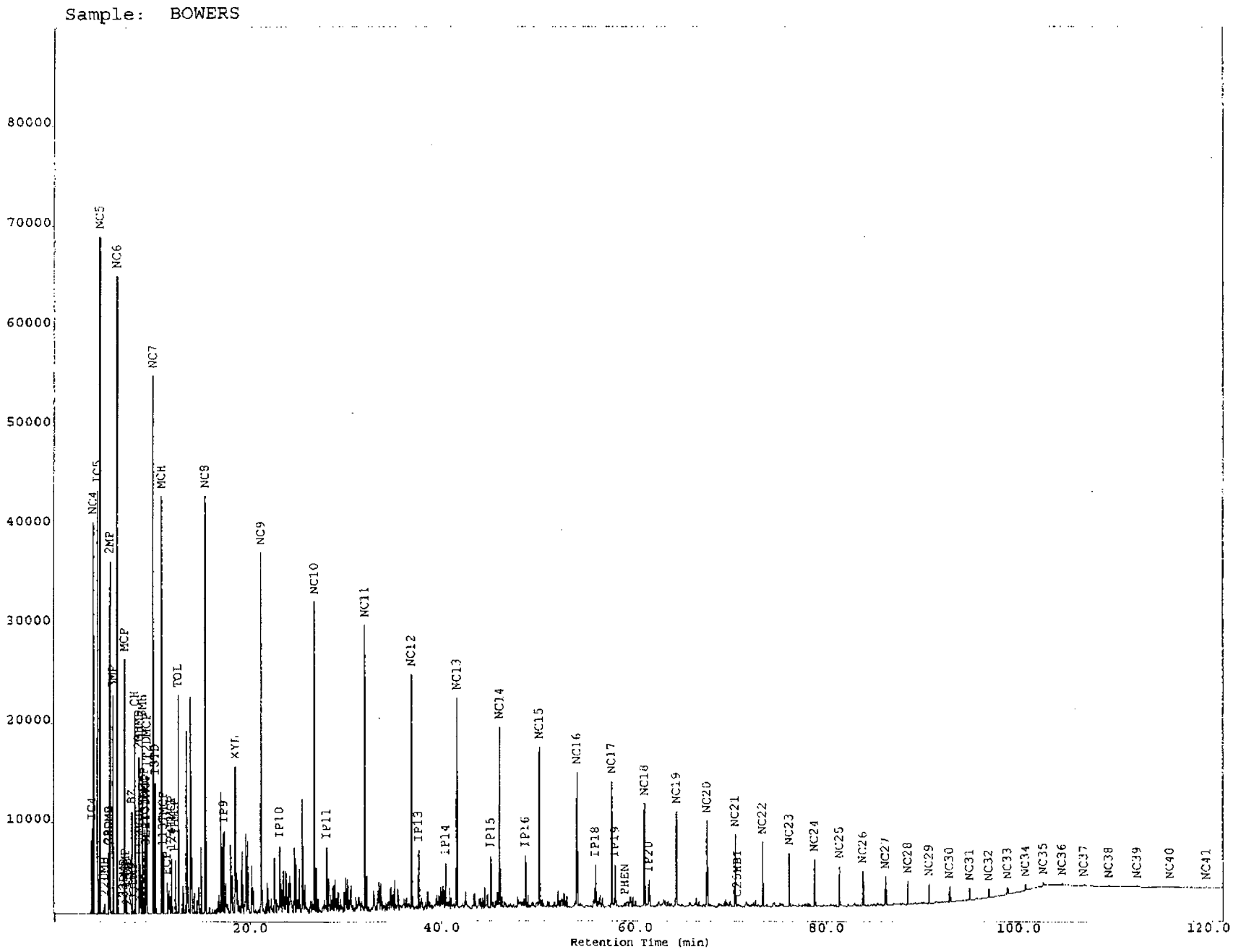
Company:	**BBC INTERNATIONAL INC.**	**Client ID:**	**BOWERS**
Well Name:	**WINDMILL**	**Project #:**	**02-140-A**
Depth:	**-**	**Lab ID:**	**BB000002**
Sampling Point:		**File Name:**	**G2020253.D**

Peak Label	Compound Name	Ret. Time	Area	Height	ppt (Area)	ppt (Hght)
NC17	Normal Alkane C17	57.489	43155	12784	5.32	3.39
IP19	Isoprenoid C19 (Pristane)	57.851	23385	4285	2.88	1.14
PHEN	Phenanthrene	58.891	2390	482	0.30	0.13
NC18	Normal Alkane C18	60.969	35027	10493	4.32	2.78
IP20	Isoprenoid C20 (Phytane)	61.418	16455	2757	2.03	0.73
NC19	Normal Alkane C19	64.280	32799	9642	4.04	2.56
NC20	Normal Alkane C20	67.439	30129	8685	3.72	2.30
NC21	Normal Alkane C21	70.456	25472	7249	3.14	1.92
C25HBI	Highly Branch Isoprenoid C25	70.708	1458	335	0.18	0.09
NC22	Normal Alkane C22	73.347	22794	6583	2.81	1.75
NC23	Normal Alkane C23	76.114	19507	5475	2.41	1.45
NC24	Normal Alkane C24	78.776	16865	4818	2.08	1.28
NC25	Normal Alkane C25	81.330	14763	4130	1.82	1.10
NC26	Normal Alkane C26	83.788	13300	3612	1.64	0.96
NC27	Normal Alkane C27	86.162	10512	2973	1.30	0.79
NC28	Normal Alkane C28	88.447	9178	2483	1.13	0.66
NC29	Normal Alkane C29	90.659	8315	2075	1.03	0.55
NC30	Normal Alkane C30	92.798	6761	1664	0.83	0.44
NC31	Normal Alkane C31	94.865	5034	1288	0.62	0.34
NC32	Normal Alkane C32	96.867	3858	984	0.48	0.26
NC33	Normal Alkane C33	98.816	3651	832	0.45	0.22
NC34	Normal Alkane C34	100.698	2954	673	0.36	0.18
NC35	Normal Alkane C35	102.554	2224	450	0.27	0.12
NC36	Normal Alkane C36	104.570	1313	264	0.16	0.07
NC37	Normal Alkane C37	106.823	1101	197	0.14	0.05
NC38	Normal Alkane C38	109.403	940	144	0.12	0.04
NC39	Normal Alkane C39	112.371	1536	143	0.19	0.04
NC40	Normal Alkane C40	115.814	742	77	0.09	0.02
NC41	Normal Alkane C41	119.804	562	52	0.07	0.01

Parameter	Formula
WGC Parameters	
Pristane/Phytane	IP19/IP20
Pristane/nC17	IP19/NC17
Phytane/nC18	IP20/NC18
nC18/nC19	NC18/NC19
nC17/nC29	NC17/NC29
CPI Marzi[4]	((NC23+NC25+NC27)+(NC25+NC27+NC29))/(2*(NC24+NC26+NC28))
Normal Paraffins	100*(NC4+NC5+NC6+NC7+NC8+NC9+NC10+NC11+NC12+NC13+NC14+NC15+NC16+NC17+NC18+NC19+ NC20+NC21+NC22+NC23+NC24+NC25+NC26+NC27+NC28+NC29+NC30+NC31+NC32+NC33+NC34+ NC35+NC36+NC37+NC38+NC39+NC40+NC41)/TOTAL_RESOLVED
Isoprenoids	100*(IP9+IP10+IP11+IP13+IP14+IP15+IP16+IP18+IP19+IP20+CH25HBI)/TOTAL_RESOLVED
Cycloparaffins	100*(CP+MCP+CH+11DMCP+1T3DMCP+1T2DMCP+MCH+113TMCP+ECP+124TMCP+123TMCP+1C3DMCP+ 1C2DMCP)/TOTAL_RESOLVED
Branched (iso-) Paraffins	100*(IC4+IC5+22DMB+23DMB+2MP+3MP+22DMP+24DMP+223TMB+33DMP+2MH+23DMP+3MH+3EP)/ TOTAL_RESOLVED
BTX aromatics	100*(BZ+TOL+XYL)/TOTAL_RESOLVED
Thompson[1]	
BZ/nC6	BZ/NC6
TOL/nC7	TOL/NC7
(nC6+nC7)/(CH+MCH)	(NC6+NC7)/(CH+MCH)
Isoheptane Value	(2MH+3MH)/(1C3DMCP+1T3DMCP+1T2DMCP)
nC7/MCH	NC7/MCH
CH/MCP	CH/MCP
nC7/2MH	NC7/2MH
nC6/22DMB	NC6/22DMB
Heptane Value	100*NC7/(CH+2MH+23DMP+11DMCP+3MH+1C3DMCP+1T3DMCP+1T2DMCP+MCH+NC7)
MCH/nC7	MCH/NC7
mpXYL/nC8	XYL/NC8
Mango[2]	
P1	100*NC7/(22DMP+24DMP+223TMB+33DMP+2MH+23DMP+11DMCP+3MH+1C3DMCP+1T3DMCP+3EP+ 1T2DMCP+NC7+MCH+ECP+TOL)
P2	100*(2MH+3MH)/(22DMP+24DMP+223TMB+33DMP+2MH+23DMP+11DMCP+3MH+1C3DMCP+1T3DMCP+ 3EP+1T2DMCP+NC7+MCH+ECP+TOL)
P3	100*(3EP+33DMP+23DMP+24DMP+22DMP+223TMB)/(22DMP+24DMP+223TMB+33DMP+2MH+23DMP+ 11DMCP+3MH+1C3DMCP+1T3DMCP+3EP+1T2DMCP+NC7+MCH+ECP+TOL)
5N1	100*(ECP+1T2DMCP)/(22DMP+24DMP+223TMB+33DMP+2MH+23DMP+11DMCP+3MH+1C3DMCP+ 1T3DMCP+3EP+1T2DMCP+NC7+MCH+ECP+TOL)
N2	100*(11DMCP+1C3DMCP+1T3DMCP)/(22DMP+24DMP+223TMB+33DMP+2MH+23DMP+11DMCP+3MH+ 1C3DMCP+1T3DMCP+3EP+1T2DMCP+NC7+MCH+ECP+TOL)
6N1	100*(MCH+TOL)/(22DMP+24DMP+223TMB+33DMP+2MH+23DMP+11DMCP+3MH+1C3DMCP+1T3DMCP+ 3EP+1T2DMCP+NC7+MCH+ECP+TOL)
K1	(2MH+23DMP)/(3MH+24DMP)
K2	(2MH+3MH)/(2MH+3MH+11DMCP+1C3DMCP+1T3DMCP)
5N1/6N1	(ECP+1T2DMCP)/(MCH+TOL)
P3/N2	(3EP+33DMP+23DMP+24DMP+22DMP+223TMB)/(11DMCP+1C3DMCP+1T3DMCP)
ln(24DMP/23DMP)	ln(24DMP/23DMP)
Halpern[3]	
Tr1	TOL/11DMCP
Tr2	NC7/11DMCP
Tr3	3MH/11DMCP
Tr4	2MH/11DMCP
Tr5	(2MH+3MH)/11DMCP
Tr7	1T3DMCP/11DMCP
Tr8	(2MH+3MH)/(22DMP+23DMP+24DMP+33DMP+3EP)
C1	22DMP/(22DMP+23DMP+24DMP+33DMP+3EP)
C2	23DMP/(22DMP+23DMP+24DMP+33DMP+3EP)
C3	24DMP/(22DMP+23DMP+24DMP+33DMP+3EP)
C4	33DMP/(22DMP+23DMP+24DMP+33DMP+3EP)
C5	3EP/(22DMP+23DMP+24DMP+33DMP+3EP)
C4	33DMP/(22DMP+23DMP+24DMP+33DMP+3EP)



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Date & Time: 12-Mar-02, 09:47:46



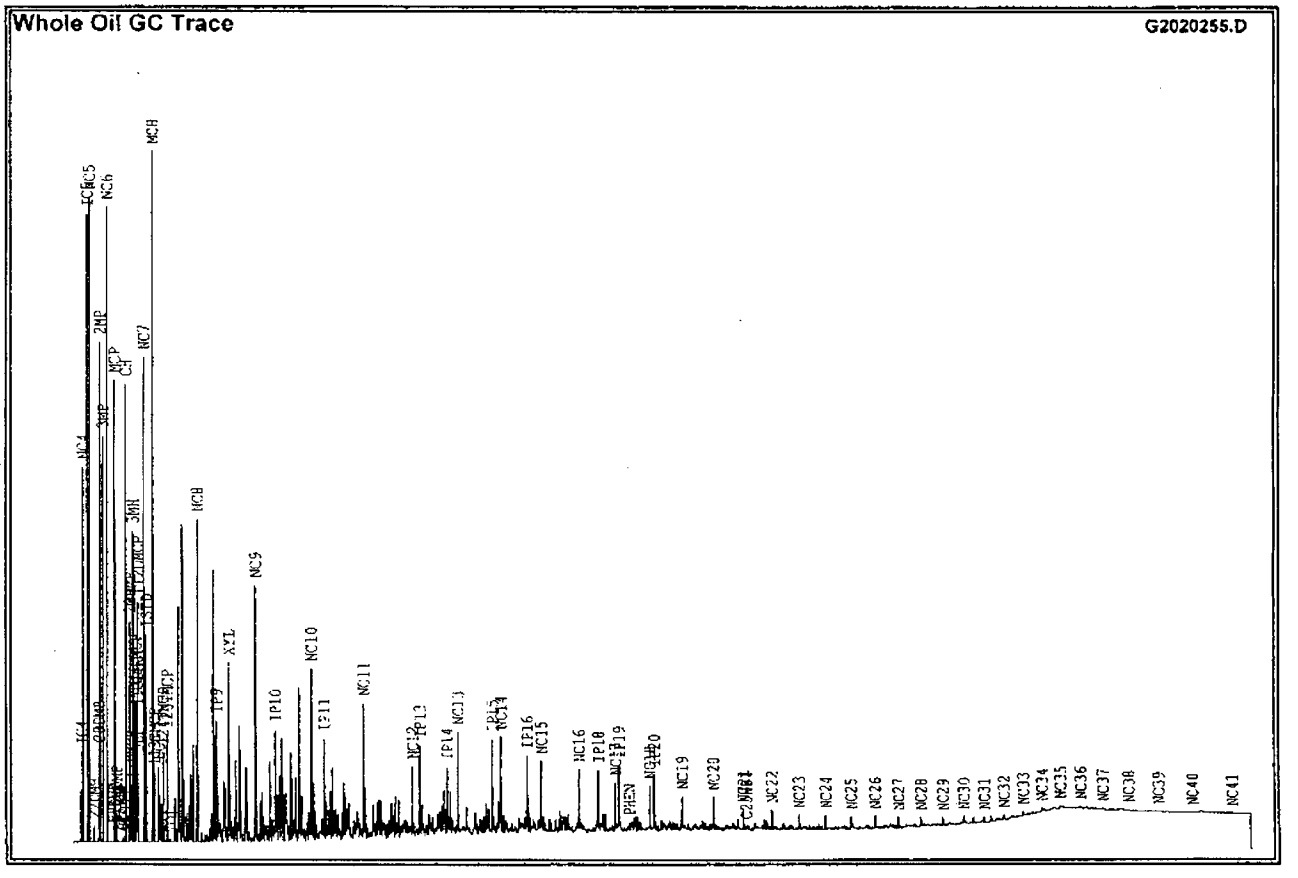
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Date & Time: 12-Mar-02, 09:47:48

BASELINE DGSI
ANALYTICAL LABORATORIES

WHOLE OIL GC

Company:	BBC INTERNATIONAL INC.	**Client ID:**	ROBERTS-MOHAN WW
Country:	UNITED STATES	**Project #:**	02-140-A
Basin:		**Lab ID:**	BB000003
Lease:		**Sample Type:**	OIL
Block:		**Sampling Point:**	
Field:		**Formation:**	
Well Name:	WINDMILL	**Geologic Age:**	
Latitude:		**Top Depth:**	
Longitude:		**Bottom Depth:**	

Whole Oil GC Trace G2020255.D



WGC parameters	
Pristane/Phytane	1.00
Pristane/n C_{17}	1.86
Phytane/n C_{18}	2.15
n C_{18}/n C_{19}	1.28
n C_{17}/n C_{29}	5.14
CPI Marzi[4]	0.97
Normal Paraffins	16.0
Isoprenoids	5.9
Cycloparaffins	10.0
Branched (iso-) Paraffins	6.8
BTX aromatics	0.9
Resolved unknowns	60.3

Thompson[1]		
A.	BZ/n C_6	0.01
B.	TOL/n C_7	0.01
C.	(n C_6+n C_7)/(CH+MCH)	0.81
I.	Isoheptane Value	0.98
F.	n C_7/MCH	0.63
U.	CH/MCP	1.09
R.	n C_7/2MH	2.36
S.	n C_8/22DMB	46.35
H.	Heptane Value	17.09
	MCH/n C_7	1.58
	mpXYL/n C_8	0.51

Mango[2]	
P_1	18.82
P_2	19.36
P_3	6.84
$5N_1$	12.61
N_2	12.47
$6N_1$	29.90
K_1	0.99
K_2	0.61
$5N_1/^6N_1$	0.42
P_3/N_2	0.55
ln(24DMP/23DMP)	-1.48

Halpern[3]	
Tr_1	0.08
Tr_2	8.88
Tr_3	5.37
Tr_4	3.76
Tr_5	9.13
Tr_7	2.33
Tr_8	2.86
C_1	0.05
C_2	0.62
C_3	0.14
C_4	0.04
C_5	0.14

[1]Thompson, K.F.M., 1983, GCA: V.47, p.303. [2]Mango, F.D., 1994, GCA: V.58, p.895. [3]Halpern, H.I., 1995, AAPG Bull.: V.79, p.801. [4]Marzi, 1993, OrgG; 20, 1301.

Company:	**BBC INTERNATIONAL INC.**	**Client ID:**	**ROBERTS-MOHAN WW**
Well Name:	**WINDMILL**	**Project #:**	**02-140-A**
Depth:	-	**Lab ID:**	**BB000003**
Sampling Point:		**File Name:**	**G2020255.D**

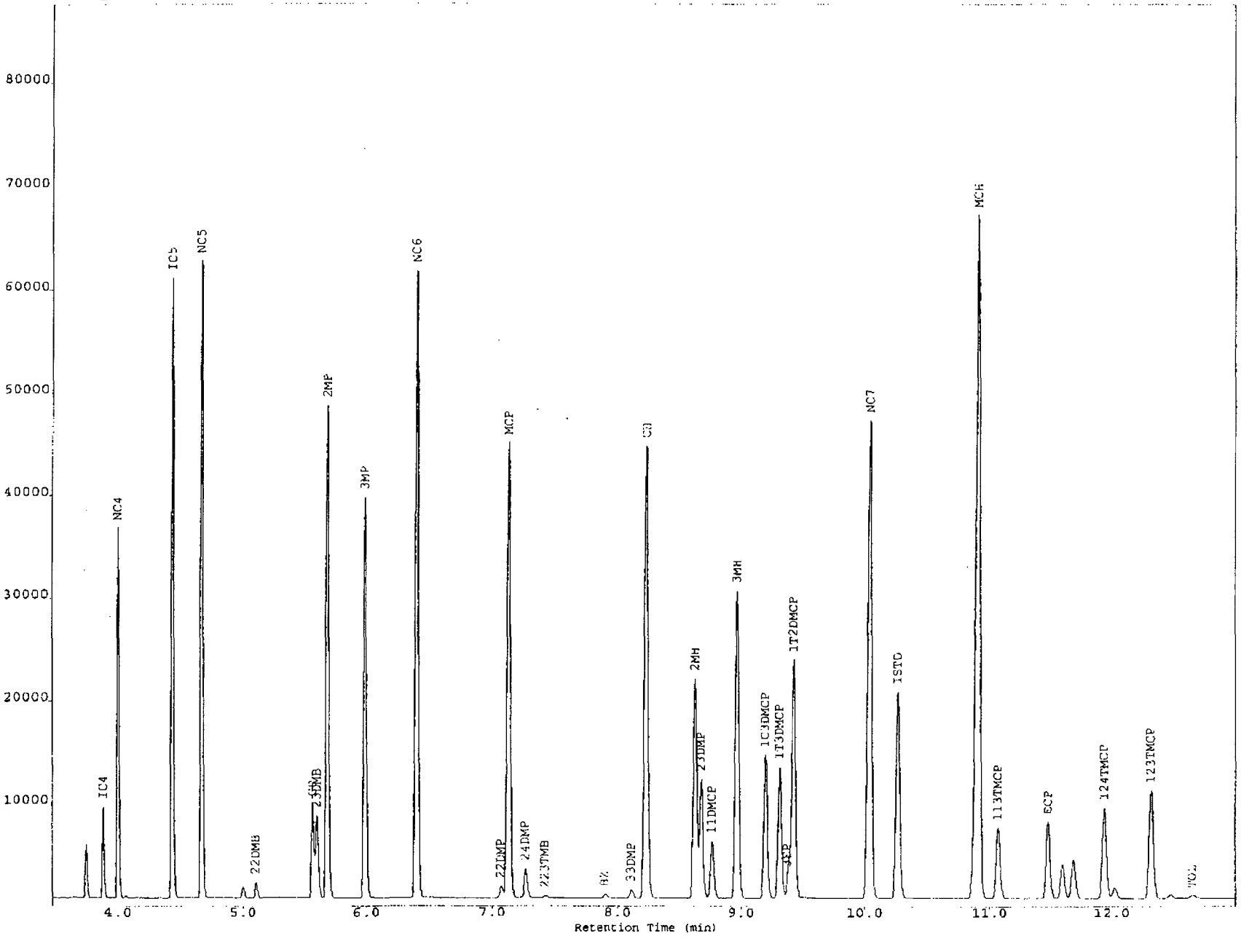
Peak Label	Compound Name	Ret. Time	Area	Height	ppt (Area)	ppt (Hght)
IC4	Iso-alkane C4	3.890	9340	8924	0.77	1.60
NC4	Normal Alkane C4	4.004	38761	36198	3.21	6.49
IC5	Iso-alkane C5	4.430	70010	60379	5.79	10.82
NC5	Normal Alkane C5	4.665	76709	62997	6.34	11.29
22DMB	2,2-Dimethylbutane	5.108	2124	1590	0.18	0.29
CP	Cyclopentane	5.574	13742	9211	1.14	1.65
23DMB	2,3-Dimethylbutane	5.608	12094	8023	1.00	1.44
2MP	2-Methylpentane	5.691	71942	48140	5.95	8.63
3MP	3-Methylpentane	5.990	59579	39039	4.93	7.00
NC6	Normal Alkane C6	6.401	98452	61622	8.14	11.04
22DMP	2,2-Dimethylpentane	7.076	1937	1164	0.16	0.21
MCP	Methylcyclopentane	7.134	79414	44545	6.57	7.98
24DMP	2,4-Dimethylpentane	7.271	5180	2870	0.43	0.51
223TMB	2,2,3-Trimethylbutane	7.428	438	217	0.04	0.04
BZ	Benzene	7.903	810	392	0.07	0.07
33DMP	3,3-Dimethylpentane	8.114	1599	811	0.13	0.15
CH	Cyclohexane	8.230	86837	44076	7.18	7.90
2MH	2-Methylhexane	8.622	42905	21471	3.55	3.85
23DMP	2,3-Dimethylpentane	8.672	22668	11598	1.88	2.08
11DMCP	1,1-Dimethylcyclopentane	8.760	11414	5539	0.94	0.99
3MH	3-Methylhexane	8.969	61309	30028	5.07	5.38
1C3DMCP	1-cis-3-Dimethylcyclopentane	9.202	29136	13980	2.41	2.51
1T3DMCP	1-trans-3-Dimethylcyclopentane	9.317	26569	12700	2.20	2.28
3EP	3-Ethylpentane	9.380	5003	4004	0.41	0.72
1T2DMCP	1-trans-2-Dimethylcyclopentane	9.434	50678	23278	4.19	4.17
NC7	Normal Alkane C7	10.044	101319	46731	8.38	8.37
ISTD	Internal Standard	10.264	43530	20089	3.60	3.60
MCH	Methylcyclohexane	10.906	159988	66519	13.23	11.92
113TMCP	1,1,3,-Trimethylcyclopentane	11.072	16272	6912	1.35	1.24
ECP	Ethylcyclopentane	11.486	17223	7450	1.42	1.34
124TMCP	1,2,4-Trimethylcyclopentane	11.942	20997	8875	1.74	1.59
123TMCP	1,2,3-Trimethylcyclopentane	12.318	25157	10542	2.08	1.89
TOL	Toluene	12.648	970	304	0.08	0.05
NC8	Normal Alkane C8	15.336	92994	31130	7.69	5.58
IP9	Isoprenoid C9	17.219	32408	11982	2.68	2.15
XYL	Xylene	18.434	47587	17538	3.94	3.14
NC9	Normal Alkane C9	21.129	74023	24910	6.12	4.46
IP10	Isoprenoid C10	23.119	33732	11110	2.79	1.99
NC10	Normal Alkane C10	26.744	50689	16883	4.19	3.03
IP11	Isoprenoid C11	28.048	30399	10139	2.51	1.82
NC11	Normal Alkane C11	32.010	46002	13494	3.80	2.42
NC12	Normal Alkane C12	36.934	24171	7122	2.00	1.28
IP13	Isoprenoid C13	37.683	31287	9114	2.59	1.63
IP14	Isoprenoid C14	40.445	21484	6816	1.78	1.22
NC13	Normal Alkane C13	41.548	34072	10322	2.82	1.85
IP15	Isoprenoid C15	45.000	30065	9455	2.49	1.69
NC14	Normal Alkane C14	45.884	33689	9795	2.79	1.76
IP16	Isoprenoid C16	48.554	33993	7807	2.81	1.40
NC15	Normal Alkane C15	49.967	30522	7301	2.52	1.31
NC16	Normal Alkane C16	53.831	23230	6461	1.92	1.16
IP18	Isoprenoid C18	55.775	30476	6289	2.52	1.13

Company:	**BBC INTERNATIONAL INC.**	**Client ID:**	**ROBERTS-MOHAN WW**
Well Name:	**WINDMILL**	**Project #:**	**02-140-A**
Depth:	**-**	**Lab ID:**	**BB000003**
Sampling Point:		**File Name:**	**G2020255.D**

Peak Label	Compound Name	Ret. Time	Area	Height	ppt (Area)	ppt (Hght)
NC17	Normal Alkane C17	57.491	19455	5080	1.61	0.91
IP19	Isoprenoid C19 (Pristane)	57.851	36101	6681	2.99	1.20
PHEN	Phenanthrene	58.893	4619	984	0.38	0.18
NC18	Normal Alkane C18	60.971	16746	4661	1.39	0.84
IP20	Isoprenoid C20 (Phytane)	61.436	35997	5792	2.98	1.04
NC19	Normal Alkane C19	64.285	13076	3600	1.08	0.65
NC20	Normal Alkane C20	67.443	13827	3484	1.14	0.62
NC21	Normal Alkane C21	70.462	8535	2206	0.71	0.40
C25HBI	Highly Branch Isoprenoid C25	70.717	1884	467	0.16	0.08
NC22	Normal Alkane C22	73.352	8463	2121	0.70	0.38
NC23	Normal Alkane C23	76.123	5988	1566	0.50	0.28
NC24	Normal Alkane C24	78.781	5353	1494	0.44	0.27
NC25	Normal Alkane C25	81.338	5285	1320	0.44	0.24
NC26	Normal Alkane C26	83.797	5641	1350	0.47	0.24
NC27	Normal Alkane C27	86.172	4288	1136	0.36	0.20
NC28	Normal Alkane C28	88.458	3882	1047	0.32	0.19
NC29	Normal Alkane C29	90.665	3786	836	0.31	0.15
NC30	Normal Alkane C30	92.805	4208	790	0.35	0.14
NC31	Normal Alkane C31	94.868	2311	588	0.19	0.11
NC32	Normal Alkane C32	96.875	2227	542	0.18	0.10
NC33	Normal Alkane C33	98.819	2782	518	0.23	0.09
NC34	Normal Alkane C34	100.708	2288	460	0.19	0.08
NC35	Normal Alkane C35	102.563	2031	365	0.17	0.07
NC36	Normal Alkane C36	104.584	1305	233	0.11	0.04
NC37	Normal Alkane C37	106.841	1046	169	0.09	0.03
NC38	Normal Alkane C38	109.404	867	132	0.07	0.02
NC39	Normal Alkane C39	112.388	399	92	0.03	0.02
NC40	Normal Alkane C40	115.836	456	71	0.04	0.01
NC41	Normal Alkane C41	119.842	245	38	0.02	0.01

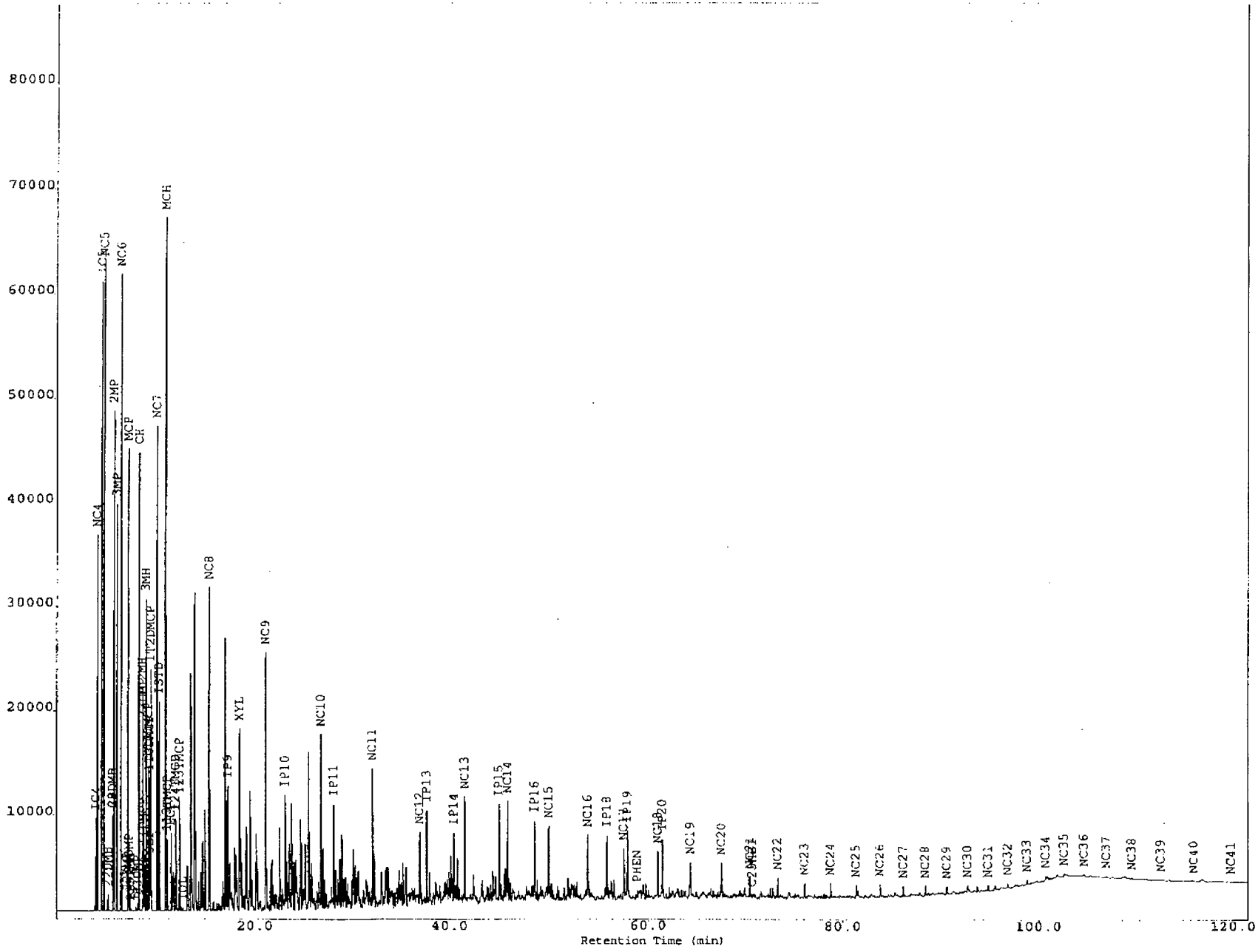
Parameter	Formula
WGC Parameters	
Pristane/Phytane	IP19/IP20
Pristane/nC17	IP19/NC17
Phytane/nC18	IP20/NC18
nC18/nC19	NC18/NC19
nC17/nC29	NC17/NC29
CPI Marzi[4]	((NC23+NC25+NC27)+(NC25+NC27+NC29))/(2*(NC24+NC26+NC28))
Normal Paraffins	100*(NC4+NC5+NC6+NC7+NC8+NC9+NC10+NC11+NC12+NC13+NC14+NC15+NC16+NC17+NC18+NC19+NC20+NC21+NC22+NC23+NC24+NC25+NC26+NC27+NC28+NC29+NC30+NC31+NC32+NC33+NC34+NC35+NC36+NC37+NC38+NC39+NC40+NC41)/TOTAL_RESOLVED
Isoprenoids	100*(IP9+IP10+IP11+IP13+IP14+IP15+IP16+IP18+IP19+IP20+CH25HBI)/TOTAL_RESOLVED
Cycloparaffins	100*(CP+MCP+CH+11DMCP+1T3DMCP+1T2DMCP+MCH+113TMCP+ECP+124TMCP+123TMCP+1C3DMCP+1C2DMCP)/TOTAL_RESOLVED
Branched (iso-) Paraffins	100*(IC4+IC5+22DMB+23DMB+2MP+3MP+22DMP+24DMP+223TMB+33DMP+2MH+23DMP+3MH+3EP)/TOTAL_RESOLVED
BTX aromatics	100*(BZ+TOL+XYL)/TOTAL_RESOLVED
Thompson[1]	
BZ/nC6	BZ/NC6
TOL/nC7	TOL/NC7
(nC6+nC7)/(CH+MCH)	(NC6+NC7)/(CH+MCH)
Isoheptane Value	(2MH+3MH)/(1C3DMCP+1T3DMCP+1T2DMCP)
nC7/MCH	NC7/MCH
CH/MCP	CH/MCP
nC7/2MH	NC7/2MH
nC6/22DMB	NC6/22DMB
Heptane Value	100*NC7/(CH+2MH+23DMP+11DMCP+3MH+1C3DMCP+1T3DMCP+1T2DMCP+MCH+NC7)
MCH/nC7	MCH/NC7
mpXYL/nC8	XYL/NC8
Mango[2]	
P1	100*NC7/(22DMP+24DMP+223TMB+33DMP+2MH+23DMP+11DMCP+3MH+1C3DMCP+1T3DMCP+3EP+1T2DMCP+NC7+MCH+ECP+TOL)
P2	100*(2MH+3MH)/(22DMP+24DMP+223TMB+33DMP+2MH+23DMP+11DMCP+3MH+1C3DMCP+1T3DMCP+3EP+1T2DMCP+NC7+MCH+ECP+TOL)
P3	100*(3EP+33DMP+23DMP+24DMP+22DMP+223TMB)/(22DMP+24DMP+223TMB+33DMP+2MH+23DMP+11DMCP+3MH+1C3DMCP+1T3DMCP+3EP+1T2DMCP+NC7+MCH+ECP+TOL)
5N1	100*(ECP+1T2DMCP)/(22DMP+24DMP+223TMB+33DMP+2MH+23DMP+11DMCP+3MH+1C3DMCP+1T3DMCP+3EP+1T2DMCP+NC7+MCH+ECP+TOL)
N2	100*(11DMCP+1C3DMCP+1T3DMCP)/(22DMP+24DMP+223TMB+33DMP+2MH+23DMP+11DMCP+3MH+1C3DMCP+1T3DMCP+3EP+1T2DMCP+NC7+MCH+ECP+TOL)
6N1	100*(MCH+TOL)/(22DMP+24DMP+223TMB+33DMP+2MH+23DMP+11DMCP+3MH+1C3DMCP+1T3DMCP+3EP+1T2DMCP+NC7+MCH+ECP+TOL)
K1	(2MH+23DMP)/(3MH+24DMP)
K2	(2MH+3MH)/(2MH+3MH+11DMCP+1C3DMCP+1T3DMCP)
5N1/6N1	(ECP+1T2DMCP)/(MCH+TOL)
P3/N2	(3EP+33DMP+23DMP+24DMP+22DMP+223TMB)/(11DMCP+1C3DMCP+1T3DMCP)
ln(24DMP/23DMP)	ln(24DMP/23DMP)
Halpern[3]	
Tr1	TOL/11DMCP
Tr2	NC7/11DMCP
Tr3	3MH/11DMCP
Tr4	2MH/11DMCP
Tr5	(2MH+3MH)/11DMCP
Tr7	1T3DMCP/11DMCP
Tr8	(2MH+3MH)/(22DMP+23DMP+24DMP+33DMP+3EP)
C1	22DMP/(22DMP+23DMP+24DMP+33DMP+3EP)
C2	23DMP/(22DMP+23DMP+24DMP+33DMP+3EP)
C3	24DMP/(22DMP+23DMP+24DMP+33DMP+3EP)
C4	33DMP/(22DMP+23DMP+24DMP+33DMP+3EP)
C5	3EP/(22DMP+23DMP+24DMP+33DMP+3EP)
C4	33DMP/(22DMP+23DMP+24DMP+33DMP+3EP)

Sample: ROBERTS-MOHAN WW



File: G2020255.D\FID1A.CH
Date & Time: 12-Mar-02, 14:44:57

Sample: ROBERTS-MOHAN WW



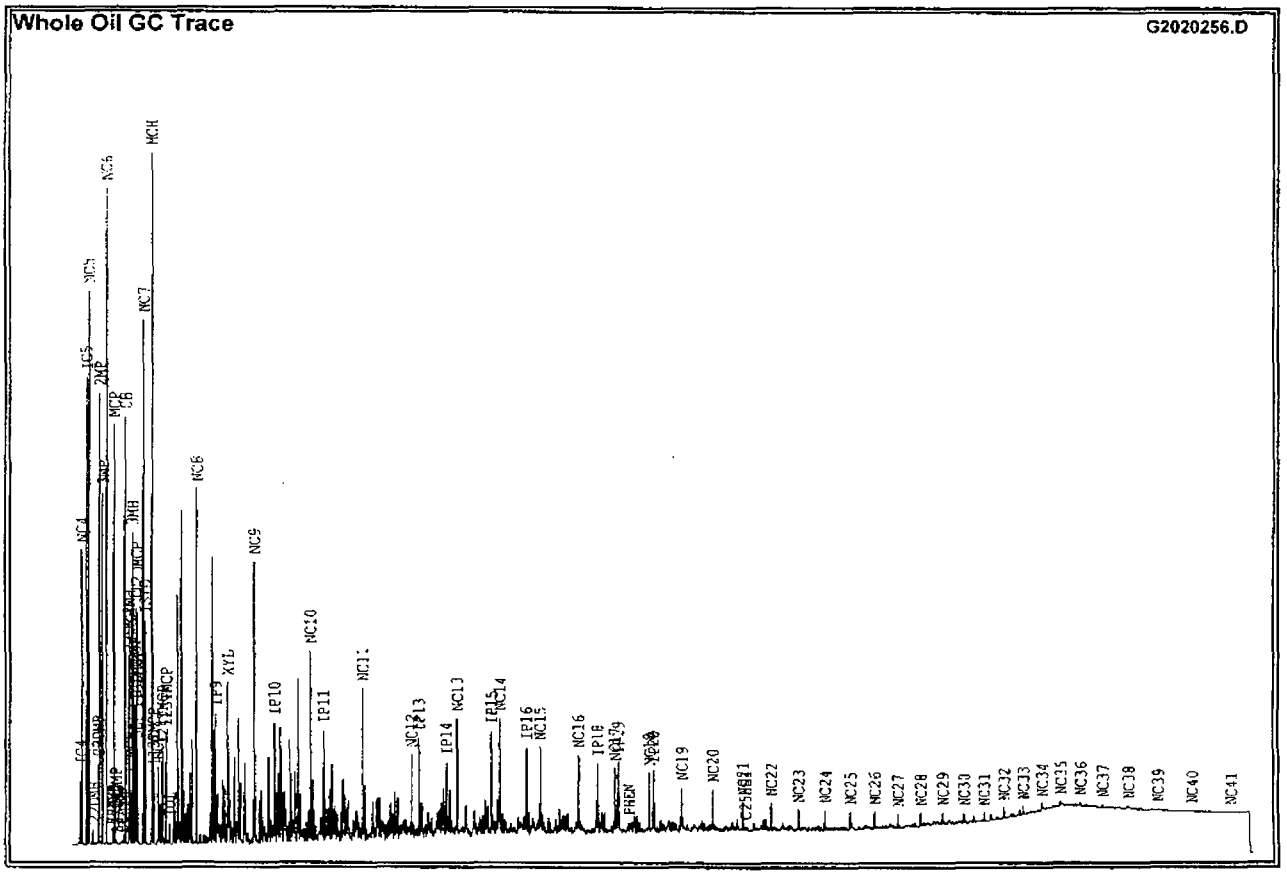
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BASELINE DGSI
ANALYTICAL LABORATORIES

WHOLE OIL GC

Company:	BBC INTERNATIONAL INC.	**Client ID:**	KING W-W
Country:	UNITED STATES	**Project #:**	02-140-A
Basin:		**Lab ID:**	BB000004
Lease:		**Sample Type:**	OIL
Block:		**Sampling Point:**	
Field:		**Formation:**	
Well Name:	WINDMILL	**Geologic Age:**	
Latitude:		**Top Depth:**	
Longitude:		**Bottom Depth:**	

Whole Oil GC Trace G2020256.D



WGC parameters	
Pristane/Phytane	1.04
Pristane/$n\,C_{17}$	1.66
Phytane/$n\,C_{18}$	1.87
$n\,C_{18}/n\,C_{19}$	1.28
$n\,C_{17}/n\,C_{29}$	3.93
CPI Marzi[4]	0.99
Normal Paraffins	16.7
Isoprenoids	6.0
Cycloparaffins	9.2
Branched (iso-) Paraffins	5.8
BTX aromatics	0.8
Resolved unknowns	61.3

Thompson[1]		
A.	BZ/$n\,C_6$	0.01
B.	TOL/$n\,C_7$	0.05
C.	$(n\,C_6+n\,C_7)/(CH+MCH)$	0.88
I.	Isoheptane Value	1.00
F.	$n\,C_7$/MCH	0.69
U.	CH/MCP	1.12
R.	$n\,C_7$/2MH	2.54
S.	$n\,C_8$/22DMB	57.53
H.	Heptene Value	18.55
	MCH/$n\,C_7$	1.45
	mpXYL/$n\,C_8$	0.42

Mango[2]	
P_1	20.11
P_2	19.12
P_3	6.42
$5N_1$	12.30
N_2	11.96
$6N_1$	30.10
K_1	0.99
K_2	0.62
$5N_1/^{\beta}N_1$	0.41
P_3/N_2	0.54
ln(24DMP/23DMP)	-1.51

Halpern[3]	
Tr_1	0.46
Tr_2	10.00
Tr_3	5.57
Tr_4	3.94
Tr_5	9.51
Tr_7	2.36
Tr_8	3.01
C_1	0.05
C_2	0.63
C_3	0.14
C_4	0.04
C_5	0.13

[1]Thompson, K.F.M., 1983,GCA:V.47, p.303. [2]Mango, F.D., 1994,GCA: V.58, p.895. [3]Halpern,H.I., 1995,AAPG Bull.: V.79, p.801. [4]Marzi,1993,OrgG:20,1301.

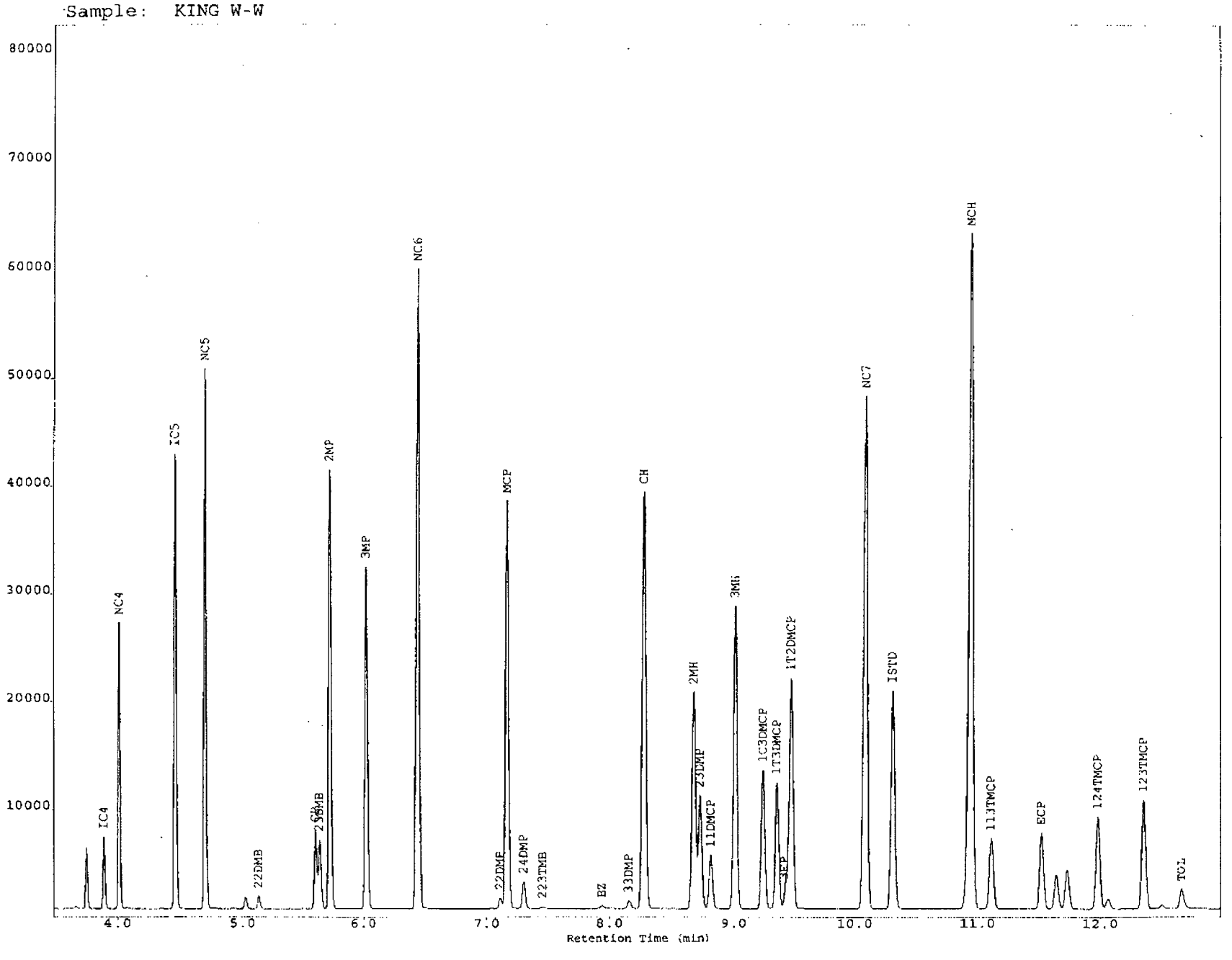
Company:	**BBC INTERNATIONAL INC.**	**Client ID:**	**KING W-W**
Well Name:	**WINDMILL**	**Project #:**	**02-140-A**
Depth:	-	**Lab ID:**	**BB000004**
Sampling Point:		**File Name:**	**G2020256.D**

Peak Label	Compound Name	Ret. Time	Area	Height	ppt (Area)	ppt (Hght)
IC4	Iso-alkane C4	3.895	7269	6755	0.58	1.16
NC4	Normal Alkane C4	4.011	29362	26837	2.34	4.61
IC5	Iso-alkane C5	4.444	50534	42424	4.03	7.29
NC5	Normal Alkane C5	4.683	62327	50179	4.97	8.62
22DMB	2,2-Dimethylbutane	5.135	1668	1206	0.13	0.21
CP	Cyclopentane	5.604	10911	7348	0.87	1.26
23DMB	2,3-Dimethylbutane	5.638	9849	6519	0.79	1.12
2MP	2-Methylpentane	5.721	60596	40795	4.83	7.01
3MP	3-Methylpentane	6.020	49416	31738	3.94	5.45
NC6	Normal Alkane C6	6.436	95953	59433	7.65	10.21
22DMP	2,2-Dimethylpentane	7.115	1684	1011	0.13	0.17
MCP	Methylcyclopentane	7.172	68635	38225	5.47	6.57
24DMP	2,4-Dimethylpentane	7.310	4548	2507	0.36	0.43
223TMB	2,2,3-Trimethylbutane	7.467	384	191	0.03	0.03
BZ	Benzene	7.943	644	295	0.05	0.05
33DMP	3,3-Dimethylpentane	8.155	1449	722	0.12	0.12
CH	Cyclohexane	8.271	76854	38718	6.13	6.65
2MH	2-Methylhexane	8.665	40766	20147	3.25	3.46
23DMP	2,3-Dimethylpentane	8.715	20616	10516	1.64	1.81
11DMCP	1,1-Dimethylcyclopentane	8.802	10347	4992	0.83	0.86
3MH	3-Methylhexane	9.012	57610	28127	4.59	4.83
1C3DMCP	1-cis-3-Dimethylcyclopentane	9.245	26737	12824	2.13	2.20
1T3DMCP	1-trans-3-Dimethylcyclopentane	9.360	24447	11662	1.95	2.00
3EP	3-Ethylpentane	9.423	4332	3744	0.35	0.64
1T2DMCP	1-trans-2-Dimethylcyclopentane	9.477	46930	21338	3.74	3.67
NC7	Normal Alkane C7	10.089	103449	47738	8.25	8.20
ISTD	Internal Standard	10.308	43648	20260	3.48	3.48
MCH	Methylcyclohexane	10.947	150048	62686	11.96	10.77
113TMCP	1,1,3,-Trimethylcyclopentane	11.113	15381	6509	1.23	1.12
ECP	Ethylcyclopentane	11.527	16350	7062	1.30	1.21
124TMCP	1,2,4-Trimethylcyclopentane	11.983	20042	8497	1.60	1.46
123TMCP	1,2,3-Trimethylcyclopentane	12.358	24049	10117	1.92	1.74
TOL	Toluene	12.677	4802	1847	0.38	0.32
NC8	Normal Alkane C8	15.369	94744	32195	7.55	5.53
IP9	Isoprenoid C9	17.246	31938	11902	2.55	2.04
XYL	Xylene	18.456	39434	14702	3.14	2.53
NC9	Normal Alkane C9	21.145	75513	25657	6.02	4.41
IP10	Isoprenoid C10	23.132	33757	11125	2.69	1.91
NC10	Normal Alkane C10	26.750	51991	17451	4.15	3.00
IP11	Isoprenoid C11	28.054	30689	10228	2.45	1.76
NC11	Normal Alkane C11	32.012	48385	14033	3.86	2.41
NC12	Normal Alkane C12	36.932	26474	7791	2.11	1.34
IP13	Isoprenoid C13	37.682	31659	9160	2.52	1.57
IP14	Isoprenoid C14	40.442	21732	6890	1.73	1.18
NC13	Normal Alkane C13	41.545	37006	10937	2.95	1.88
IP15	Isoprenoid C15	44.999	30601	9647	2.44	1.66
NC14	Normal Alkane C14	45.882	36396	10842	2.90	1.86
IP16	Isoprenoid C16	48.552	34926	8120	2.79	1.40
NC15	Normal Alkane C15	49.965	34492	8145	2.75	1.40
NC16	Normal Alkane C16	53.828	26705	7397	2.13	1.27
IP18	Isoprenoid C18	55.770	31164	6486	2.49	1.11

Company:	**BBC INTERNATIONAL INC.**	**Client ID:**	**KING W-W**
Well Name:	**WINDMILL**	**Project #:**	**02-140-A**
Depth:	**-**	**Lab ID:**	**BB000004**
Sampling Point:		**File Name:**	**G2020256.D**

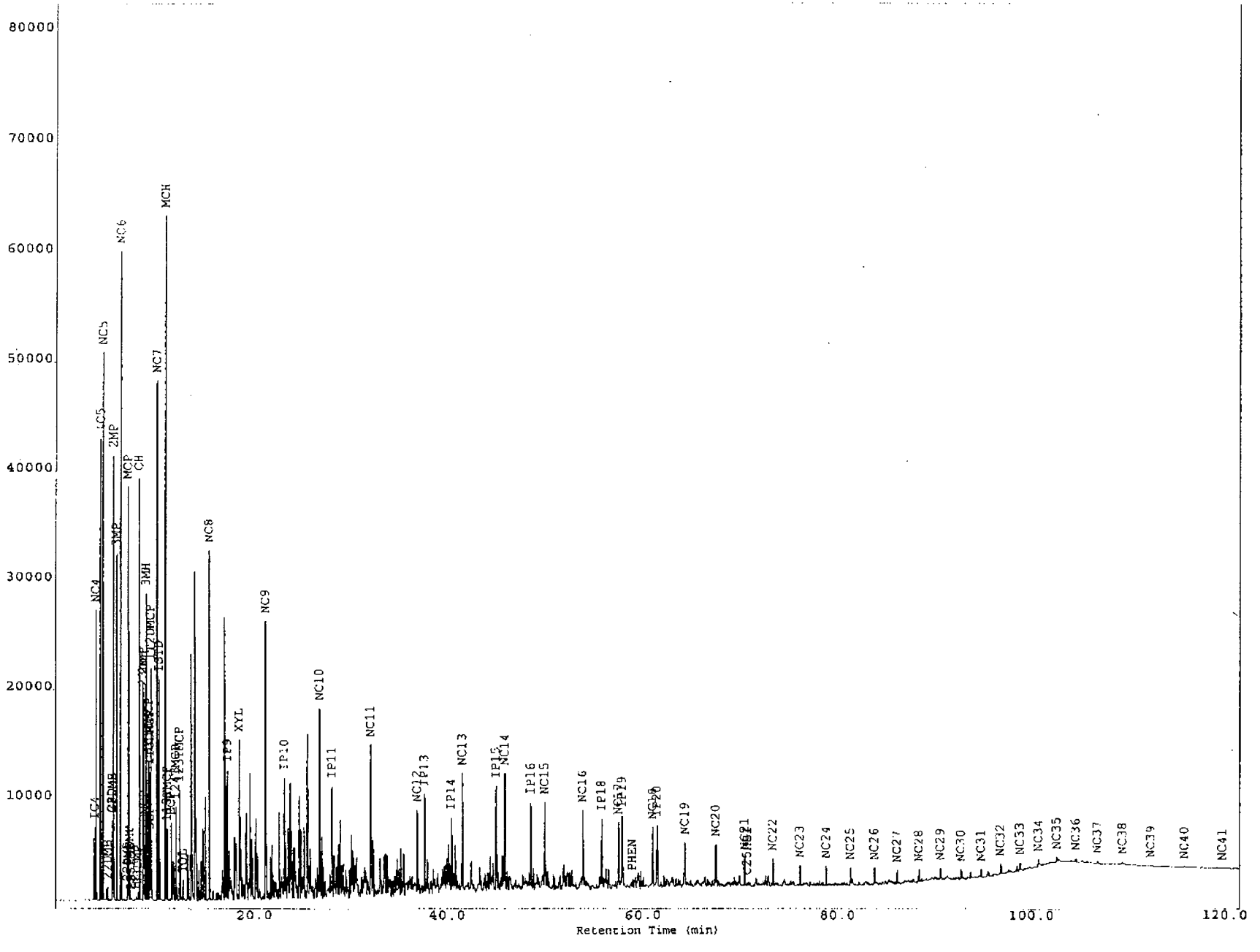
Peak Label	Compound Name	Ret. Time	Area	Height	ppt (Area)	ppt (Hght)
NC17	Normal Alkane C17	57.489	22429	6128	1.79	1.05
IP19	Isoprenoid C19 (Pristane)	57.856	37200	6699	2.97	1.15
PHEN	Phenanthrene	58.892	4470	958	0.36	0.17
NC18	Normal Alkane C18	60.970	19224	5591	1.53	0.96
IP20	Isoprenoid C20 (Phytane)	61.424	35932	5774	2.87	0.99
NC19	Normal Alkane C19	64.281	15004	4189	1.20	0.72
NC20	Normal Alkane C20	67.441	16288	3989	1.30	0.69
NC21	Normal Alkane C21	70.460	10432	2771	0.83	0.48
C25HBI	Highly Branch Isoprenoid C25	70.718	2074	485	0.17	0.08
NC22	Normal Alkane C22	73.350	10046	2641	0.80	0.45
NC23	Normal Alkane C23	76.119	7446	1992	0.59	0.34
NC24	Normal Alkane C24	78.779	6771	1917	0.54	0.33
NC25	Normal Alkane C25	81.337	6565	1721	0.52	0.30
NC26	Normal Alkane C26	83.795	6616	1633	0.53	0.28
NC27	Normal Alkane C27	86.163	5069	1331	0.40	0.23
NC28	Normal Alkane C28	88.456	4998	1306	0.40	0.22
NC29	Normal Alkane C29	90.663	5712	1250	0.46	0.22
NC30	Normal Alkane C30	92.806	4573	975	0.37	0.17
NC31	Normal Alkane C31	94.867	3438	832	0.27	0.14
NC32	Normal Alkane C32	96.876	4168	1016	0.33	0.18
NC33	Normal Alkane C33	98.815	3621	812	0.29	0.14
NC34	Normal Alkane C34	100.705	3191	686	0.25	0.12
NC35	Normal Alkane C35	102.570	2821	526	0.23	0.09
NC36	Normal Alkane C36	104.572	2208	408	0.18	0.07
NC37	Normal Alkane C37	106.824	1857	295	0.15	0.05
NC38	Normal Alkane C38	109.411	2817	312	0.23	0.05
NC39	Normal Alkane C39	112.369	1147	129	0.09	0.02
NC40	Normal Alkane C40	115.832	896	90	0.07	0.02
NC41	Normal Alkane C41	119.825	435	59	0.04	0.01

Parameter	Formula
WGC Parameters	
Pristane/Phytane	IP19/IP20
Pristane/nC17	IP19/NC17
Phytane/nC18	IP20/NC18
nC18/nC19	NC18/NC19
nC17/nC29	NC17/NC29
CPI Marzi[4]	((NC23+NC25+NC27)+(NC25+NC27+NC29))/(2*(NC24+NC26+NC28))
Normal Paraffins	100*(NC4+NC5+NC6+NC7+NC8+NC9+NC10+NC11+NC12+NC13+NC14+NC15+NC16+NC17+NC18+NC19+ NC20+NC21+NC22+NC23+NC24+NC25+NC26+NC27+NC28+NC29+NC30+NC31+NC32+NC33+NC34+ NC35+NC36+NC37+NC38+NC39+NC40+NC41)/TOTAL_RESOLVED
Isoprenoids	100*(IP9+IP10+IP11+IP13+IP14+IP15+IP16+IP18+IP19+IP20+CH25HBI)/TOTAL_RESOLVED
Cycloparaffins	100*(CP+MCP+CH+11DMCP+1T3DMCP+1T2DMCP+MCH+113TMCP+ECP+124TMCP+123TMCP+1C3DMCP+ 1C2DMCP)/TOTAL_RESOLVED
Branched (iso-) Paraffins	100*(IC4+IC5+22DMB+23DMB+2MP+3MP+22DMP+24DMP+223TMB+33DMP+2MH+23DMP+3MH+3EP)/ TOTAL_RESOLVED
BTX aromatics	100*(BZ+TOL+XYL)/TOTAL_RESOLVED
Thompson[1]	
BZ/nC6	BZ/NC6
TOL/nC7	TOL/NC7
(nC6+nC7)/(CH+MCH)	(NC6+NC7)/(CH+MCH)
Isoheptane Value	(2MH+3MH)/(1C3DMCP+1T3DMCP+1T2DMCP)
nC7/MCH	NC7/MCH
CH/MCP	CH/MCP
nC7/2MH	NC7/2MH
nC6/22DMB	NC6/22DMB
Heptane Value	100*NC7/(CH+2MH+23DMP+11DMCP+3MH+1C3DMCP+1T3DMCP+1T2DMCP+MCH+NC7)
MCH/nC7	MCH/NC7
mpXYL/nC8	XYL/NC8
Mango[2]	
P1	100*NC7/(22DMP+24DMP+223TMB+33DMP+2MH+23DMP+11DMCP+3MH+1C3DMCP+1T3DMCP+3EP+ 1T2DMCP+NC7+MCH+ECP+TOL)
P2	100*(2MH+3MH)/(22DMP+24DMP+223TMB+33DMP+2MH+23DMP+11DMCP+3MH+1C3DMCP+1T3DMCP+ 3EP+1T2DMCP+NC7+MCH+ECP+TOL)
P3	100*(3EP+33DMP+23DMP+24DMP+22DMP+223TMB)/(22DMP+24DMP+223TMB+33DMP+2MH+23DMP+ 11DMCP+3MH+1C3DMCP+1T3DMCP+3EP+1T2DMCP+NC7+MCH+ECP+TOL)
5N1	100*(ECP+1T2DMCP)/(22DMP+24DMP+223TMB+33DMP+2MH+23DMP+11DMCP+3MH+1C3DMCP+ 1T3DMCP+3EP+1T2DMCP+NC7+MCH+ECP+TOL)
N2	100*(11DMCP+1C3DMCP+1T3DMCP)/(22DMP+24DMP+223TMB+33DMP+2MH+23DMP+11DMCP+3MH+ 1C3DMCP+1T3DMCP+3EP+1T2DMCP+NC7+MCH+ECP+TOL)
6N1	100*(MCH+TOL)/(22DMP+24DMP+223TMB+33DMP+2MH+23DMP+11DMCP+3MH+1C3DMCP+1T3DMCP+ 3EP+1T2DMCP+NC7+MCH+ECP+TOL)
K1	(2MH+23DMP)/(3MH+24DMP)
K2	(2MH+3MH)/(2MH+3MH+11DMCP+1C3DMCP+1T3DMCP)
5N1/6N1	(ECP+1T2DMCP)/(MCH+TOL)
P3/N2	(3EP+33DMP+23DMP+24DMP+22DMP+223TMB)/(11DMCP+1C3DMCP+1T3DMCP)
ln(24DMP/23DMP)	ln(24DMP/23DMP)
Halpern[3]	
Tr1	TOL/11DMCP
Tr2	NC7/11DMCP
Tr3	3MH/11DMCP
Tr4	2MH/11DMCP
Tr5	(2MH+3MH)/11DMCP
Tr7	1T3DMCP/11DMCP
Tr8	(2MH+3MH)/(22DMP+23DMP+24DMP+33DMP+3EP)
C1	22DMP/(22DMP+23DMP+24DMP+33DMP+3EP)
C2	23DMP/(22DMP+23DMP+24DMP+33DMP+3EP)
C3	24DMP/(22DMP+23DMP+24DMP+33DMP+3EP)
C4	33DMP/(22DMP+23DMP+24DMP+33DMP+3EP)
C5	3EP/(22DMP+23DMP+24DMP+33DMP+3EP)
C4	33DMP/(22DMP+23DMP+24DMP+33DMP+3EP)



File: G2020256.D\FIDIA.CH
Date & Time: 12-Mar-02, 17:13:17

Sample: KING W-W



File: G2020256.D\FID1A.CH
Date & Time: 12-Mar-02, 17:10:17

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

March 10, 1999

CERTIFIED MAIL
RETURN RECEIPT NO. Z 357 870 115

Ms. Betty Handy
1725 Gary Lane
Hobbs, NM 88240

Re: Water Well at 1725 Gary Lane

Dear Ms. Handy:

Please find enclosed the analytical results for your water well. The results of this sampling event did not reveal any water contaminants that exceeded the New Mexico Water Quality Control (WQCC) Commission Regulations Human Health Standards except for Iron which was slightly over the limit. At the time of sampling it was noted that the water was clear but had a hydrocarbon odor. The analytical results revealed trace amounts of Polynuclear Aromatic Hydrocarbons, a possible petroleum constituent, but at levels well below the health standard.

If you require any further information or assistance please do not hesitate to write or call me at (505-827-7155).

Sincerely Yours,

Wayne Price-Environmental Bureau

cc: OCD Hobbs Office

PINNACLE LABORATORIES

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

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OIL CONSERVATION DIVISION

Pinnacle Lab ID number **812043**
December 30, 1998

NMOCD
2040 S. PACHECO
SANTA FE, NM 87505

Project Name WATER WELL
Project Number (none)

Attention: WAYNE PRICE

On 12/9/98 Pinnacle Laboratories, Inc. Inc., (ADHS License No. AZ0592), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

EPA methods 150.1 and 8260 were performed by Pinnacle Laboratories, Inc., Albuquerque, NM.

EPA methods 8310 and 8270 were performed by Severn Trent (FL) Inc., Pensacola, FL.

All other parameters were performed by ESL (OR) Inc., Portland, OR.

If you have any questions or comments, please do not hesitate to contact us at (505)344-3777.

H. Mitchell Rubenstein, Ph. D.
General Manager

Kimberly D. McNeill
Project Manager

MR: mt

Enclosure

PINNACLE LABORATORIES

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

CLIENT	: NMOCD	PINNACLE ID	: 812043
PROJECT #	: (none)	DATE RECEIVED	: 12/9/98
PROJECT NAME	: WATER WELL	REPORT DATE	: 12/30/98

AEN ID. #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	9812070957	AQUEOUS	12/7/98
02	TRIP BLANK	AQUEOUS	12/4/98

PINNACLE LABORATORIES

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GENERAL CHEMISTRY RESULTS

CLIENT	: NMOCD	PINNACLE I.D.	: 812043
PROJECT #	: (none)	DATE RECEIVED	: 12/9/98
PROJECT NAME	: WATER WELL		

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE ANALYZED
01	9812070957	AQUEOUS	12/7/98	12/10/98

PARAMETER	UNITS	9812070957
PH (150.1)	UNITS	7.18

CHEMIST NOTES:
N/A

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GENERAL CHEMISTRY - QUALITY CONTROL

CLIENT	: NMOCD	PINNACLE I.D.	: 812043
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: WATER WELL		

PARAMETER	UNITS	PINNACLE I.D.	SAMPLE RESULT	DUP. RESULT	% RPD
PH	UNITS	812043-01	7.18	7.24	1

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

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GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260		
CLIENT	: NMOCD	PINNACLE I.D. :	812043
PROJECT #	: N/A	DATE RECEIVED :	12/9/98
PROJECT NAME	: WATER WELL		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
812048-01	9812070957	AQUEOUS	12/7/98	N/A	12/15/98	1

PARAMETER	DET. LIMIT		UNITS
Dichlorodifluoromethane	1.0	< 1.0	ug/L
Chloromethane	1.0	< 1.0	ug/L
Vinyl Chloride	1.0	< 1.0	ug/L
Bromomethane	1.0	< 1.0	ug/L
Chloroethane	1.0	< 1.0	ug/L
Trichlorofluoromethane	1.0	< 1.0	ug/L
Acetone	10	< 10	ug/L
Acrolein	5.0	< 5.0	ug/L
1,1-Dichloroethene	1.0	< 1.0	ug/L
Iodomethane	1.0	< 1.0	ug/L
Methylene Chloride	1.0	< 1.0	ug/L
Acrylonitrile	5.0	< 5.0	ug/L
cis-1,2-Dichloroethene	1.0	< 1.0	ug/L
Methyl-t-butyl Ether	1.0	< 1.0	ug/L
1,1,2,1,2,2-Trichlorotrifluoroethane	1.0	< 1.0	ug/L
1,1-Dichloroethane	1.0	< 1.0	ug/L
trans-1,2-Dichloroethene	1.0	< 1.0	ug/L
2-Butanone	10	< 10	ug/L
Carbon Disulfide	1.0	< 1.0	ug/L
Bromochloromethane	1.0	< 1.0	ug/L
Chloroform	1.0	< 1.0	ug/L
2,2-Dichloropropane	1.0	< 1.0	ug/L
1,2-Dichloroethane	1.0	< 1.0	ug/L
Vinyl Acetate	1.0	< 1.0	ug/L
1,1,1-Trichloroethane	1.0	< 1.0	ug/L
1,1-Dichloropropene	1.0	< 1.0	ug/L
Carbon Tetrachloride	1.0	< 1.0	ug/L
Benzene	1.0	< 1.0	ug/L
1,2-Dichloropropane	1.0	< 1.0	ug/L
Trichloroethene	1.0	< 1.0	ug/L
Bromodichloromethane	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether	10	< 10	ug/L
cis-1,3-Dichloropropene	1.0	< 1.0	ug/L
trans-1,3-Dichloropropene	1.0	< 1.0	ug/L
1,1,2-Trichloroethane	1.0	< 1.0	ug/L
1,3-Dichloropropane	1.0	< 1.0	ug/L
Dibromomethane	1.0	< 1.0	ug/L
Toluene	1.0	< 1.0	ug/L
1,2-Dibromoethane	1.0	< 1.0	ug/L
4-Methyl-2-Pentanone	10	< 10	ug/L
2-Hexanone	10	< 10	ug/L
Dibromochloromethane	1.0	< 1.0	ug/L
Tetrachloroethene	1.0	< 1.0	ug/L
Chlorobenzene	1.0	< 1.0	ug/L
Ethylbenzene	1.0	< 1.0	ug/L

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GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260
CLIENT : NMOCD PINNACLE I.D. : 812043
PROJECT # : N/A DATE RECEIVED : 12/9/98
PROJECT NAME : WATER WELL

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
812048-01	9812070957	AQUEOUS	12/7/98	N/A	12/15/98	1

PARAMETER	DET. LIMIT		UNITS
1,1,1,2-Tetrachloroethane	1.0	< 1.0	ug/L
m&p Xylenes	1.0	< 1.0	ug/L
o-Xylene	1.0	< 1.0	ug/L
Styrene	1.0	< 1.0	ug/L
Bromoform	1.0	< 1.0	ug/L
1,1,2,2-Tetrachloroethane	1.0	< 1.0	ug/L
1,2,3-Trichloropropane	1.0	< 1.0	ug/L
Isopropyl Benzene	1.0	< 1.0	ug/L
Bromobenzene	1.0	< 1.0	ug/L
trans-1,4-Dichloro-2-Butene	1.0	< 1.0	ug/L
n-Propylbenzene	1.0	< 1.0	ug/L
2-Chlorotoluene	1.0	< 1.0	ug/L
4-Chlorotoluene	1.0	< 1.0	ug/L
1,3,5-Trimethylbenzene	1.0	< 1.0	ug/L
tert-Butylbenzene	1.0	< 1.0	ug/L
1,2,4-Trimethylbenzene	1.0	< 1.0	ug/L
sec-Butylbenzene	1.0	< 1.0	ug/L
1,3-Dichlorobenzene	1.0	< 1.0	ug/L
1,4-Dichlorobenzene	1.0	< 1.0	ug/L
p-Isopropyltoluene	1.0	< 1.0	ug/L
1,2-Dichlorobenzene	1.0	< 1.0	ug/L
n-Butylbenzene	1.0	< 1.0	ug/L
1,2-Dibromomo-3-chloropropane	1.0	< 1.0	ug/L
1,2,4-Trichlorobenzene	1.0	< 1.0	ug/L
Naphthalene	1.0	< 1.0	ug/L
Hexachlorobutadiene	1.0	< 1.0	ug/L
1,2,3-Trichlorobenzene	1.0	< 1.0	ug/L

SURROGATE % RECOVERY		
1,2-Dichloroethane-d4	94	(80 - 120)
Toluene-d8	98	(88 - 110)
Bromofluorobenzene	93	(86 - 115)

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GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260
CLIENT : NMOCD PINNACLE I.D. : 812043
PROJECT # : N/A DATE RECEIVED : 12/9/98
PROJECT NAME : WATER WELL

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
812048-02	TRIP BLANK	AQUEOUS	12/4/98	N/A	12/15/98	1

PARAMETER	DET. LIMIT		UNITS
Dichlorodifluoromethane	1.0	< 1.0	ug/L
Chloromethane	1.0	< 1.0	ug/L
Vinyl Chloride	1.0	< 1.0	ug/L
Bromomethane	1.0	< 1.0	ug/L
Chloroethane	1.0	< 1.0	ug/L
Trichlorofluoromethane	1.0	< 1.0	ug/L
Acetone	10	< 10	ug/L
Acrolein	5.0	< 5.0	ug/L
1,1-Dichloroethene	1.0	< 1.0	ug/L
Iodomethane	1.0	< 1.0	ug/L
Methylene Chloride	1.0	< 1.0	ug/L
Acrylonitrile	5.0	< 5.0	ug/L
cis-1,2-Dichloroethene	1.0	< 1.0	ug/L
Methyl-t-butyl Ether	1.0	< 1.0	ug/L
1,1,2,1,2,2-Trichlorotrifluoroethane	1.0	< 1.0	ug/L
1,1-Dichloroethane	1.0	< 1.0	ug/L
trans-1,2-Dichloroethene	1.0	< 1.0	ug/L
2-Butanone	10	< 10	ug/L
Carbon Disulfide	1.0	< 1.0	ug/L
Bromochloromethane	1.0	< 1.0	ug/L
Chloroform	1.0	< 1.0	ug/L
2,2-Dichloropropane	1.0	< 1.0	ug/L
1,2-Dichloroethane	1.0	< 1.0	ug/L
Vinyl Acetate	1.0	< 1.0	ug/L
1,1,1-Trichloroethane	1.0	< 1.0	ug/L
1,1-Dichloropropene	1.0	< 1.0	ug/L
Carbon Tetrachloride	1.0	< 1.0	ug/L
Benzene	1.0	< 1.0	ug/L
1,2-Dichloropropane	1.0	< 1.0	ug/L
Trichloroethene	1.0	< 1.0	ug/L
Bromodichloromethane	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether	10	< 10	ug/L
cis-1,3-Dichloropropene	1.0	< 1.0	ug/L
trans-1,3-Dichloropropene	1.0	< 1.0	ug/L
1,1,2-Trichloroethane	1.0	< 1.0	ug/L
1,3-Dichloropropane	1.0	< 1.0	ug/L
Dibromomethane	1.0	< 1.0	ug/L
Toluene	1.0	< 1.0	ug/L
1,2-Dibromoethane	1.0	< 1.0	ug/L
4-Methyl-2-Pentanone	10	< 10	ug/L
2-Hexanone	10	< 10	ug/L
Dibromochloromethane	1.0	< 1.0	ug/L
Tetrachloroethene	1.0	< 1.0	ug/L
Chlorobenzene	1.0	< 1.0	ug/L
Ethylbenzene	1.0	< 1.0	ug/L

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GC/MS RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260		
CLIENT	: NMOCD	PINNACLE I.D. :	812043
PROJECT #	: N/A	DATE RECEIVED :	12/9/98
PROJECT NAME	: WATER WELL		

SAMPLE ID #	CLIENT ID	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
812048-02	TRIP BLANK	AQUEOUS	12/4/98	N/A	12/15/98	1

PARAMETER	DET. LIMIT		UNITS
1,1,1,2-Tetrachloroethane	1.0	< 1.0	ug/L
m&p Xylenes	1.0	< 1.0	ug/L
o-Xylene	1.0	< 1.0	ug/L
Styrene	1.0	< 1.0	ug/L
Bromoform	1.0	< 1.0	ug/L
1,1,2,2-Tetrachloroethane	1.0	< 1.0	ug/L
1,2,3-Trichloropropane	1.0	< 1.0	ug/L
Isopropyl Benzene	1.0	< 1.0	ug/L
Bromobenzene	1.0	< 1.0	ug/L
trans-1,4-Dichloro-2-Butene	1.0	< 1.0	ug/L
n-Propylbenzene	1.0	< 1.0	ug/L
2-Chlorotoluene	1.0	< 1.0	ug/L
4-Chlorotoluene	1.0	< 1.0	ug/L
1,3,5-Trimethylbenzene	1.0	< 1.0	ug/L
tert-Butylbenzene	1.0	< 1.0	ug/L
1,2,4-Trimethylbenzene	1.0	< 1.0	ug/L
sec-Butylbenzene	1.0	< 1.0	ug/L
1,3-Dichlorobenzene	1.0	< 1.0	ug/L
1,4-Dichlorobenzene	1.0	< 1.0	ug/L
p-Isopropyltoluene	1.0	< 1.0	ug/L
1,2-Dichlorobenzene	1.0	< 1.0	ug/L
n-Butylbenzene	1.0	< 1.0	ug/L
1,2-Dibromomo-3-chloropropane	1.0	< 1.0	ug/L
1,2,4-Trichlorobenzene	1.0	< 1.0	ug/L
Naphthalene	1.0	< 1.0	ug/L
Hexachlorobutadiene	1.0	< 1.0	ug/L
1,2,3-Trichlorobenzene	1.0	< 1.0	ug/L

SURROGATE % RECOVERY	
1,2-Dichloroethane-d4	100
	(80 - 120)
Toluene-d8	102
	(88 - 110)
Bromofluorobenzene	97
	(86 - 115)

PINNACLE LABORATORIES

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GC/MS RESULTS

TEST : VOLATILE ORGANICS EPA METHOD 8260
CLIENT : NMOCD PINNACLE I.D. : 812043
PROJECT # : N/A
PROJECT NAME : WATER WELL

SAMPLE ID #	BATCH	MATRIX	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
REAGENT BLANK	121598	AQUEOUS	N/A	12/15/98	1

PARAMETER	DET. LIMIT		UNITS
Dichlorodifluoromethane	1.0	< 1.0	ug/L
Chloromethane	1.0	< 1.0	ug/L
Vinyl Chloride	1.0	< 1.0	ug/L
Bromomethane	1.0	< 1.0	ug/L
Chloroethane	1.0	< 1.0	ug/L
Trichlorofluoromethane	1.0	< 1.0	ug/L
Acetone	10	< 10	ug/L
Acrolein	5.0	< 5.0	ug/L
1,1-Dichloroethene	1.0	< 1.0	ug/L
Iodomethane	1.0	< 1.0	ug/L
Methylene Chloride	1.0	< 1.0	ug/L
Acrylonitrile	5.0	< 5.0	ug/L
cis-1,2-Dichloroethene	1.0	< 1.0	ug/L
Methyl-t-butyl Ether	1.0	< 1.0	ug/L
1,1,2,1,2,2-Trichlorotrifluoroethane	1.0	< 1.0	ug/L
1,1-Dichloroethane	1.0	< 1.0	ug/L
trans-1,2-Dichloroethene	1.0	< 1.0	ug/L
2-Butanone	10	< 10	ug/L
Carbon Disulfide	1.0	< 1.0	ug/L
Bromochloromethane	1.0	< 1.0	ug/L
Chloroform	1.0	< 1.0	ug/L
2,2-Dichloropropane	1.0	< 1.0	ug/L
1,2-Dichloroethane	1.0	< 1.0	ug/L
Vinyl Acetate	1.0	< 1.0	ug/L
1,1,1-Trichloroethane	1.0	< 1.0	ug/L
1,1-Dichloropropene	1.0	< 1.0	ug/L
Carbon Tetrachloride	1.0	< 1.0	ug/L
Benzene	1.0	< 1.0	ug/L
1,2-Dichloropropane	1.0	< 1.0	ug/L
Trichloroethene	1.0	< 1.0	ug/L
Bromodichloromethane	1.0	< 1.0	ug/L
2-Chloroethyl Vinyl Ether	10	< 10	ug/L
cis-1,3-Dichloropropene	1.0	< 1.0	ug/L
trans-1,3-Dichloropropene	1.0	< 1.0	ug/L
1,1,2-Trichloroethane	1.0	< 1.0	ug/L
1,3-Dichloropropane	1.0	< 1.0	ug/L
Dibromomethane	1.0	< 1.0	ug/L
Toluene	1.0	< 1.0	ug/L
1,2-Dibromoethane	1.0	< 1.0	ug/L
4-Methyl-2-Pentanone	10	< 10	ug/L
2-Hexanone	10	< 10	ug/L
Dibromochloromethane	1.0	< 1.0	ug/L
Tetrachloroethene	1.0	< 1.0	ug/L
Chlorobenzene	1.0	< 1.0	ug/L
Ethylbenzene	1.0	< 1.0	ug/L

PINNACLE LABORATORIES

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MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS

TEST	: VOLATILE ORGANICS EPA METHOD 8260	PINNACLE I.D.	: 812043
SPIKED SAMPLE	: 812030-01	DATE ANALYZED	: 12/15/98
CLIENT	: NMOCD	UNITS	: ug/L (PPB)
PROJECT #	: N/A		
PROJECT NAME	: WATER WELL		

COMPOUND	SAMPLE CONC.	SPIKE ADDED	MS RESULT	MSD RESULT	MS %REC	MSD %REC	RPD	QC LIMITS RPD	QC LIMITS %RECOVERY
1,1-DICHLOROETHENE	<1.0	50.0	46.5	41.3	93	83	12	14	61-145
BENZENE	<1.0	50.0	51.8	51.5	104	103	1	11	76-127
TRICHLOROETHENE	<1.0	50.0	51.6	51.5	103	103	0	14	71-120
TOLUENE	<1.0	50.0	52.6	52.4	105	105	0	13	76-125
CHLOROBENZENE	<1.0	50.0	52.8	52.8	106	106	0	13	75-130

CONFIDENTIAL



Severn Trent Laboratories
11 East Olive Road
Pensacola FL 32514
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SIGNATURE PAGE

Reviewed by: _____
STL Project Manager

Client:	PINNACLE LABORATORIES ALBUQUERQUE, NEW MEXICO
Project Name:	NMOCD
Project Number:	812043
Project Location:	WATER WELL
Accession Number:	812170
Project Manager:	KIMBERLY D. MCNEILL
Sampled By:	N/S

Committed To Your Success

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

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

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

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

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

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

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

Florida, Radioactive Materials License No. G0733-1

Foreign Soil Permit, Permit No. S-37599

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Tennessee Division of Underground Storage Tanks Approved Laboratory

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

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

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

American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 9133

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

Analysis Report

Analysis: POLYNUCLEAR AROMATICS BY 8310

Accession:	812170
Client:	PINNACLE LABORATORIES
Project Number:	812043
Project Name:	NMOCD
Project Location:	WATER WELL
Department:	SEMI-VOLATILE FUELS

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

Date 21-Dec-98

"FINAL REPORT FORMAT - SINGLE"

Accession:	812170
Client:	PINNACLE LABORATORIES
Project Number:	812043
Project Name:	NMOCD
Project Location:	WATER WELL
Test:	POLYNUCLEAR AROMATICS BY 8310
Analysis Method:	8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method:	3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Matrix:	WATER
QC Level:	II

Lab Id:	001	Sample Date/Time:	07-DEC-98 0957
Client Sample Id:	812043-01	Received Date:	10-DEC-98
Batch: PAW286		Extraction Date:	11-DEC-98
Blank: A	Dry Weight %: N/A	Analysis Date:	18-DEC-98

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	ND	1	
ACENAPHTHYLENE	UG/L	ND	1	
ANTHRACENE	UG/L	ND	1	
BENZO(a)ANTHRACENE	UG/L	ND	1	
BENZO(a)PYRENE	UG/L	ND	1	
BENZO(b)FLUORANTHENE	UG/L	ND	1	
BENZO(g,h,i)PERYLENE	UG/L	ND	1	
BENZO(k)FLUORANTHENE	UG/L	ND	1	
CHRYSENE	UG/L	ND	1	
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1	
FLUORANTHENE	UG/L	ND	1	
FLUORENE	UG/L	ND	1	
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1	
NAPHTHALENE	UG/L	ND	1	
PHENANTHRENE	UG/L	ND	1	
PYRENE	UG/L	ND	1	
1-METHYLNAPHTHALENE	UG/L	3	1	
2-METHYLNAPHTHALENE	UG/L	ND	1	
2-CHLOROANTHRACENE	%REC/SURR	77	28-138	
ANALYST	INITIALS	HAH		

Limit 30 PPB

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"Method Report Summary"

Accession Number: 812170
Client: PINNACLE LABORATORIES
Project Number: 812043
Project Name: NMOCD
Project Location: WATER WELL
Test: POLYNUCLEAR AROMATICS BY 8310

Client Sample Id:	Parameter:	Unit:	Result:
812043-01	1-METHYLNAPHTHALENE	UG/L	3

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

Analysis Report

Analysis: ACID & BASE EXTRACTABLES (8270C)

Accession:	812170
Client:	PINNACLE LABORATORIES
Project Number:	812043
Project Name:	NMOCD
Project Location:	WATER WELL
Department:	ORGANIC/MS

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession: 812170
Client: PINNACLE LABORATORIES
Project Number: 812043
Project Name: NMOCD
Project Location: WATER WELL
Test: ACID & BASE EXTRACTABLES (8270C)
Analysis Method: 8270C/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Matrix: WATER
QC Level: I

Lab Id: 001 Sample Date/Time: 07-DEC-98 0957
Client Sample Id: 812043-01 Received Date: 10-DEC-98

Batch: ALW153 Extraction Date: 14-DEC-98
Blank: A Dry Weight %: N/A Analysis Date: 21-DEC-98

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZOIC ACID	UG/L	ND	50	
4-CHLORO-3-METHYLPHENOL	UG/L	ND	10	
2-CHLOROPHENOL	UG/L	ND	10	
2,4-DICHLOROPHENOL	UG/L	ND	10	
2,6-DICHLOROPHENOL	UG/L	ND	10	
2,4-DIMETHYLPHENOL	UG/L	ND	10	
4,6-DINITRO-2-METHYLPHENOL	UG/L	ND	50	
2,4-DINITROPHENOL	UG/L	ND	50	
2-METHYLPHENOL	UG/L	ND	10	
4-METHYLPHENOL	UG/L	ND	10	
2-NITROPHENOL	UG/L	ND	10	
4-NITROPHENOL	UG/L	ND	50	
PENTACHLOROPHENOL	UG/L	ND	50	
PHENOL	UG/L	ND	10	
2,3,4,6-TETRACHLOROPHENOL	UG/L	ND	10	
2,4,5-TRICHLOROPHENOL	UG/L	ND	50	
2,4,6-TRICHLOROPHENOL	UG/L	ND	10	
ACENAPHTHENE	UG/L	ND	10	
ACENAPHTHYLENE	UG/L	ND	10	
ACETOPHENONE	UG/L	ND	10	
4-AMINOBIPHENYL	UG/L	ND	10	
ANILINE	UG/L	ND	10	
ANTHRACENE	UG/L	ND	10	
BENZIDINE	UG/L	ND	10	
BENZO (A) ANTHRACENE	UG/L	ND	10	
BENZO (A) PYRENE	UG/L	ND	10	
BENZO (B) FLUORANTHENE	UG/L	ND	10	
BENZO (G,H,I) PERYLENE	UG/L	ND	10	
BENZO (K) FLUORANTHENE	UG/L	ND	10	
BENZYL ALCOHOL	UG/L	ND	10	
BIS(2-CHLOROETHOXY)METHANE	UG/L	ND	10	
BIS(2-CHLOROETHYL)ETHER	UG/L	ND	10	
BIS(2-CHLOROISOPROPYL)ETHER	UG/L	ND	10	
BIS(2-ETHYLHEXYL)PHTHALATE	UG/L	ND	10	
4-BROMOPHENYL PHENYL ETHER	UG/L	ND	10	
BUTYLBENZYL PHTHALATE	UG/L	ND	10	
4-CHLOROANILINE	UG/L	ND	10	
1-CHLORONAPHTHALENE	UG/L	ND	10	
2-CHLORONAPHTHALENE	UG/L	ND	10	
4-CHLOROPHENYL PHENYL ETHER	UG/L	ND	10	

"FINAL REPORT FORMAT - SINGLE"

Accession: 812170
Client: PINNACLE LABORATORIES
Project Number: 812043
Project Name: NMOCD
Project Location: WATER WELL
Test: ACID & BASE EXTRACTABLES (8270C)
Analysis Method: 8270C/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Matrix: WATER
QC Level: I

Lab Id: 001
Client Sample Id: 812043-01
Sample Date/Time: 07-DEC-98 0957
Received Date: 10-DEC-98

Parameter:	Units:	Results:	Rpt Lmts:	Q:
CHRYSENE	UG/L	ND	10	
DIBENZ(A,J)ACRIDINE	UG/L	ND	10	
DIBENZO (A,H) ANTHRACENE	UG/L	ND	10	
DIBENZOFURAN	UG/L	ND	10	
1,2-DICHLOROBENZENE	UG/L	ND	10	
1,3-DICHLOROBENZENE	UG/L	ND	10	
1,4-DICHLOROBENZENE	UG/L	ND	10	
3,3'-DICHLOROBENZIDINE	UG/L	ND	50	
DIETHYLPHTHALATE	UG/L	ND	10	
P-DIMETHYLAMINOAZOBENZENE	UG/L	ND	10	
7,12-DIMETHYLBENZ(A)ANTHRACENE	UG/L	ND	10	
A-,A-DIMETHYLPHENETHYLAMINE	UG/L	ND	10	
DIMETHYLPHTHALATE	UG/L	ND	10	
DI-N-BUTYLPHTHALATE	UG/L	ND	10	
2,4-DINITROTOLUENE	UG/L	ND	10	
2,6-DINITROTOLUENE	UG/L	ND	10	
DI-N-OCTYLPHTHALATE	UG/L	ND	10	
DIPHENYLAMINE	UG/L	ND	10	
1,2-DIPHENYLHYDRAZINE	UG/L	ND	10	
FLUORANTHENE	UG/L	ND	10	
FLUORENE	UG/L	ND	10	
HEXACHLOROBENZENE	UG/L	ND	10	
HEXACHLOROBUTADIENE	UG/L	ND	10	
HEXACHLOROCYCLOPENTADIENE	UG/L	ND	10	
HEXACHLOROETHANE	UG/L	ND	10	
INDENO (1,2,3-CD) PYRENE	UG/L	ND	10	
ISOPHORONE	UG/L	ND	10	
3-METHYLCHOLANTHRENE	UG/L	ND	10	
2-METHYLNAPHTHALENE	UG/L	ND	10	
NAPHTHALENE	UG/L	ND	10	
1-NAPHTHYLAMINE	UG/L	ND	10	
2-NAPHTHYLAMINE	UG/L	ND	10	
2-NITROANILINE	UG/L	ND	10	
3-NITROANILINE	UG/L	ND	10	
4-NITROANILINE	UG/L	ND	10	
NITROBENZENE	UG/L	ND	10	
N-NITROSODIMETHYLAMINE	UG/L	ND	10	
N-NITROSODI-N-BUTYLAMINE	UG/L	ND	10	
N-NITROSODIPHENYLAMINE	UG/L	ND	10	
N-NITROSO-DI-N-PROPYLAMINE	UG/L	ND	10	
N-NITROSOPIPERIDINE	UG/L	ND	10	
PENTACHLOROBENZENE	UG/L	ND	10	
PENTACHLORONITROBENZENE (PCNB)	UG/L	ND	10	
PHENACETIN	UG/L	ND	10	
PHENANTHRENE	UG/L	ND	10	

"PINAL REPORT FORMAT - SINGLE"

Accession:	812170
Client:	PINNACLE LABORATORIES
Project Number:	812043
Project Name:	NMOCD
Project Location:	WATER WELL
Test:	ACID & BASE EXTRACTABLES (8270C)
Analysis Method:	8270C/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method:	3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Matrix:	WATER
QC Level:	I

Lab Id: 001 Sample Date/Time: 07-DEC-98 0957
Client Sample Id: 812043-01 Received Date: 10-DEC-98

Parameter:	Units:	Results:	Rpt Lmts:	Q:
2-PICOLINE	UG/L	ND	10	
PRONAMIDE	UG/L	ND	10	
PYRENE	UG/L	ND	10	
1,2,4,5-TETRACHLOROBENZENE	UG/L	ND	10	
1,2,4 TRICHLOROBENZENE	UG/L	ND	10	
2-FLUOROPHENOL	%REC/SURR	30	21-100	
PHENOL-D6	%REC/SURR	16	10-100	
2,4,6-TRIBROMOPHENOL	%REC/SURR	86	10-123	
2-FLUOROBIPHENYL	%REC/SURR	65	43-116	
NITROBENZENE-D5	%REC/SURR	60	35-114	
TERPHENYL-D14	%REC/SURR	91	33-124	
ANALYST	INITIALS	RW		

Comments:

SEVERN TRENT LABORATORIES 11 East Olive Rd Pensac FL 32514 (850) 474-1001

Data Qualifiers for Final Report

STL-Pensacola Inorganic/Organic and AFCEE Projects (under QAPP)

J4	(For positive results)	Temperature limits exceeded (≤2°C or ≥ 6°C)
J5	(TICs)	The reported value is quantitated as a TIC; therefore, it is estimated
J6	(For positive results)	LCS or Surrogate %R is > upper control limit (UCL) or < lower control limit (LCL)
J7	(For positive results)	The reported value is > the laboratory MDL and < lowest calibration standards; therefore, the quantitation is an estimation.
J (AFCEE description)	The analyte was positively identified, the quantitation is an estimation	
R1	(For nondetects)	Temperature limits exceeded (≤2°C or ≥ 6°C)
R2	Improper preservation, no preservative present in sample upon receipt	
R3	Improper preservation, incorrect preservative present in sample upon receipt	
R4	Holding time exceeded	
R5	Collection requirements not met, improper container used for sample	
R6	LCS or surrogate %R is < LCL and analyte is not detected or surrogate %R is < 10% for detects/nondetects	
R7	Internal standard area outside -50% to +100% of initial calibration midpoint standard.	
R8	Second source calibration verification exceeds acceptance criteria.	
R (AFCEE description)	The data are unusable due to deficiencies in the ability to analyze the sample and meet QC criteria	
F	< laboratory or AFCEE RL and > laboratory MDL	
F (AFCEE description)	The analyte was positively identified but the associated numerical value is below the AFCEE or lab RL	
U2	≤ Laboratory MDL (value for result will be the MDL, never below the MDL)	
U (AFCEE description)	The analyte was analyzed for but not detected. The associated numerical value is at or below the MDL	
B (AFCEE description)	The analyte was found in the associated blank, as well as in the sample	
@	Adjusted reporting limit due to sample matrix (dilution prior to digestion and/or analysis)	
+	Elevated reporting limit due to dilution into calibration range	
-	Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)	
#	Elevated reporting limit due to insufficient sample size	
D	Diluted out	
M	A matrix effect was present (sample was analyzed twice to confirm or chromatogram had interfering peaks)	
S	Incorrect sample amount was submitted to the laboratory for analysis	

ND = Not Detected at or above the STL-Pensacola reporting limit (RL) N/S = Not Submitted N/A = Not Applicable
IDL = Laboratory Instrument Detection Limit MDL = Laboratory Method Detection Limit
RL = Reporting Limit (AFCEE RLs are listed in the AFCEE QAPP)

Any time a sample arrives at the laboratory improperly preserved (at improper pH or temperature) or after holding time has expired or prepared or analyzed after holding time, client must be notified in writing (i.e. case narrative)

Florida Projects Inorganic/Organic

Y1	Improper preservation, no preservative present in sample upon receipt
Y2	Improper preservation, incorrect preservative present in sample upon receipt
Y3	Improper preservation, sample temperature exceeded EPA temperature limits of 2-6°C upon receipt
Y (FL description)	The analysis was from an unpreserved or improperly preserved sample. Data may not be accurate
Q	Sample held beyond the accepted holding time
I	The reported value is < Laboratory RL and > laboratory MDL
U1	The reported value is ≤ Laboratory MDL (value for sample result is reported as the MDL)
U (FL description)	Indicates the compound was analyzed for but not detected
T	The reported value is < Laboratory MDL (value shall not be used for statistical analysis)
V	The analyte was detected in both the sample and the associated method blank
J1	Surrogate recovery limits have been exceeded
J2	The sample matrix interfered with the ability to make any accurate determinations
J3	The reported value failed to meet the established quality control criteria for either precision or accuracy
J (FL description)	Estimated value; not accurate

ICR Projects Inorganic/Organic

A1	Acceptable	R6	Rejected

Examples: ICR Flags
R6 = Laboratory extracted the sample but the refrigerator malfunctioned so the extract became warm and client was notified
R6 = Sample arrived in laboratory in good condition; however, the laboratory did not analyze it within EPA's established holding time limit

CLP and CLP-like Projects: Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

Quality Control Report

Analysis: POLYNUCLEAR AROMATICS BY 8310

Accession:	812170
Client:	PINNACLE LABORATORIES
Project Number:	812043
Project Name:	NMOCD
Project Location:	WATER WELL
Department:	SEMI-VOLATILE FUELS

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"QC Report"

Title: Water Blank
Batch: PAW286
Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

Blank Id: A Date Analyzed: 18-DEC-98 Date Extracted: 11-DEC-98

Parameters:	Units:	Results:	Reporting Limits:
ACENAPHTHENE	UG/L	ND	1
ACENAPHTHYLENE	UG/L	ND	1
ANTHRACENE	UG/L	ND	1
BENZO(a)ANTHRACENE	UG/L	ND	1
BENZO(a)PYRENE	UG/L	ND	1
BENZO(b)FLUORANTHENE	UG/L	ND	1
BENZO(g,h,i)PERYLENE	UG/L	ND	1
BENZO(k)FLUORANTHENE	UG/L	ND	1
CHRYSENE	UG/L	ND	1
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1
FLUORANTHENE	UG/L	ND	1
FLUORENE	UG/L	ND	1
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1
NAPHTHALENE	UG/L	ND	1
PHENANTHRENE	UG/L	ND	1
PYRENE	UG/L	ND	1
1-METHYLNAPHTHALENE	UG/L	ND	1
2-METHYLNAPHTHALENE	UG/L	ND	1
2-CHLOROANTHRACENE	%REC/SURR	84	28-138
ANALYST	INITIALS	HAH	

Comments:

"QC Report"

Title: Water LCS
Batch: PAW286
Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

RS Date Analyzed: 18-DEC-98 RS Date Extracted: 11-DEC-98

Parameters:	Spike Added	Sample Conc	RS Conc	RS %Rec	Rec Lmts
ACENAPHTHYLENE	10.8	<1	8.3	77	45-127
BENZO(k)FLUORANTHENE	9.3	<1	8.4	90	68-131
CHRYSENE	9.7	<1	9.0	93	69-131
PHENANTHRENE	9.7	<1	8.1	84	63-124
PYRENE	9.5	<1	8.5	89	61-126
Surrogates:					
2-CHLOROANTHRACENE				89	28-138

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

"QC Report"

Title: Water Matrix Spike/Matrix Spike Duplicate
Batch: PAW286
Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

Dry Weight %: N/A
Sample Spiked: 812171-1

MS Date Analyzed: 18-DEC-98
MSD Date Analyzed: 18-DEC-98

MS Date Extracted: 11-DEC-98
MSD Date Extracted: 11-DEC-98

Parameters:	Spike Added	Sample Conc	MS Conc	MS %Rec	MSD Conc	MSD %Rec	RPD	RPD Lmts	Rec Lmts
ACENAPHTHYLENE	10.8	<1	9.7	90	5.6	52	54*	51	18-146
BENZO(k)FLUORANTHENE	9.3	<1	5.2	56	4.5	48	15	40	26-137
CHRYSENE	9.7	<1	6.5	67	5.2	54	21	69	16-156
PHENANTHRENE	9.7	<1	7.9	81	6.7	69	16	36	30-145
PYRENE	9.5	<1	8.2	86	7.4	78	10	41	39-137
Surrogates:									
2-CHLOROANTHRACENE				84		76			28-138

Comments:
MATRIX SPIKE/MATRIX SPIKE DUPLICATE HAD RECOVERY(S) AND/OR RPD(S) OUTSIDE ACCEPTANCE LIMITS DUE TO MATRIX INTERFERENCE. REFER TO LCS DATA.

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

Common Notation for Organic Reporting

N/S = NOT SUBMITTED
N/A = NOT APPLICABLE
UG = MICROGRAMS
UG/L = PARTS PER BILLION
UG/KG = PARTS PER BILLION
MG/M3 = MILLIGRAM PER CUBIC METER
PPMV = PART PER MILLION BY VOLUME
MG/KG = PARTS PER MILLION
MG/L = PARTS PER MILLION
< = LESS THAN
ND = NOT DETECTED AT OR ABOVE THE STL-PENSACOLA REPORTING LIMIT (RL).
E = EXCEED THE CALIBRATION CURVE; THEREFORE, RESULTS ARE ESTIMATED.

SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ORGANIC SOILS ARE REPORTED ON A DRYWEIGHT BASIS.

RPT LMTS = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION)

AEN/GC/FID
AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME IONIZATION DETECTOR (FID).

AEN/GC/FIX
AEN GAS CHROMATOGRAPHIC METHOD FOR ANALYSIS OF FIXED GASES EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD) AND FLAME IONIZATION DETECTOR (FID).

AEN/GC/FPD
AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME PHOTOMETRIC DETECTOR (FPD) IN SULFUR-SPECIFIC MODE.

AEN/GC/PID
AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH PHOTOIONIZATION DETECTOR (PID).

AEN/GC/TCD
AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD).

SW-846 METHOD 9020
PARTICULATE MATTER IS REMOVED BY ALLOWING PARTICULATES TO SETTLE IN THE SAMPLE CONTAINER AND DECANTING THE SUPERNATANT LIQUID. EXCESSIVE PARTICULATES ARE REMOVED BY FILTRATION OF THE SUPERNATANT LIQUID.

RSK 175
SAMPLE PREPARATION AND CALCULATIONS FOR DISSOLVED GAS ANALYSIS IN WATER SAMPLES USING A GC HEADSPACE EQUILIBRATION TECHNIQUE, RSK SOP-175, ROBERT S. KERR ENVIRONMENTAL RESEARCH LABORATORY, USEPA, AUGUST 11, 1994.

AEN-PN USES THE MOST CURRENT PROMULGATED METHODS CONTAINED IN THE REFERENCE MANUALS.

SW = STEVE WILHITE
RW = RITA WINGO
KS = KENDALL SMITH
LBL = LISA BIZZELL-LOWE
LP = LEVERNE PETERSON
PLD = PAULA DOUGHTY
DK = DARLENE KINCHEN
BT = BECKY TREMMEL
HAH = HOLLIE HOFFMAN
HC = HOLLIE CHAPMAN

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"QC Report"

Title: Water Blank
Batch: ALW153
Analysis Method: 8270C/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

Blank Id: A Date Analyzed: 21-DEC-98 Date Extracted: 14-DEC-98

Parameters:	Units:	Results:	Reporting Limits:
P-CHLORO-M-CRESOL	UG/L	ND	10
2-CHLOROPHENOL	UG/L	ND	10
O-CRESOL	UG/L	ND	10
M,P CRESOL	UG/L	ND	10
2,4-DICHLOROPHENOL	UG/L	ND	10
2,6-DICHLOROPHENOL	UG/L	ND	10
2,4-DIMETHYLPHENOL	UG/L	ND	10
4,6-DINITRO-O-CRESOL	UG/L	ND	50
2,4-DINITROPHENOL	UG/L	ND	10
2-NITROPHENOL	UG/L	ND	10
4-NITROPHENOL	UG/L	ND	50
PENTACHLOROPHENOL	UG/L	ND	50
PHENOL	UG/L	ND	10
2,3,4,6-TETRACHLOROPHENOL	UG/L	ND	10
2,4,5-TRICHLOROPHENOL	UG/L	ND	50
2,4,6-TRICHLOROPHENOL	UG/L	ND	10
ACENAPHTHENE	UG/L	ND	10
ACENAPHTHYLENE	UG/L	ND	10
ACETOPHENONE	UG/L	ND	10
2-ACETYLAMINOFLUORENE	UG/L	ND	10
4-AMINOBIPHENYL	UG/L	ND	10
ANILINE	UG/L	ND	10
ANTHRACENE	UG/L	ND	10
ARAMITE	UG/L	ND	10
BENZO (A) ANTHRACENE	UG/L	ND	10
BENZO (A) PYRENE	UG/L	ND	10
BENZO (B) FLUORANTHENE	UG/L	ND	10
BENZO (G,H,I) PERYLENE	UG/L	ND	10
BENZO (K) FLUORANTHENE	UG/L	ND	10
BENZYL ALCOHOL	UG/L	ND	10
BIS(2-CHLORO-1-METHYLETHYL)ETHER	UG/L	ND	10
BIS(2-CHLOROETHOXY)METHANE	UG/L	ND	10
BIS(2-CHLOROETHYL)ETHER	UG/L	ND	10
BIS(2-ETHYLHEXYL)PHTHALATE	UG/L	ND	10
4-BROMOPHENYL PHENYL ETHER	UG/L	ND	10
BUTYLBENZYL PHTHALATE	UG/L	ND	10
P-CHLOROANILINE	UG/L	ND	10
CHLOROBENZILATE	UG/L	ND	10
2-CHLORONAPHTHALENE	UG/L	ND	10
4-CHLOROPHENYL PHENYL ETHER	UG/L	ND	10
CHRYSENE	UG/L	ND	10
DIALLATE	UG/L	ND	10
DIBENZO (A,H) ANTHRACENE	UG/L	ND	10
DIBENZOFURAN	UG/L	ND	10
1,2-DICHLOROBENZENE	UG/L	ND	10
1,3-DICHLOROBENZENE	UG/L	ND	10

"QC Report"

Title: Water Blank
Batch: ALW153
Analysis Method: 8270C/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

Parameters:	Units:	Results:	Reporting Limits:
1,4-DICHLOROBENZENE	UG/L	ND	10
3,3'-DICHLOROBENZIDINE	UG/L	ND	50
DIETHYLPHTHALATE	UG/L	ND	10
DIMETHOATE	UG/L	ND	10
P-DIMETHYLAMINOAZOBENZENE	UG/L	ND	10
7,12-DIMETHYLBENZ(A)ANTHRACENE	UG/L	ND	10
3,3'-DIMETHYLBENZIDINE	UG/L	ND	10
A,A-DIMETHYLPHENETHYLAMINE	UG/L	ND	10
DIMETHYLPHTHALATE	UG/L	ND	10
DI-N-BUTYLPHTHALATE	UG/L	ND	10
M-DINITROBENZENE	UG/L	ND	10
2,4-DINITROTOLUENE	UG/L	ND	10
2,6-DINITROTOLUENE	UG/L	ND	10
DI-N-OCTYLPHTHALATE	UG/L	ND	10
DIPHENYLAMINE	UG/L	ND	10
ETHYL METHANESULFONATE	UG/L	ND	10
FAMPHUR	UG/L	ND	10
FLUORANTHENE	UG/L	ND	10
FLUORENE	UG/L	ND	10
HEXACHLOROBENZENE	UG/L	ND	10
HEXACHLOROBUTADIENE	UG/L	ND	10
HEXACHLOROCYCLOPENTADIENE	UG/L	ND	10
HEXACHLOROETHANE	UG/L	ND	10
HEXACHLOROPHENE	UG/L	ND	10
HEXACHLOROPROPENE	UG/L	ND	10
INDENO (1,2,3-CD) PYRENE	UG/L	ND	10
ISODRIN	UG/L	ND	10
ISOPHORONE	UG/L	ND	10
ISOSAFROLE	UG/L	ND	10
KEPONE	UG/L	ND	10
METHAPYRILENE	UG/L	ND	10
3-METHYLCHOLANTHRENE	UG/L	ND	10
METHYL METHANESULFONATE	UG/L	ND	10
1-METHYLNAPHTHALENE	UG/L	ND	10
2-METHYLNAPHTHALENE	UG/L	ND	10
NAPHTHALENE	UG/L	ND	10
1,4-NAPHTHOQUINONE	UG/L	ND	10
1-NAPHTHYLAMINE	UG/L	ND	10
2-NAPHTHYLAMINE	UG/L	ND	10
2-NITROANILINE	UG/L	ND	50
3-NITROANILINE	UG/L	ND	50
4-NITROANILINE	UG/L	ND	50
NITROBENZENE	UG/L	ND	10
5-NITRO-O-TOLUIDINE	UG/L	ND	10
4-NITROQUINOLINE-1-OXIDE	UG/L	ND	10
N-NITROSODIETHYLAMINE	UG/L	ND	10
N-NITROSODIMETHYLAMINE	UG/L	ND	10

SEVERN TRENT LABORATORIES 11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

"QC Report"

Title: Water Blank
Batch: ALW153
Analysis Method: 8270C/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

Parameters:	Units:	Results:	Reporting Limits:
N-NITROSODI-N-BUTYLAMINE	UG/L	ND	10
N-NITROSODIPHENYLAMINE	UG/L	ND	10
N-NITROSOMETHYLETHYLAMINE	UG/L	ND	10
N-NITROSOMORPHOLINE	UG/L	ND	10
N-NITROSOPIPERIDINE	UG/L	ND	10
N-NITROSOPYRROLIDINE	UG/L	ND	10
PARATHION	UG/L	ND	10
PENTACHLOROBENZENE	UG/L	ND	10
PENTACHLOROETHANE	UG/L	ND	10
PENTACHLORONITROBENZENE	UG/L	ND	10
PHENACETIN	UG/L	ND	10
PHENANTHRENE	UG/L	ND	10
2-PICOLINE	UG/L	ND	10
P-PHENYLENEDIAMINE	UG/L	ND	10
PRONAMIDE	UG/L	ND	10
PYRENE	UG/L	ND	10
PYRIDINE	UG/L	ND	10
SAFROLE	UG/L	ND	10
SULFOTEPP	UG/L	ND	10
1,2,4,5-TETRACHLOROBENZENE	UG/L	ND	10
THIONAZIN	UG/L	ND	10
O-TOLUIDINE	UG/L	ND	10
1,2,4 TRICHLOROBENZENE	UG/L	ND	10
SYM-TRINITROBENZENE	UG/L	ND	10
O,O,O-TRIETHYL PHOSPHOROTHIATE	UG/L	ND	10
BENZIDINE	UG/L	ND	10
BIS(2-CHLOROISOPROPYL)ETHER	UG/L	ND	10
2-(SEC BUTYL)4,6-DINITRO-PHENOL(DINOSEB)	UG/L	ND	10
0~NITROSO-DI-N-PROPYLAMINE	UG/L	ND	10
6-METHYL CHRYSENE	UG/L	ND	20
INDENE	UG/L	ND	20
QUINOLINE	UG/L	ND	50
BENZENETHIOL	UG/L	ND	20
PARATOLIUDINE	UG/L	ND	50
TOLUENE DIISOCYANATE	UG/L	ND	50
TOLUENE DIAMINE	UG/L	ND	50
MONONITROTOLUENE	UG/L	ND	50
DIETHYLENE GLYCOL MONOBUTYL ETHER	UG/L	ND	10
2-FLUOROPHENOL	%REC/SURR	64	21-100
PHENOL-D6	%REC/SURR	69	10-100
2,4,6-TRIBROMOPHENOL	%REC/SURR	93	10-123
2-FLUOROBIPHENYL	%REC/SURR	70	43-116
NITROBENZENE-D5	%REC/SURR	63	35-114
TERPHENYL-D14	%REC/SURR	113	33-124
ANALYST	INITIALS	RW	

Comments:

"QC Report"

Title: Water LCS
Batch: ALW153
Analysis Method: 8270C/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

RS Date Analyzed: 21-DEC-98 RS Date Extracted: 14-DEC-98

Parameters:	Spike Added	Sample Conc	RS Conc	RS %Rec	Rec Lmts
PHENOL	200	<10	130	65	5-112
2-CHLOROPHENOL	200	<10	138	69	40-120
1,4-DICHLOROBENZENE	100	<10	58	58	32-119
N-NITRO-DI-N-PROPYLAMINE	100	<10	52	52	26-128
1,2,4 TRICHLOROBENZENE	100	<10	64	64	44-142
4-CHLORO-3-METHYLPHENOL	200	<10	148	74	30-128
ACENAPHTHENE	100	<10	60	60	47-145
4-NITROPHENOL	200	<50	142	71	1-132
2,4-DINITROTOLUENE	100	<10	64	64	39-138
PENTACHLOROPHENOL	200	<50	142	71	15-157
PYRENE	100	<10	76	76	52-115
Surrogates:					
NITROBENZENE-D5				66	35-114
2-FLUOROBIPHENYL				70	43-116
TERPHENYL-D14				91	33-124
PHENOL-D6				80	10-100
2-FLUOROPHENOL				74	21-100
2,4,6-TRIBROMOPHENOL				88	10-123

Comments:
* NOT ENOUGH SAMPLE SUBMITTED FOR EXTRACTION AND/OR ANALYSIS OF MATRIX SPIKE MATRIX SPIKE DUPLICATE.

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

Common notation for Organic reporting

N/S = NOT SUBMITTED
N/A = NOT APPLICABLE
UG/L = PARTS PER BILLION.
UG/KG = PARTS PER BILLION.
MG/KG = PARTS PER MILLION.
MG/L = PARTS PER MILLION.
MG/M3 = MILLIGRAMS PER CUBIC METER.
NG = NANOGRAMS.
UG = MICROGRAMS.
PPBV = PARTS PER BILLION/VOLUME.
< = LESS THAN.
ND = NOT DETECTED ABOVE REPORT LIMIT.
RPT LMTS = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.
RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION)
E = EXCEEDS THE CALIBRATION CURVE.

SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ORGANIC SOILS ARE REPORTED ON A DRY WEIGHT BASIS.

DUE TO THE NATURE OF THE SAMPLE MATRIX, MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS CANNOT BE PERFORMED FOR AIR ANALYSIS.

CLP SOW 1991, USEPA CONTRACT LABORATORY PROGRAM, STATEMENT OF WORK FOR ORGANICS ANALYSIS, DOCUMENT NUMBER OLM01.8, AUGUST 1991.

AEN-PN USES THE MOST CURRENT PROMULGATED METHODS CONTAINED IN THE REFERENCE MANUALS.

LP = LEVERNE PETERSON	RW = RITA WINGO
LD = LARRY DILMORE	BDH = BRUCE D. HUNT
DWB = DAVID BOWERS	WD = WALTER DREW

Sever. Trent Laboratories of lorida

PROJECT SAMPLE INSPECTION FORM

Lab Accession #: 812170 Date Received: 10-Dec-98

1.	Was there a Chain of Custody?	(Yes)	No*		8.	Were samples checked for preservative? *(Check pH of all H_2O requiring preservative (AEN-PN SOP 917) except VOA vials that require zero headspace)*+	(Yes)	No*	N/A
2.	Was Chain of Custody properly filled out and relinquished?	(Yes)	No*		9.	Is there sufficient volume for analysis requested?	(Yes)	No*	
3.	Were samples received cold? (Criteria: 2° - 6°C: AEN-SOP 1055)	(Yes)	No*	N/A	10.	Were samples received within Holding Time? (REFER TO AEN-SOP 1040)	(Yes)	No*	
4.	Were all samples properly labeled and identified?	(Yes)	No*		11.	Is Headspace visible > ¼" in diameter in VOA vials?* If any headspace is evident, comment in out-of-control	Yes*	No	(N/A)
5.	Did samples require splitting? Req By: PM Client Other*	Yes*	(No)		12.	If sent, were matrix spike bottles returned?	Yes	No*	(N/A)
6.	Were samples received in proper containers for analysis requested?	(Yes)	No*		13.	Was Project Manager notified of problems? (initials: _____)	Yes	No*	(N/A)
7.	Were all sample containers received intact?	(Yes)	No*						

Airbill Number(s): 441263100232 Shipped By: Fedex

Cooler Number(s): Thirs Shipping Charges: N/A

Cooler Weight(s): N/A Cooler Temp(s) (°C): 2.0 °C

CCK1
(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

(USE BACK OF PSIFFOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: LKM Date: 10-Dec-98 Logged By: LKM Date: 10-Dec-98

* *Note all Out-of-Control and/or questionable events on Comment Section of this form.*

\+ *Note who requested the splitting of samples on the Comment Section of this form.*

\+ *All preservatives for the State of North Caroline, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (AEN-SOP 938, section 2.2.9).*

* *According to EPA, ¼" of headspace is allowed in 40 ml vials requiring volatile analysis, however, AEN makes it policy to record any headspace as out-of-control (AEN-SOP 938, section 2.2.12).*

Pinnacle Laboratories, Inc.

Interlab Chain of Custody

Date: 12/9 Page: 1 of 1

Network Project Manager: Kimberly D. McNeill

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

812120

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Metals (8) RCRA	RCRA TCLP METALS	Metals-13 PP List	Metals-TAL		TOX	TOC	Gen Chemistry		Oil and Grease	Volatile Organics GC/MS (8260)	BOD	COD	PESTICIDES/PCB (608/8080)	8270 BY GC/MS	PNA (8310)	8240 (TCLP 1311) ZHE	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	URANIUM	RADIUM 226+228	Gross Alpha/Beta	TO-14	NUMBER OF CONTAINERS
812043-01	12/7	0951	AQ																X	X								

PROJECT INFORMATION			SAMPLE RECEIPT		SAMPLES SENT TO:	
PROJECT #:	812043		Total Number of Containers		PENSACOLA - STL-FL	X
PROJ. NAME:	NMOCD		Chain of Custody Seals		PORTLAND - ESL-OR	
QC LEVEL:	(STD) IV		Received Intact?		STL - CT	
QC REQUIRED:	MS MSD BLANK		Received Good Cond./Cold		STL- NEW JERSEY	
TAT:	(STANDARD) RUSH!!		LAB NUMBER:		N. CREEK	
					BARRINGER	
DUE DATE:	12/23	COMMENTS:			SEQUOIA	
RUSH SURCHARGE:	—					
CLIENT DISCOUNT:	—					
SPECIAL CERTIFICATION REQUIRED:	YES (NO)					

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Time: Francine Tonno 1700	Signature: Time:
Printed Name: Date: Francine Tonno 12/9/98	Printed Name: Date:
Pinnacle Laboratories, Inc.	Company
RECEIVED BY: 1.	**RECEIVED BY: 2**
Signature: Time: Linda Kitt-Hooker 0930	Signature: Time:
Printed Name: Date: Linda Kitt-Hooker 12/10/98	Printed Name: Date:
Company STL171	Company

Environmental Services Laboratory, Inc. E S L

17400 SW Upper Boones Ferry Road • Suite 270 • Portland, OR 97224 • (503) 670-8520

Kim McNeill
Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 12/24/1998
ESL Account No.: 90147
ESL Job Number: 98.02384

Project: 812043 / NMOCD
Location: Water Well

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample Number	Sample Description	Matrix Type	Date Taken	Date Received
107982	812043-01	Water	12/07/1998	12/10/1998

Approved by:

Andi Hoevet
Project Manager
ESL, INC.

Technical Review
ESL, INC.

The results from these samples relate only to the items tested. This report shall not be reproduced, except in full, without the written approval of the laboratory.

ANALYTICAL SERVICES FOR THE ENVIRONMENT

ANALYTICAL REPORT

Kim McNeill
Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107

12/24/1998
Job No.: 98.02384

Project Name: 812043 / NMOCD
Date Received: 12/10/1998

Sample Number 107982 — Sample Description 812043-01

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
024 Metals by ICAP						
ICP/AA Digestion - Water	ICP	-			12/16/1998	
Aluminum, ICP 200.7	200.7	0.06	0.05	mg/L	12/16/1998	
Antimony, ICP 200.7	200.7	ND	0.005	mg/L	12/16/1998	
Arsenic, ICP 200.7	200.7	0.008	0.005	mg/L	12/16/1998	
Barium, ICP 200.7	200.7	0.15	0.005	mg/L	12/16/1998	
Beryllium, ICP 200.7	200.7	ND	0.002	mg/L	12/16/1998	
Boron, ICP 200.7	200.7	0.26	0.025	mg/L	12/16/1998	Q
Cadmium, ICP 200.7	200.7	ND	0.002	mg/L	12/16/1998	
Calcium, ICP 200.7	200.7	99	0.05	mg/L	12/16/1998	MD
Chromium, ICP 200.7	200.7	ND	0.005	mg/L	12/16/1998	
Cobalt, ICP 200.7	200.7	ND	0.005	mg/L	12/16/1998	
Copper, ICP 200.7	200.7	ND	0.005	mg/L	12/16/1998	
Iron, ICP 200.7	200.7	1.2	0.010	mg/L	12/16/1998	Limit = 1.0 ppm
Lead, ICP 200.7	200.7	ND	0.005	mg/L	12/16/1998	
Magnesium, ICP 200.7	200.7	16	0.05	mg/L	12/16/1998	
Manganese, ICP 200.7	200.7	0.10	0.005	mg/L	12/16/1998	
Mercury Prep (W)		-			12/11/1998	
Mercury, CV	245.1	ND	0.0002	mg/L	12/14/1998	
Molybdenum, ICP 200.7	200.7	ND	0.005	mg/L	12/16/1998	
Nickel, ICP 200.7	200.7	ND	0.005	mg/L	12/16/1998	
Potassium, ICP 200.7	200.7	2.7	0.2	mg/L	12/16/1998	MI,DIL,Q
Selenium, ICP 200.7	200.7	ND	0.005	mg/L	12/16/1998	
Silver, ICP 200.7	200.7	ND	0.005	mg/L	12/16/1998	
Sodium, ICP 200.7	200.7	50	0.2	mg/L	12/16/1998	MD,DIL,Q
Thallium, ICP 200.7	200.7	ND	0.01	mg/L	12/16/1998	
Vanadium, ICP 200.7	200.7	0.023	0.005	mg/L	12/16/1998	
Zinc, ICP 200.7	200.7	0.063	0.005	mg/L	12/16/1998	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.
mg = ppm ug = ppb su = standard units

ANALYTICAL REPORT

Kim McNeill
Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107

12/24/1998
Job No.: 98.02384

Project Name: 812043 / NMOCD
Date Received: 12/10/1998

Sample Number: 107982
Sample Description: 812043-01

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
025 Cations and Anions						
Alkalinity, Bicarb.(CaCO3)	SM 2320 B	300	5.0	mg/L	12/14/1998	
Alkalinity, Carb. (CaCO3)	SM 2320 B	ND	5.0	mg/L	12/14/1998	
Alkalinity, Total (CaCO3)	310.1	300	5.0	mg/L	12/14/1998	
Bromide	SM 4500-Br	1.8	1.0 mg/L	mg/L	12/18/1998	DIL
Chloride	EPA 300.0	78	2.5	mg/L	12/17/1998	DIL
Conductivity	120.1	896	5.0	umho	12/17/1998	
Fluoride, Total	340.2	ND	0.2	mg/L	12/17/1998	
Nitrogen, Nitrate+Nitrite	353.3	0.89	0.10	mg/L	12/18/1998	DIL
Silica	370.1	26	0.4 mg/L	mg/L	12/15/1998	DIL
Solids, Total Dissolved	160.1	ND	10	mg/L	12/11/1998	
Sulfate	375.4	69	25	mg/L	12/18/1998	DIL
ICP/AA Digestion - Water	ICP	-			12/16/1998	
Calcium, ICP 200.7	200.7	99	0.05	mg/L	12/16/1998	MD
Magnesium, ICP 200.7	200.7	16	0.05	mg/L	12/16/1998	
Potassium, ICP 200.7	200.7	2.7	0.2	mg/L	12/16/1998	MI,DIL,Q
Sodium, ICP 200.7	200.7	50	0.2	mg/L	12/16/1998	MD,DIL,Q

A sample result of ND indicates the parameter was Not Detected at the reporting limit.
mg = ppm ug = ppb su = standard units

QUALITY CONTROL REPORT
CONTINUING CALIBRATION VERIFICATION

Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 12/24/1998

Job Number: 98.02384

Contact: Kim McNeill
Project: 812043 / NMOCD

Analyte	CCV True Concentration	Concentration Found	Percent Recovery	Date Analyzed
Alkalinity, Bicarb.(CaCO3)	4.0	4.0	100.0	12/14/1998
Bromide	0.60	0.521	86.8	12/18/1998
Chloride	10.0	10.5	105.0	12/17/1998
Conductivity	102	109	106.9	12/17/1998
Fluoride, Total	7.0	7.7	110.0	12/17/1998
Silica	10.0	10.5	105.0	12/15/1998
Solids, Total Dissolved	670	646	96.4	12/11/1998
Aluminum, ICP 200.7	25.0	23.9	95.6	12/16/1998
Antimony, ICP 200.7	0.500	0.508	101.6	12/16/1998
Arsenic, ICP 200.7	0.500	0.511	102.2	12/16/1998
Barium, ICP 200.7	0.500	0.500	100.0	12/16/1998
Beryllium, ICP 200.7	0.500	0.515	103.0	12/16/1998
Boron, ICP 200.7	0.500	0.490	98.0	12/16/1998
Cadmium, ICP 200.7	0.500	0.502	100.4	12/16/1998
Calcium, ICP 200.7	25.0	23.3	93.2	12/16/1998
Chromium, ICP 200.7	0.500	0.497	99.4	12/16/1998
Cobalt, ICP 200.7	0.500	0.501	100.2	12/16/1998
Copper, ICP 200.7	0.500	0.502	100.4	12/16/1998
Iron, ICP 200.7	0.500	0.508	101.6	12/16/1998
Lead, ICP 200.7	0.500	0.505	101.0	12/16/1998
Magnesium, ICP 200.7	25.0	23.9	95.6	12/16/1998
Manganese, ICP 200.7	0.500	0.502	100.4	12/16/1998
Mercury, CV	0.00200	0.00212	106.0	12/14/1998
Molybdenum, ICP 200.7	0.500	0.502	100.4	12/16/1998
Nickel, ICP 200.7	0.500	0.503	100.6	12/16/1998
Potassium, ICP 200.7	5.00	4.89	97.8	12/16/1998
Selenium, ICP 200.7	0.500	0.503	100.6	12/16/1998
Silver, ICP 200.7	0.500	0.498	99.6	12/16/1998
Sodium, ICP 200.7	5.00	4.70	94.0	12/16/1998
Thallium, ICP 200.7	0.500	0.488	97.6	12/16/1998

CCV - Continuing Calibration Verification

QUALITY CONTROL REPORT
CONTINUING CALIBRATION VERIFICATION

Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 12/24/1998

Job Number: 98.02384

Contact: Kim McNeill
Project: 812043 / NMOCD

Analyte	CCV True Concentration	Concentration Found	Percent Recovery	Date Analyzed
Vanadium, ICP 200.7	0.500	0.500	100.0	12/16/1998
Zinc, ICP 200.7	0.500	0.499	99.8	12/16/1998

CCV - Continuing Calibration Verification

Environmental Services Laboratory, Inc. (503)670-8520 (503)670-9243 FAX
17400 SW Upper Boones Ferry Rd., Suite 270, Portland, OR 97224

QUALITY CONTROL REPORT
LABORATORY CONTROL STANDARD

Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 12/24/1998

Job Number: 98.02384

Contact: Kim McNeill
Project: 812043 / NMOCD

Analyte	LCS True Concentration	Concentration Found	LCS % Recovery	Flags	Date Analyzed
Nitrogen, Nitrate+Nitrite	0.30	0.258	86.0		12/18/1998
Sulfate	71.9	69.2	96.2		12/18/1998
Aluminum, ICP 200.7	5.00	4.98	99.6		12/16/1998
Antimony, ICP 200.7	0.500	0.494	98.8		12/16/1998
Arsenic, ICP 200.7	0.500	0.489	97.8		12/16/1998
Barium, ICP 200.7	0.500	0.499	99.8		12/16/1998
Beryllium, ICP 200.7	0.500	0.500	100.0		12/16/1998
Boron, ICP 200.7	0.500	0.499	99.8		12/16/1998
Cadmium, ICP 200.7	0.500	0.467	93.4		12/16/1998
Calcium, ICP 200.7	5.00	4.96	99.2		12/16/1998
Chromium, ICP 200.7	0.500	0.480	96.0		12/16/1998
Cobalt, ICP 200.7	0.500	0.465	93.0		12/16/1998
Copper, ICP 200.7	0.500	0.498	99.6		12/16/1998
Iron, ICP 200.7	2.00	2.18	109.0		12/16/1998
Lead, ICP 200.7	0.500	0.465	93.0		12/16/1998
Magnesium, ICP 200.7	5.00	5.07	101.4		12/16/1998
Manganese, ICP 200.7	0.500	0.477	95.4		12/16/1998
Mercury, CV	0.00100	0.00102	102.0		12/14/1998
Molybdenum, ICP 200.7	0.500	0.489	97.8		12/16/1998
Nickel, ICP 200.7	0.500	0.470	94.0		12/16/1998
Potassium, ICP 200.7	5.00	5.69	113.8		12/16/1998
Selenium, ICP 200.7	0.500	0.470	94.0		12/16/1998
Silver, ICP 200.7	0.500	0.484	96.8		12/16/1998
Sodium, ICP 200.7	5.00	4.41	88.2		12/16/1998
Thallium, ICP 200.7	0.500	0.470	94.0		12/16/1998
Vanadium, ICP 200.7	0.500	0.479	95.8		12/16/1998
Zinc, ICP 200.7	0.500	0.470	94.0		12/16/1998

LCS - Laboratory Control Standard

Environmental Services Laboratory, Inc. (503)670-8520 (503)670-9243 FAX
17400 SW Upper Boones Ferry Rd., Suite 270, Portland OR 97224

QUALITY CONTROL REPORT
MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 12/24/1998

Job Number: 98.02384

Contact: Kim McNeill
Project: 812043 / NMOCD

Analyte	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD	Flags
Bromide	0.608	ND	0.6	mg/L	101.3	0.515	0.6	mg/L	85.8	16.5	DIL,Q,
Chloride	35	24	10.0	mg/L	110.0	39	10.0	mg/L	150.0	30.8	DIL
Fluoride, Total	7.0	ND	6.0	mg/L	116.7	6.6	6.0	mg/L	110.0	5.9	
Nitrogen, Nitrate+Nitrite	0.247	ND	0.30	mg/L	82.3	0.238	0.30	mg/L	79.3	3.7	
Silica	29	26	5.0	mg/L	60.0	29	5.0	mg/L	60.0	0.0	DIL
Sulfate	560	480	50	mg/L	160.0	550	50	mg/L	140.0	13.3	DIL,M1
Aluminum, ICP 200.7	5.03	0.06	5.00	mg/L	99.4	5.02	5.00	mg/L	99.2	0.2	
Antimony, ICP 200.7	0.510	ND	0.500	mg/L	102.0	0.509	0.500	mg/L	101.8	0.2	
Arsenic, ICP 200.7	0.509	0.008	0.500	mg/L	100.2	0.510	0.500	mg/L	100.4	0.2	
Barium, ICP 200.7	0.655	0.15	0.500	mg/L	101.0	0.654	0.500	mg/L	100.8	0.2	
Beryllium, ICP 200.7	0.508	ND	0.500	mg/L	101.6	0.507	0.500	mg/L	101.4	0.2	
Boron, ICP 200.7	0.768	0.26	0.500	mg/L	101.6	0.768	0.500	mg/L	101.6	0.0	Q
Cadmium, ICP 200.7	0.461	ND	0.500	mg/L	92.2	0.460	0.500	mg/L	92.0	0.2	
Calcium, ICP 200.7		99	5.00	mg/L			5.00	mg/L			MD
Chromium, ICP 200.7	0.480	ND	0.500	mg/L	96.0	0.479	0.500	mg/L	95.8	0.2	
Cobalt, ICP 200.7	0.458	ND	0.500	mg/L	91.6	0.456	0.500	mg/L	91.2	0.4	
Copper, ICP 200.7	0.514	ND	0.500	mg/L	102.8	0.512	0.500	mg/L	102.4	0.4	
Iron, ICP 200.7	3.31	1.2	2.00	mg/L	105.5	3.29	2.00	mg/L	104.5	1.0	
Lead, ICP 200.7	0.457	ND	0.500	mg/L	91.4	0.457	0.500	mg/L	91.4	0.0	
Magnesium, ICP 200.7	21.4	16	5.00	mg/L	108.0	21.4	5.00	mg/L	108.0	0.0	
Manganese, ICP 200.7	0.578	0.10	0.500	mg/L	95.6	0.577	0.500	mg/L	95.4	0.2	

QC Sample:
107982

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference
dil.= Diluted Out

Environmental Services Laboratory,Inc. (503)670-8520 (503)670-9243 FAX
17400 SW Upper Boones Ferry Rd., Portland, OR 97224

QUALITY CONTROL REPORT
MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 12/24/1998

Job Number: 98.02384

Contact: Kim McNeill
Project: 812043 / NMOCD

Analyte	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD	Flags
Molybdenum, ICP 200.7	0.494	ND	0.500	mg/L	98.8	0.495	0.500	mg/L	99.0	0.2	
Nickel, ICP 200.7	0.461	ND	0.500	mg/L	92.2	0.459	0.500	mg/L	91.8	0.4	
Potassium, ICP 200.7	9.10	2.7	5.00	mg/L	128.0	11.5	9.08	mg/L	96.9	27.6	MI,DIL
Selenium, ICP 200.7	0.486	ND	0.500	mg/L	97.2	0.487	0.500	mg/L	97.4	0.2	
Silver, ICP 200.7	0.497	ND	0.500	mg/L	99.4	0.494	0.500	mg/L	98.8	0.6	
Sodium, ICP 200.7		50	5.00	mg/L			5.00	mg/L			MD,DIL
Thallium, ICP 200.7	0.470	ND	0.500	mg/L	94.0	0.468	0.500	mg/L	93.6	0.4	
Vanadium, ICP 200.7	0.511	0.023	0.500	mg/L	97.6	0.510	0.500	mg/L	97.4	0.2	
Zinc, ICP 200.7	0.535	0.063	0.500	mg/L	94.4	0.543	0.500	mg/L	96.0	1.7	

QC Sample:

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference
dil.= Diluted Out

Environmental Services Laboratory, Inc. (503)670-8520 (503)670-9243 FAX
17400 SW Upper Boones Ferry Rd., Portland, OR 97224

QUALITY CONTROL REPORT
BLANKS

Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 12/24/1998

Job Number: 98.02384

Contact: Kim McNeill
Project: 812043 / NMOCD
Location: Water Well

Analyte	Blank Analysis	Report Limit	Units	Date Analyzed
Alkalinity, Bicarb.(CaCO3)	ND	5.0	mg/L	12/14/1998
Bromide	ND	0.10	mg/L	12/18/1998
Chloride	ND	0.5	mg/L	12/17/1998
Conductivity	ND	5.0	umho	12/17/1998
Fluoride, Total	ND	0.2	mg/L	12/17/1998
Nitrogen, Nitrate+Nitrite	ND	0.50	mg/L	12/16/1998
Silica	ND	0.5	mg/L	12/15/1998
Solids, Total Dissolved	ND	10	mg/L	12/11/1998
Sulfate	ND	5.0	mg/L	12/18/1998
Aluminum, ICP 200.7	ND	0.05	mg/L	12/16/1998
Antimony, ICP 200.7	ND	0.005	mg/L	12/16/1998
Arsenic, ICP 200.7	ND	0.005	mg/L	12/16/1998
Barium, ICP 200.7	ND	0.005	mg/L	12/16/1998
Beryllium, ICP 200.7	ND	0.002	mg/L	12/16/1998
Boron, ICP 200.7	ND	0.01	mg/L	12/16/1998
Cadmium, ICP 200.7	ND	0.002	mg/L	12/16/1998
Calcium, ICP 200.7	ND	0.05	mg/L	12/16/1998
Chromium, ICP 200.7	ND	0.005	mg/L	12/16/1998
Cobalt, ICP 200.7	ND	0.005	mg/L	12/16/1998
Copper, ICP 200.7	ND	0.005	mg/L	12/16/1998
Iron, ICP 200.7	ND	0.01	mg/L	12/16/1998
Lead, ICP 200.7	ND	0.005	mg/L	12/16/1998
Magnesium, ICP 200.7	ND	0.05	mg/L	12/16/1998
Manganese, ICP 200.7	ND	0.005	mg/L	12/16/1998
Mercury, CV	ND	0.0002	mg/L	12/14/1998
Molybdenum, ICP 200.7	ND	0.005	mg/L	12/16/1998

Environmental Services Laboratory, Inc.(503)670-8520 (503)670-9243 FAX
17400 SW Upper Boones Ferry Rd., Portland, OR 97224

QUALITY CONTROL REPORT
BLANKS

Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 12/24/1998

Job Number: 98.02384

Contact: Kim McNeill
Project: 812043 / NMOCD
Location: Water Well

Analyte	Blank Analysis	Report Limit	Units	Date Analyzed
Nickel, ICP 200.7	ND	0.005	mg/L	12/16/1998
Potassium, ICP 200.7	ND	0.2	mg/L	12/16/1998
Selenium, ICP 200.7	ND	0.005	mg/L	12/16/1998
Silver, ICP 200.7	ND	0.005	mg/L	12/16/1998
Sodium, ICP 200.7	ND	0.2	mg/L	12/16/1998
Thallium, ICP 200.7	ND	0.01	mg/L	12/16/1998
Vanadium, ICP 200.7	ND	0.005	mg/L	12/16/1998
Zinc, ICP 200.7	ND	0.005	mg/L	12/16/1998

QUALITY CONTROL REPORT
DUPLICATES

Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 12/24/1998

Job Number: 98.02384

Contact: Kim McNeill
Project: 812043 / NMOCD

Analyte	Original Analysis	Duplicate Analysis	Units	RPD	Date Analyzed	Flag
Alkalinity, Bicarb.(CaCO3)	140	130	mg/L	7.4	12/14/1998	
Alkalinity, Carb. (CaCO3)	140	130	mg/L	7.4	12/14/1998	
Alkalinity, Total (CaCO3)	140	130	mg/L	7.4	12/14/1998	
Bromide	ND	ND	mg/L		12/18/1998	
Chloride	24	24	mg/L	0.0	12/17/1998	DIL,MM
Conductivity	896	886	umho	1.1	12/17/1998	
Fluoride, Total	ND	ND	mg/L		12/17/1998	
Nitrogen, Nitrate+Nitrite	ND	ND	mg/L		12/18/1998	
Silica	26	25	mg/L	3.9	12/15/1998	DIL,MM
Solids, Total Dissolved	360	380	mg/L	5.4	12/11/1998	
Sulfate	480	450	mg/L	6.5	12/18/1998	DIL,MI

NOTE: Duplicates may not be samples from this job.

RPD - Relative Percent Difference

FLAG GLOSSARY

A	This sample does not have a typical gasoline pattern.
B1	This sample does not have a typical diesel pattern.
B	Analyte found in the associated blank as well as the sample.
C	The sample contains a lighter hydrocarbon than gasoline.
CN	See case narrative
CS	Outside control limits or unusual matrix; see case narrative.
D	The sample extends to a heavier hydrocarbon range than gasoline.
d	Results on a dry weight basis
DIL	Result was calculated from dilution.
E	The sample extends to a lighter hydrocarbon range than diesel.
F	The sample extends to a heavier hydrocarbon range than diesel.
G	The positive result for gasoline is due to single component comtamination.
H	The sample extends to a lighter hydrocarbon range than oil.
I	The oil pattern for this sample is not typical.
J	The result for this compound is an estimated concentration.
L	The LCS recovery exceeded control limits. See the LCS page of this report.
LM	The LCS recovery exeeded control limits; the MS/MSD were in control validating the batch.
M	MS and/or MSD percent recovery exceeds control limits.
MD	Unable to calculate MS/MSD recovery due to high amount of analyte; greater than 4 times spike level.
MR	The MS/MSD RPD is greater than method critera. The sample was re-extracted and re-analyzed with similar results indicating a non-homogeneous sample.
MM	The Matrix Spike exceeded control limits; LCS was in control validating the batch.
MI	Outside control limits due to matrix interference.
N	Manual integration performed on sample for quantification.
N/A	Not Applicable.
NC	Not calcuable.
NO	Not Analyzed.
P	A post digestion spike was analyzed, and recoveries were within control limits.
Q	Detection limits elevated due to sample matrix.
Q1	Detection limits elevated due to high levels of non-target compounds. Sample(s) run at a dilution.
R	The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
R1	The duplicate RPD was greater than 20%. Visual inspection showed the sample to be non-homogeneous.
RD	RPD not applicable for results less than five times the reporting limit.
RH	The Relative Percent Difference (RPD) between two columns was greater than 40%, the higher result was reported.
RL	The Relative Percent Difference (RPD) between two columns was greater than 40%, the lower result was reported due to obvious interference with the higher result.
RP	MS/MSD RPD is greater than 20%
SR	Surrogate recovery outside control limits. See the surrogate page of the report.
SD	Unable to quantitate surrogate due to sample dilution.
SC	Sample not provided to laboratory in proper sampling container.
V	Volatile analysis was requested, sample container received with headspace.
X1	The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
X	Sample was analyzed outside recommended holding times.
Y	The result for this parameter was greater than the TCLP regulatory limit.
Z	The pattern seen for the parameter being analyzed is not typical.

Pinnacle Laboratories, Inc. **Interlab Chain of Custody** Date: 12/9 Page: 1 of 1

Network Project Manager: Kimberly D. McNeill

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

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Metals (8) RCRA	RCRA TCLP METALS	Metals Ca, K, Mg, Na	Metals Al, Sb, As, Ba, Be, B, Cd	Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Ni	K, Se, Si, Ag, Na, Tl, V, Zn, Hg, Br	~~Cr6~~ NO_2, NO_3 (Total)	Gen Chemistry: Cl, F, SO_4, TDS	Alk. (Bicarb/Carb) Conductivity	Oil and Grease	Volatile Organics GC/MS (8260)	BOD	COD	PESTICIDES/PCB (608/8080)	8270 BY GC/MS	PNA (8310)	8240 (TCLP 1311) ZHE	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	URANIUM	RADIUM 226+228	Gross Alpha/Beta	TO-14	NUMBER OF CONTAINERS
812043-01	12/7	0951	AQ	101982			X	X	X	X	X	X	X															6

PROJECT INFORMATION		SAMPLE RECEIPT		SAMPLES SENT TO:		RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
PROJECT #: 812043		Total Number of Containers		PENSACOLA - STL-FL		Signature: Time: Francine Torino 1700	Signature: Time:
PROJ. NAME: NMOCD		Chain of Custody Seals		PORTLAND - ESL-OR	X	Printed Name: Date: Francine Torino 12/9/98	Printed Name: Date:
QC LEVEL: (STD) IV		Received Intact?		STL - CT		Pinnacle Laboratories, Inc.	Company
QC REQUIRED: (STANDARD) MS MSD BLANK		Received Good Cond./Cold		STL- NEW JERSEY		RECEIVED BY: 1.	RECEIVED BY: 2
TAT: (STANDARD) RUSH!!		LAB NUMBER: 98.02384		N. CREEK		Signature: Time: 945	Signature: Time:
DUE DATE: 12/17	COMMENTS:			BARRINGER		Printed Name: Date: 12/10/98	Printed Name: Date:
RUSH SURCHARGE: —				SEQUOIA		Company	Company
CLIENT DISCOUNT: —							
SPECIAL CERTIFICATION REQUIRED: YES (NO)							

American Environmental Network (NM), Inc.

CHAIN OF CUSTODY

DATE: 12/07/98 PAGE: 1 OF 1

AEN(NM) Accession #: 812043

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER:

COMPANY: NMOCD
ADDRESS: 2040 S PACHECO
SANTA FE NM 87505
PHONE: 505-827-7155
FAX:

BILL TO: SAB
COMPANY:
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.
981207095 7 (*)	12/07/98	9:57 AM	WATER	01
Trip Blank	12/4	1245	AQ	02
BETTY HANDY				
1725 GARY LANE				
HOBBS NM 88240				
393-4977				

Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct Inject	(M8015) Gas/Purge & Trap	8021 (BTEX)/8015 (Gasoline)	8021 (BTEX) ☐ MTBE ☐ TMB ☐ PCE	8021 (TCL)	8021 (EDX)	8021 (HALO)	8021 (CUST)	504.1 EDB ☐ / DBCP ☐	8260 (TCL) Volatile Organics	8260 (Full) Volatile Organics	8260 (CUST) Volatile Organics	8260 (Landfill) Volatile Organics	Pesticides /PCB (608/8081)	Herbicides (615/8151)	Base/Neutral/Acid Compounds GCMS (625/8270)	Polynuclear Aromatics (610/8310)	General Chemistry: - OCD List + NO3 + PH CATS + ALS	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals: - OCD + Bromide, Hg	NUMBER OF CONTAINERS
											X					X	X	X					X	5
											X													1

5 + 1 = 6

PROJECT INFORMATION

PROJ. NO.:
PROJ. NAME: WATER WELL
P.O. NO.:
SHIPPED VIA:

SAMPLE RECEIPT

NO. CONTAINERS	11
CUSTODY SEALS	Y / N (NA)
RECEIVED INTACT	YES
BLUE ICE/ICE	I.C.

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) [ ] 24hr [ ] 48hr [ ] 72hr [ ] 1 WEEK (NORMAL) X

CERTIFICATION REQUIRED: ☐ NM [ ] SDWA ☐ OTHER

METHANOL PRESERVATION [ ]

COMMENTS: FIXED FEE [ ]

* SEE ATTACHED SAMPLE KIT FOR ANALYSIS!

SAMPLED FROM OUTSIDE SPIGOT HOSE.

WELL → ☐

2 Amber bottles Rec'd broken

STREET → N

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature:	Signature:
Time: 11:53 AM	Time:
Printed Name: W PRICE	Printed Name:
Date: 12/07/98	Date:
Company: NMOCD	Company:
RECEIVED BY: 1.	**RECEIVED BY: (LAB) 2.**
Signature:	Signature: Francine Tonno
Time:	Time: 0955
Printed Name:	Printed Name: Francine Tonno
Date:	Date: 12/9/98
Company:	American Environmental Network (NM), Inc.

PINNACLE LABORATORIES

Remit to: Pinnacle Laboratories, Inc.
P.O. Box 36720
Albuquerque, NM 87176-6720
Phone: (505) 344-3777 Fax: (505) 344-4413

RECEIVED
JAN - 5 1999
OIL CONSERVATION DIVISION

Bill To: N.M. Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Client #: 810-134

Date	Invoice
12/30/98	78478

Project Name: Water Well

Original
BALANCE DUE: 1,015.00

PO Number	Terms	Project
	Net 30	PIN ALB-810

Quantity	Description	Rate	Amount
1	EPA Method 8260	180.00	180.00
1	EPA Method 8270	300.00	300.00
1	EPA Method 8310	135.00	135.00
1	Mercury, CVAA	20.00	20.00
1	Item-24: Metals by ICAP Method 6010: Al, Sb As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Tl, V, Zn	200.00	200.00
1	F, Br, Ca, K, Mg, Na, Alk.Group, Cl, SO4, TDS, Cation/Anion Balance, Conductivity	160.00	160.00
1	Nitrate, Total	20.00	20.00

OK FOR PAYMENT
BY WAYNE PRICE
1/14/99

Accession #: 812043
Authorized By: Wayne Price

TOTAL: 1,015.00

A finance charge of 1 1/2% will be charged on balances 30 days past due
PLEASE PAY FROM THIS INVOICE. NO OTHER INVOICE SHALL BE SENT.

American Environmental Network (NM), Inc.

CHAIN OF CUSTODY

DATE: 12/07/98 PAGE: 1 OF 1

AEN(NM) Accession #:

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER:

COMPANY: NMOCD
ADDRESS: 2040 S PACHECO
SANTA FE NM 87505
PHONE: 505-827-7155
FAX:
BILL TO: SAB
COMPANY:
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct Inject	(M8015) Gas/Purge & Trap	8021 (BTEX)/8015 (Gasoline)	8021 (BTEX) ☐MTBE ☐TMB ☐PCE	8021 (TCL)	8021 (EDX)	8021 (HALO)	8021 (CUST)	504.1 EDB ☐ / DBCP ☐	8260 (TCL) Volatile Organics	8260 (Full) Volatile Organics	8260 (CUST) Volatile Organics	8260 (Landfill) Volatile Organics	Pesticides /PCB (608/8081)	Herbicides (615/8151)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Polynuclear Aromatics (610/8310)	General Chemistry: - OCD 45T + NO_3 + PH CHLORIDES	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals: - OCD + Arsenic, Hg	NUMBER OF CONTAINERS
9812070957 (*)	12/07/98	9:57 AM	WATER													X					X	X	X					X	3
BETTY HANDY																													
1725 GARY LANE																													
HOBBS NM 88240																													
393-9977																													

PROJECT INFORMATION	
PROJ. NO.:	
PROJ. NAME: WATER WELL	
P.O. NO.:	
SHIPPED VIA:	

SAMPLE RECEIPT	
NO. CONTAINERS	
CUSTODY SEALS	Y/N/NA
RECEIVED INTACT	
BLUE ICE/ICE	

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐24hr ☐48hr ☐72hr ☐1 WEEK (NORMAL) X

CERTIFICATION REQUIRED: ☐NM ☐SDWA ☐OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

* SEE ATTACHED SAMPLE KIT FOR ANALYSIS!

SAMPLED FROM OUTSIDE SPIGOT HOSE. WELL HEAD ☐

STREET → N

RELINQUISHED BY: 1	RELINQUISHED BY: 2
Signature:	Signature: Time:
Time: 11:53 AM	Printed Name: Date:
Printed Name: W PRICE Date: 12/07/98	Company:
Company: NMOCD	
RECEIVED BY: 1	**RECEIVED BY: (LAB) 2**
Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:
Company:	American Environmental Network (NM), Inc.

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

Client: NMOCD
Phone:
Address:

Attention: Wayne Price

Date Needed: 12/4 Time: 3 am (pm)
☑ Pick up by Client
☐ Deliver to Client
Kit Prepared by: ☑ Francine
☐ Other

SAMPLE KIT

	PARAMETER	HOLDING TIME	BOTTLE DESCRIPTION			
			WATER-PERSERVATIVE		SOIL-PERSERVATIVE	
Volatiles	624 (8260) 601/602 8010/8020 _____ ___ 504	14 DAYS	1 2x40ML VOA ___ 2X40ML VOA ___ 2X40ML VOA ___ 2X40ML VOA ___ 2X40ML VOA	HCL/$HgCl_2$ HCL/$HgCl_2$ HCL/$HgCl_2$ HCL/$HgCl_2$ $Na2S2O3$	___ 1X 4 oz Jar ___ 1X 4 oz Jar ___ 1X 4 oz Jar ___ 1X 4 oz Jar ___ NA	4°c 4°c 4°c 4°c NA
Fuels	8015 (TPH) 8015/8020 418.1	14 DAYS 14 DAYS 28 DAYS	___ 2X40ML VOA ___ 2X40ML VOA ___ 2X500ML AMB.	HCL/$HgCl_2$ HCL/$HgCl_2$ H_2SO_4	___ ___ 1X 4 oz Jar ___	4°c
Organics	625 (8270) 608 (8080) 615 (8150) 610 (8310) _____	7 DAYS	1 ___ ___ 2 X 1L 1 AMBER ___	4°c	___ ___ ___ 1X4 oz Jar ___ ___	4°c
	TOC TOX	28 DAYS 7 DAYS	___ 1X250ML AMB. ___ 1X250ML AMB.	H_2SO_4 H_2SO_4	___ 1X 4 oz. Jar ___	4°c
Metals	Cation/Anion - Ca, K, Mg, Na _____ Metals by ICP → 6 MONTHS _____		1 1X 1000 ML PL ___ 1X ___ ML PL 1 1X 1000 ML PL	HNO_3	___ ___ 1X 4 oz. Jar ___	4°c
Gen. Chem.	Bromide Cl, SO4, TDS, NO2 Alk. Hard, pH, Conduct. _____	14 DAYS	1 1X 500 ML PL 1 1X 1000 ML PL ___ 1X ___ ML PL	4°c	___ ___ 1X 4 oz. Jar ___	4°c
	NO_3	48hrs.	1 1x 125 ML PL.	H_2SO_4		
	pH		1 1x125 ML PL.	4°C		
	TRIP BLANK	14 DAYS	1 1x 40ML VOA	HCL/$HgCl_2$	NA	NA
	AIR: ___	3 DAYS	___ 1 X 1L. TEDLAR AIR BAG VALVE: STAINLESS STEEL/POLYPROPYLENE			
Meth.	METHANOL PRESERVED		___ 2 X 60 ML Amber Preweighed; 2 X 10ML Methanol Vials; 1 X 2 oz Jar (4-oz Jar for Diesel)			

☑ COC
☐ BLUE ICE
☐ LABELS
☑ SEALS
☑ GLOVES

Extra Gloves, & COC's, labels

Olson, William
From: Billy_Lacewell@nm.blm.gov [SMTP:Billy_Lacewell@nm.blm.gov]
Sent: Monday, September 11, 2000 2:09 PM
To: Olson, William
Subject: Ogallala Timeframes

Hi Bill. Our money tracking system show that funds have been obligated and task order issued to the Dynamac company for the Ogallala investigation. I received a message today from the groundwater hydrologist, named Brent Lewis, in our National Applied Science and Resource Center (NARSC). He said the principle Dynamac hydrologist, named Greg Litus, for this project will be starting work in November and continuing through January. The message did not indicate change from the task order as we understood it - review existing records, write a work plan, field visit and perhaps some sampling, summed up in a draft preliminary report with recommendations. I will be in touch as things develop. Stop in if you have time. Link

Olson, William

From: Williams, Chris
Sent: Friday, August 18, 2000 10:54 AM
To: Olson, William
Cc: Wrotenbery, Lori; Anderson, Roger; Williams, Donna
Subject: West Hobbs and the BLM

I received a phone call from Lincoln Lacewell of the Carlsbad BLM office concerning the Ogallala contamination in the West Hobbs area. According to Mr. Lacewell(sp), he has received at the present time $25,000 that could be available to use to help in the study of the contamination problems. I told him to call you on monday 8/21/00 and discuss it with you since you are heading up the investigation. He said that there may be more money available if needed. His number is 505-234-5904. Chris

Olson, William
From: Billy_Lacewell@nm.blm.gov [SMTP:Billy_Lacewell@nm.blm.gov]
Sent: Wednesday, August 16, 2000 4:14 PM
To: Olson, William
Subject: Ogallala west of Hobbs

Hi Bill, attached is draft task order which would mobilize a hazmat company to do preliminary investigation into the Ogallala/Windmill situation. I have asked our BLM contract administrator if language could be included for public outreach/ involvement.

(See attached file: Ogallala TO.wpd)

Loosely speaking, I would say the long term objectives of this effort is determine if there is release, determine source and extent of release, all in collaboration with affected interests, with responsible party eventually fixing problem if possible. The first part of the effort is assemble existing information and get the players identified and invited, especially since other entities have equal or more ownership in this than BLM. This is still being thought through at BLM State Office to firm up an approach, but as I said we have some money budgeted to start this year.

My phone is 234-5904, address is BLM, 620 E Greene, Carlsbad NM 88220, e-mail

is Billy_Lacewell @blm.gov


Ogallala TO.wpc

Ideas thoughts welcome. Thanks, Link Lacewell

U.S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT National Applied Resource Sciences Center Task Order Form	1. Contract No. 1422-N660-C-98-3003	2. Task Order 00-52-OY2	3. Revision
4. Contractor Dynamac Corporation 2275 Research Blvd. Ste. 500 Rockville, MD 20850-3268	5. Final Issue Date:	6. Scheduled Start Up Date: See Schedule, below	7. Scheduled Completion Date: See Schedule, below
8a. Contract Task Area Reference:	8b. Task Title: Ogallala Aquifer Assessment, Hobbs NM		
9. C.O.R. *Kenneth P. Smith - 303-236-0206*	10. Contractor Task Manager *Phil Werner - 301-417-6063*		

11. LABOR HOURS

11a. FY Months	1	2	3	4	5	6	7	8	9	10	11	12	Total
11b. Contractor													
11c. SubContractor													
11d. Total Hours													

12. BUDGET AND RESOURCE REQUIREMENTS

	1	2	3	4	5	6	7	8	9	10	11		Total
12a. Direct Costs ($ 000's)													$
12b. Other Costs ($ 000's)													
12c. Total Costs ($ 000's)	0.00k	0.00k	0.00k	0.00k	0.00k	0.00k	0.00k	0.00k	0.00k	0.00k	0.00k	0.00k	

12d. Total Estimated Price: $00,000	12e. Special Requirements: $00,000
12f. Specify Special Requirements:	

Approved	Name	Telephone	Signature	Date
C.O.R.	Kenneth Smith	303-236-0206		
Supervisor, RS-130	Daniel Muller	303-236-7198		
Contractor	Bobbi Hurley	864-987-0330		
C.O.	Joseph Bogus	303-236-9436		

13. GENERAL STATEMENT AND OBJECTIVES:

Crude oil has impacted the Ogallala Aquifer near the town of Hobbs, NM. Oil started showing in irrigation wells many years ago, and now is collected by shallow recovery wells. Local residents use city-water. Records are available which describe some portions of the of the effected area, historic oil well development and the recovery wells installed. The number of possibly affected wells are estimated to be; 50 residence, 25 oil/gas and 10 to 20 skimmer recovery wells. At this time little is known on the actual extent, duration and seriousness of the contamination.

The contractor shall use existing wells and historic data to determine flow directions, extent of contamination and amount of the oil present. A report describing the extent of contamination, potential sources and flow direction is to be prepared.

14. SCHEDULE:

Field work is to be initiated one month after the award of this task and a draft report is due three months after award.

15. WORK STATEMENT:

Funding is insufficient to complete the full task at this time.

The contractor shall gather initial data on all historic and existing well locations and other additional useful information, such as depth to water (oil), oil production from skimmer recovery wells.

A site visit is anticipated to verify and supplement existing data. and review site conditions. Limited sampling or other data gathering may be performed during this visit.

The contractor shall prepare a Draft Preliminary Report for review by BLM. This report shall contain a summary of existing data, a proposed work plan, site safety plan, and a cost estimate for the proposed work plan.

The contractor shall identify affected publics and be prepared to set up and attend possible public meetings in support of BLM staff. The contractor shall be prepared to interview members of the public and government officials to supplement existing information.

16. SPECIAL REQUIREMENTS:

Government Provided Supplies and Equipment:

The BLM (NARSC) will supply all GPS and GIS support for the preparation of maps and figures for this report

Task Manager (TM): Phone, FAX

Copies of drafts should be provided to :

COR
TM

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Jennifer A. Salisbury
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

September 11, 2000

Mr. Brian Flowers
1715 Gary Lane
Hobbs, New Mexico 88240

RE: WATER WELL SAMPLE ANALYSES

Dear Mr. Flowers:

Enclosed you will find a copy of the laboratory analytical results of the water samples that the New Mexico Oil Conservation Division (OCD) obtained from your private water well on June 8, 2000. The sample analyses did not detect any oil or natural gas related contaminants in your water well. However, fluoride was found to be present at a concentration in excess of the New Mexico Water Quality Control Commission standard of 1.6 mg/l for drinking water. Since this is not an oilfield-related constituent, I recommend that you contact Dennis McQuillan of the New Mexico Environment Department at (505) 827-2831 regarding the occurrence of fluoride in the area and possible effects of fluoride on human health.

The OCD is continuing to investigate oilfield ground water contamination in your area. If you have any questions regarding the laboratory analyses of your water or the OCD's investigations, please feel free to call me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrologist
Environmental Bureau

Enclosure

xc w/ enclosure: Chris Williams, OCD Hobbs District Supervisor
Dennis McQuillan, NMED Ground Water Quality Bureau

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 (806)794-1296 806•794•1296 FAX 806•794•1298
4725 Ripley Avenue, Suite A El Paso, Texas 79922 (915)585-3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Bill Olson
OCD
2040 S. Pacheco
Santa Fe, NM 87505

RECEIVED
JUN 30 2000
ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Report Date: June 27, 2000

Order ID Number: A0006105

Project Number: Brian Flowers
Project Name: Windmill
Project Location: Brian Flowers

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
147774	0006081445 (Flowers)	Water	6/8/00	14:45	6/10/00

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 24 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Cation-Anion Balance Sheet

Sample # 147774 Date. 6/27/00

Cations	ppm	meq/L
Calcium	121	6.0379
Magnesium	21	1.72809
Sodium	59	2.5665
Potassium	2.3	0.058834

Total Cations 10.39913 in meq/L

Anions	ppm	meq/L
Alkalinity	316	6.32
Sulfate	66	1.37412
Chloride	67	1.89007
Nitrate as N	2.8	0.199892
Fluoride	1.7	0.089488

Total Anions 9.87357 in meq/L

Percentage Error
5.10986 %
(needs to be <10%)

OTHER INFORMATION

TDS	0
EC	0

Measure EC and Cation Sums	1039.1324	Range should be	0	to	0
Measure EC and Anion Sums	987.357	Range should be	0	to	0
Calculated TDS/Conductivity	#DIV/0!	Range should be	0.55	to	0.77
Measure TDS and Cation Sums	0	Range should be	0.55	to	0.77
Measure TDS and Anion Sums	0	Range should be	0.55	to	0.77

Analytical and Quality Control Report

Sample: 147774 - 0006081445 (Flowers)

Analysis:	8260	Analytical Method:	S 5260B	QC Batch:	QC03195	Date Analyzed:	6/13/00
Analyst:	JG	Preparation Method:	E 5030B	Prep Batch:	PB02746	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Bromochloromethane		<2.00	µg/L	1	2
Dichlorodifluoromethane		<2.00	µg/L	1	2
Chloromethane (methyl chloride)		<2.00	µg/L	1	2
Vinyl Chloride		<2.00	µg/L	1	2
Bromomethane (methyl bromide)		<5.00	µg/L	1	5
Chloroethane		<2.00	µg/L	1	2
Trichlorofluoromethane		<2.00	µg/L	1	2
Acetone		<10.00	µg/L	1	10
Iodomethane (methyl iodide)		<2.00	µg/L	1	2
Carbon Disulfide		<2.00	µg/L	1	2
Acrylonitrile		<2.00	µg/L	1	2
2 Butanone (MEK)		<2.00	µg/L	1	2
4 methyl 2 pentanone (MIBK)		<10.00	µg/L	1	10
2-hexanone		<2.00	µg/L	1	2
trans 1,4-Dichloro-2-butene		<10.00	µg/L	1	10
1,1-Dichloroethene		<2.00	µg/L	1	2
Methylene chloride		<5.00	µg/L	1	5
MTBE		<2.00	µg/L	1	2
trans-1,2-Dichloroethene		<2.00	µg/L	1	2
1,1-Dichloroethane		<2.00	µg/L	1	2
cis-1,2-dichloroethene		<2.00	µg/L	1	2
2,2-Dichloropropane		<2.00	µg/L	1	2
1,2-Dichloroethane (EDC)		<2.00	µg/L	1	2
Chloroform		<2.00	µg/L	1	2
1,1,1-Trichloroethane		<2.00	µg/L	1	2
1,1-Dichloropropene		<2.00	µg/L	1	2
Benzene		<2.00	µg/L	1	2
Carbon Tetrachloride		<2.00	µg/L	1	2
1,2-Dichloropropane		<2.00	µg/L	1	2
Trichloroethene (TCE)		<2.00	µg/L	1	2
Dibromomethane (methylene bromide)		<2.00	µg/L	1	2
Bromodichloromethane		<2.00	µg/L	1	2
2-Chloroethyl vinyl ether		<10.00	µg/L	1	10
cis-1,3-Dichloropropene		<2.00	µg/L	1	2
trans-1,3-Dichloropropene		<2.00	µg/L	1	2
Toluene		<2.00	µg/L	1	2
1,1,2 Trichloroethane		<2.00	µg/L	1	2
1,3-Dichloropropane		<2.00	µg/L	1	2
Dibromochloromethane		<2.00	µg/L	1	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	1	2
Tetrachloroethene (PCE)		<2.00	µg/L	1	2
Chlorobenzene		<2.00	µg/L	1	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	1	2
Ethylbenzene		<2.00	µg/L	1	2
m,p-Xylene		<2.00	µg/L	1	2

Continued ...

Continued Sample: 147774 Analysis: 8260

Param	Flag	Result	Units	Dilution	RDL
Bromoform		<2.00	µg/L	1	2
Styrene		<2.00	µg/L	1	2
o Xylene		<2.00	µg/L	1	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	1	2
2-Chlorotoluene		<2.00	µg/L	1	2
1,2,3-Trichloropropane		<2.00	µg/L	1	2
Isopropylbenzene		<2.00	µg/L	1	2
Bromobenzene		<2.00	µg/L	1	2
n-Propylbenzene		<2.00	µg/L	1	2
1,3,5 Trimethylbenzene		<2.00	µg/L	1	2
tert-Butylbenzene		<2.00	µg/L	1	2
1,2,4-Trimethylbenzene		<2.00	µg/L	1	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	1	2
sec Butylbenzene		<2.00	µg/L	1	2
1,3-Dichlorobenzene		<2.00	µg/L	1	2
p Isopropyltoluene		<2.00	µg/L	1	2
4-Chlorotoluene		<2.00	µg/L	1	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	1	2
n-Butylbenzene		<2.00	µg/L	1	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5
Naphthalene		<2.00	µg/L	1	2
Hexachlorobutadiene		<5.00	µg/L	1	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		53.13	µg/L	1	50	106	84 - 116
Toluene-d8		52.44	µg/L	1	50	104	92 - 108
4-Bromofluorobenzene		43.11	µg/L	1	50	86	80 - 110

Sample: 147774 - 0006081445 (Flowers)

Analysis:	8270	Analytical Method:	S 8270C	QC Batch:	QC03142	Date Analyzed:	6/12/00
Analyst:	MA	Preparation Method:	E 3510C	Prep Batch:	PB02699	Date Prepared	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Pyridine		<0.005	mg/L	1	0.005
n Nitrosodimethylamine		<0.005	mg/L	1	0.005
2-Picoline		<0.005	mg/L	1	0.005
Methyl methanesulfonate		<0.005	mg/L	1	0.005
Ethyl methanesulfonate		<0.005	mg/L	1	0.005
Phenol		<0.005	mg/L	1	0.005
Aniline		<0.005	mg/L	1	0.005
bis (2 chloroethyl) ether		<0.005	mg/L	1	0.005
2 Chlorophenol		<0.005	mg/L	1	0.005
1,3-Dichlorobenzene		<0.005	mg/L	1	0.005
1,4 Dichlorobenzene		<0.005	mg/L	1	0.005
Benzyl alcohol		<0.005	mg/L	1	0.005

Continued ...

. . *Continued* Sample: 147774 Analysis: 8270

Param	Flag	Result	Units	Dilution	RDL
1,2-Dichlorobenzene		<0.005	mg/L	1	0.005
2-Methylphenol		<0.005	mg/L	1	0.005
bis (2-chloroisopropyl) ether		<0.005	mg/L	1	0.005
4-Methylphenol/3-Methylphenol		<0.005	mg/L	1	0.005
Acetophenone		<0.005	mg/L	1	0.005
n-Nitrosodi-n-propylamine		<0.005	mg/L	1	0.005
Hexachloroethane		<0.005	mg/L	1	0.005
Nitrobenzene		<0.005	mg/L	1	0.005
n-Nitrosopiperidine		<0.005	mg/L	1	0.005
Isophorone		<0.005	mg/L	1	0.005
2-Nitrophenol		<0.005	mg/L	1	0.005
2,4-Dimethylphenol		<0.005	mg/L	1	0.005
bis (2-chloroethoxy) methane		<0.005	mg/L	1	0.005
Benzoic acid		<0.005	mg/L	1	0.005
2,4 Dichlorophenol		<0.005	mg/L	1	0.005
1,2,4-Trichlorobenzene		<0.005	mg/L	1	0.005
a,a Dimethylphenethylamine		<0.005	mg/L	1	0.005
Naphthalene		<0.005	mg/L	1	0.005
4 Chloroaniline		<0.005	mg/L	1	0.005
2,6 Dichlorophenol		<0.005	mg/L	1	0.005
Hexachlorobutadiene		<0.005	mg/L	1	0.005
n-Nitroso-di-n-butylamine		<0.005	mg/L	1	0.005
4-Chloro-3-methylphenol		<0.005	mg/L	1	0.005
1-Methylnaphthalene		<0.005	mg/L	1	0.005
2-Methylnaphthalene		<0.005	mg/L	1	0.005
1,2,4,5-Tetrachlorobenzene		<0.005	mg/L	1	0.005
Hexachlorocyclopentadiene		<0.005	mg/L	1	0.005
2,4,6-Trichlorophenol		<0.005	mg/L	1	0.005
2,4,5-Trichlorophenol		<0.005	mg/L	1	0.005
2-Chloronaphthalene		<0.005	mg/L	1	0.005
1-Chloronaphthalene		<0.005	mg/L	1	0.005
2-Nitroaniline		<0.005	mg/L	1	0.005
Dimethylphthalate		<0.005	mg/L	1	0.005
Acenaphthylene		<0.005	mg/L	1	0.005
2,6-Dinitrotoluene		<0.005	mg/L	1	0.005
3-Nitroaniline		<0.005	mg/L	1	0.005
Acenaphthene		<0.005	mg/L	1	0.005
2,4 Dinitrophenol		<0.005	mg/L	1	0.005
Dibenzofuran		<0.005	mg/L	1	0.005
Pentachlorobenzene		<0.005	mg/L	1	0.005
4-Nitrophenol		<0.005	mg/L	1	0.005
1-Napthylamine		<0.005	mg/L	1	0.005
2,4-Dinitrotoluene		<0.005	mg/L	1	0.005
2-Napthylamine		<0.005	mg/L	1	0.005
2,3,4,6 Tetrachlorophenol		<0.005	mg/L	1	0.005
Fluorene		<0.005	mg/L	1	0.005
Diethylphthalate		<0.005	mg/L	1	0.005
4-Chlorophenyl-phenylether		<0.005	mg/L	1	0.005
4 Nitroaniline		<0.005	mg/L	1	0.005
4,6-Dinitro 2 methylphenol		<0.005	mg/L	1	0.005
Diphenylamine		<0.005	mg/L	1	0.005

Continued . .

... *Continued* Sample: 147774 Analysis: 8270

Param	Flag	Result	Units	Dilution	RDL
Diphenylhydrazine		<0.005	mg/L	1	0.005
4-Bromophenyl-phenylether		<0.005	mg/L	1	0.005
Phenacetin		<0.005	mg/L	1	0.005
Hexachlorobenzene		<0.005	mg/L	1	0.005
4-Aminobiphenyl		<0.005	mg/L	1	0.005
Pentachlorophenol		<0.005	mg/L	1	0.005
Pentachloronitrobenzene		<0.005	mg/L	1	0.005
Pronamide		<0.005	mg/L	1	0.005
Phenanthrene		<0.005	mg/L	1	0.005
Anthracene		<0.005	mg/L	1	0.005
Di-n-butylphthalate		<0.005	mg/L	1	0.005
Fluoranthene		<0.005	mg/L	1	0.005
Benzidine		<0.005	mg/L	1	0.005
Pyrene		<0.005	mg/L	1	0.005
p Dimethylaminoazobenzene		<0.005	mg/L	1	0.005
Butylbenzylphthalate		<0.005	mg/L	1	0.005
Benzo(a)anthracene		<0.005	mg/L	1	0.005
3,3-Dichlorobenzidine		<0.005	mg/L	1	0.005
Chrysene		<0.005	mg/L	1	0.005
Bis (2-ethylhexyl) phthalate		<0.005	mg/L	1	0.005
Di-n-octylphthalate		<0.005	mg/L	1	0.005
Benzo(b)fluoranthene		<0.005	mg/L	1	0.005
7,12-Dimethylbenz(a)anthracene		<0.005	mg/L	1	0.005
Benzo(k)fluoranthene		<0.005	mg/L	1	0.005
Benzo(a)pyrene		<0.005	mg/L	1	0.005
3-Methylcholanthrene		<0.005	mg/L	1	0.005
Dibenzo(a,j)acridine		<0.005	mg/L	1	0.005
Indeno(1,2,3-cd)pyrene		<0.005	mg/L	1	0.005
Dibenzo(a,h)anthracene		<0.005	mg/L	1	0.005
Benzo(g,h,i)perylene		<0.005	mg/L	1	0.005

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		22.13	mg/L	1	80	27	8 - 73
Nitrobenzene-d5		58.31	mg/L	1	80	72	44 - 109
2-Fluorobiphenyl		57.00	mg/L	1	80	71	45 - 109
2,4,6 Tribromophenol		54.21	mg/L	1	80	67	39 - 132
Terphenyl-d14		52.24	mg/L	1	80	65	46 - 121

Sample: 147774 - 0006081445 (Flowers)

Analysis: Alkalinity Analytical Method: E 310.1 QC Batch: QC03243 Date Analyzed: 6/15/00
Analyst: LD Preparation Method: Prep Batch: PB02794 Date Prepared: 6/15/00

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		316	mg/L as CaCo3	1	1
Total Alkalinity		316	mg/L as CaCo3	1	1

Sample: 147774 - 0006081445 (Flowers)

Analysis:	Conductivity	Analytical Method:	SM 2510B	QC Batch:	QC03137	Date Analyzed:	6/12/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02696	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Specific Conductance		940	uMHOS/cm	1	

Sample: 147774 - 0006081445 (Flowers)

Analysis:	Dissolved Metals	Analytical Method:	E 200.7	QC Batch:	QC03374	Date Analyzed:	6/20/00
Analyst:	RR	Preparation Method:		Prep Batch:	PB02731	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		121	mg/L	1	0.50
Dissolved Magnesium		21	mg/L	1	0.50
Dissolved Potassium		2.3	mg/L	1	0.50
Dissolved Sodium		59	mg/L	1	0.50

Sample: 147774 - 0006081445 (Flowers)

Analysis:	Hg, Total	Analytical Method:	S 7470A	QC Batch:	QC03390	Date Analyzed:	6/22/00
Analyst:	JM	Preparation Method:	N/A	Prep Batch:	PB02918	Date Prepared:	6/19/00

Param	Flag	Result	Units	Dilution	RDL
Total Mercury		<0.0002	mg/L	1	0.0002

Sample: 147774 - 0006081445 (Flowers)

Analysis:	Ion Chromatography (IC)	Analytical Method:	E 300.0	QC Batch:	QC03190	Date Analyzed:	6/10/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02742	Date Prepared:	6/10/00

Param	Flag	Result	Units	Dilution	RDL
CL		57	mg/L	1	0.50
Fluoride		1.7	mg/L	1	0.20
Nitrate-N		2.8	mg/L	1	0.20
Sulfate		66	mg/L	1	0.50

Sample: 147774 - 0006081445 (Flowers)

Analysis:	TDS	Analytical Method:	E 160.1	QC Batch:	QC03193	Date Analyzed:	6/13/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02733	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Total Dissolved Solids		620	mg/L	1	13

Sample: 147774 - 0006081445 (Flowers)

Analysis:	Total Metals	Analytical Method:	S 6010B	QC Batch:	QC03389	Date Analyzed:	6/17/00
Analyst:	RR	Preparation Method:	E 3010A	Prep Batch:	PB02675	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Total Aluminum		<0.10	mg/L	1	0.10
Total Arsenic		<0.10	mg/L	1	0.10
Total Barium		<0.10	mg/L	1	0.10
Total Boron		<0.10	mg/L	1	0.10
Total Cadmium		<0.01	mg/L	1	0.01
Total Chromium		<0.05	mg/L	1	0.05
Total Cobalt		<0.05	mg/L	1	0.05
Total Copper		<0.10	mg/L	1	0.10
Total Iron		<0.10	mg/L	1	0.10
Total Lead		<0.05	mg/L	1	0.05
Total Manganese		<0.10	mg/L	1	0.10
Total Molybdenum		<0.10	mg/L	1	0.10
Total Nickel		<0.10	mg/L	1	0.10
Total Selenium		<0.05	mg/L	1	0.05
Total Silica		< 0.5	mg/L	1	0.50
Total Silver		<0.05	mg/L	1	0.05
Total Zinc		<0.10	mg/L	1	0.10

Sample: 147774 - 0006081445 (Flowers)

Analysis:	pH	Analytical Method:	E 150.1	QC Batch:	QC03270	Date Analyzed:	6/12/00
Analyst:	RS	Preparation Method:	N/A	Prep Batch:	PB02821	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
pH		7.2	s.u.	1	1

Quality Control Report
Method Blank

Sample: Method Blank QCBatch: QC03137

Param	Flag	Results	Units	Reporting Limit
Specific Conductance		2.8	uMHOS/cm	

Sample: Method Blank QCBatch: QC03142

Param	Flag	Results	Units	Reporting Limit
Pyridine		<0.005	mg/L	0.005
n-Nitrosodimethylamine		<0.005	mg/L	0.005
2-Picoline		<0.005	mg/L	0.005

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[1] Out of holding time

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Param	Flag	Results	Units	Reporting Limit
Methyl methanesulfonate		<0.005	mg/L	0.005
Ethyl methanesulfonate		<0.005	mg/L	0.005
Phenol		<0.005	mg/L	0.005
Aniline		<0.005	mg/L	0.005
bis (2-chloroethyl) ether		<0.005	mg/L	0.005
2-Chlorophenol		<0.005	mg/L	0.005
1,3-Dichlorobenzene		<0.005	mg/L	0.005
1,4-Dichlorobenzene		<0.005	mg/L	0.005
Benzyl alcohol		<0.005	mg/L	0.005
1,2-Dichlorobenzene		<0.005	mg/L	0.005
2-Methylphenol		<0.005	mg/L	0.005
bis (2-chloroisopropyl) ether		<0.005	mg/L	0.005
4-Methylphenol/3-Methylphenol		<0.005	mg/L	0.005
Acetophenone		<0.005	mg/L	0.005
n Nitrosodi-n-propylamine		<0.005	mg/L	0.005
Hexachloroethane		<0.005	mg/L	0.005
Nitrobenzene		<0.005	mg/L	0.005
n-Nitrosopiperidine		<0.005	mg/L	0.005
Isophorone		<0.005	mg/L	0.005
2-Nitrophenol		<0.005	mg/L	0.005
2,4-Dimethylphenol		<0.005	mg/L	0.005
bis (2 chloroethoxy) methane		<0.005	mg/L	0.005
Benzoic acid		<0.005	mg/L	0.005
2,4 Dichlorophenol		<0.005	mg/L	0.005
1,2,4-Trichlorobenzene		<0.005	mg/L	0.005
a,a-Dimethylphenethylamine		<0.005	mg/L	0.005
Naphthalene		<0.005	mg/L	0.005
4-Chloroaniline		<0.005	mg/L	0.005
2,6 Dichlorophenol		<0.005	mg/L	0.005
Hexachlorobutadiene		<0.005	mg/L	0.005
n-Nitroso di n-butylamine		<0.005	mg/L	0.005
4-Chloro-3-metnylphenol		<0.005	mg/L	0.005
1 Methylnaphthalene		<0.005	mg/L	0.005
2 Methylnaphthalene		<0.005	mg/L	0.005
1,2,4,5-Tetrachlorobenzene		<0.005	mg/L	0.005
Hexachlorocyclopentadiene		<0.005	mg/L	0.005
2,4,6-Trichlorophenol		<0.005	mg/L	0.005
2,4,5-Trichlorophenol		<0.005	mg/L	0.005
2-Chloronaphthalene		<0.005	mg/L	0.005
1 Chloronaphthalene		<0.005	mg/L	0.005
2-Nitroaniline		<0.005	mg/L	0.005
Dimethylphthalate		<0.005	mg/L	0.005
Acenaphthylene		<0.005	mg/L	0.005
2,6-Dinitrotoluene		<0.005	mg/L	0.005
3-Nitroaniline		<0.005	mg/L	0.005
Acenaphthene		<0.005	mg/L	0.005
2,4-Dinitrophenol		<0.005	mg/L	0.005
Dibenzofuran		<0.005	mg/L	0.005
Pentachlorobenzene		<0.005	mg/L	0.005
4-Nitrophenol		<0.005	mg/L	0.005

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Param	Flag	Results	Units	Reporting Limit
1-Napthylamine		<0.005	mg/L	0.005
2,4-Dinitrotoluene		<0.005	mg/L	0.005
2-Napthylamine		<0.005	mg/L	0.005
2,3,4,6-Tetrachlorophenol		<0.005	mg/L	0.005
Fluorene		<0.005	mg/L	0.005
Diethylphthalate		<0.005	mg/L	0.005
4-Chlorophenyl-phenylether		<0.005	mg/L	0.005
4-Nitroaniline		<0.005	mg/L	0.005
4,6-Dinitro-2-methylphenol		<0.005	mg/L	0.005
Diphenylamine		<0.005	mg/L	0.005
Diphenylhydrazine		<0.005	mg/L	0.005
4-Bromophenyl-phenylether		<0.005	mg/L	0.005
Phenacetin		<0.005	mg/L	0.005
Hexachlorobenzene		<0.005	mg/L	0.005
4-Aminobiphenyl		<0.005	mg/L	0.005
Pentachlorophenol		<0.005	mg/L	0.005
Pentachloronitrobenzene		<0.005	mg/L	0.005
Pronamide		<0.005	mg/L	0.005
Phenanthrene		<0.005	mg/L	0.005
Anthracene		<0.005	mg/L	0.005
Di-n-butylphthalate		<0.005	mg/L	0.005
Fluoranthene		<0.005	mg/L	0.005
Benzidine		<0.005	mg/L	0.005
Pyrene		<0.005	mg/L	0.005
p-Dimethylaminoazobenzene		<0.005	mg/L	0.005
Butylbenzylphthalate		<0.005	mg/L	0.005
Benzo(a)anthracene		<0.005	mg/L	0.005
3,3-Dichlorobenzidine		<0.005	mg/L	0.005
Chrysene		<0.005	mg/L	0.005
Bis (2 ethylhexyl) phthalate		<0.005	mg/L	0.005
Di-n-octylphthalate		<0.005	mg/L	0.005
Benzo(b)fluoranthene		<0.005	mg/L	0.005
7,12-Dimethylbenz(a)anthracene		<0.005	mg/L	0.005
Benzo(k)fluoranthene		<0.005	mg/L	0.005
Benzo(a)pyrene		<0.005	mg/L	0.005
3-Methylcholanthrene		<0.005	mg/L	0.005
Dibenzo(a,j)acridine		<0.005	mg/L	0.005
Indeno(1,2,3-cd)pyrene		<0.005	mg/L	0.005
Dibenzo(a,h)anthracene		<0.005	mg/L	0.005
Benzo(g,h,i)perylene		<0.005	mg/L	0.005

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
2-Fluorophenol		25.50	mg/L	80	31	8 - 78
Nitrobenzene d5		59.91	mg/L	80	74	44 - 109
2-Fluorobiphenyl		58.24	mg/L	80	72	45 - 109
2,4,6-Tribromophenol		57.84	mg/L	80	72	39 - 132
Terphenyl d14		53.99	mg/L	80	67	46 - 121

Sample: Method Blank

QCBatch: QC03190

Param	Flag	Results	Units	Reporting Limit
Cl		<0.5	mg/L	0.50
Fluoride		<0.2	mg/L	0.20
Nitrate-N		<0.2	mg/L	0.20
Sulfate		<0.5	mg/L	0.50

Sample: Method Blank

QCBatch: QC03193

Param	Flag	Results	Units	Reporting Limit
Total Dissolved Solids		10	mg/L	10

Sample: Method Blank

QCBatch: QC03195

Param	Flag	Results	Units	Reporting Limit
Bromochloromethane		<2.00	µg/L	2
Dichlorodifluoromethane		<2.00	µg/L	2
Chloromethane (methyl chloride)		<2.00	µg/L	2
Vinyl Chloride		<2.00	µg/L	2
Bromomethane (methyl bromide)		<5.00	µg/L	5
Chloroethane		<2.00	µg/L	2
Trichlorofluoromethane		<2.00	µg/L	2
Acetone		<10.00	µg/L	10
Iodomethane (methyl iodide)		<2.00	µg/L	2
Carbon Disulfide		<2.00	µg/L	2
Acrylonitrile		<2.00	µg/L	2
2-Butanone (MEK)		<2.00	µg/L	2
4 methyl 2 pentanone (MIBK)		<10.00	µg/L	10
2-hexanone		<2.00	µg/L	2
trans 1,4-Dichloro-2-butene		<10.00	µg/L	10
1,1-Dichloroethene		<2.00	µg/L	2
Methylene chloride		<5.00	µg/L	5
MTBE		<2.00	µg/L	2
trans-1,2-Dichloroethene		<2.00	µg/L	2
1,1 Dichloroethane		<2.00	µg/L	2
cis-1,2-dichloroethene		<2.00	µg/L	2
2,2-Dichloropropane		<2.00	µg/L	2
1,2-Dichloroethane (EDC)		<2.00	µg/L	2
Chloroform		<2.00	µg/L	2
1,1,1 Trichloroethane		<2.00	µg/L	2
1,1-Dichloropropene		<2.00	µg/L	2
Benzene		<2.00	µg/L	2
Carbon Tetrachloride		<2.00	µg/L	2
1,2 Dichloropropane		<2.00	µg/L	2
Trichloroethene (TCE)		<2.00	µg/L	2

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Param	Flag	Results	Units	Reporting Limit
Dibromomethane (methylene bromide)		<2.00	µg/L	2
Bromodichloromethane		<2.00	µg/L	2
2-Chloroethyl vinyl ether		<10.00	µg/L	10
cis-1,3-Dichloropropene		<2.00	µg/L	2
trans-1,3-Dichloropropene		<2.00	µg/L	2
Toluene		<2.00	µg/L	2
1,1,2-Trichloroethane		<2.00	µg/L	2
1,3-Dichloropropane		<2.00	µg/L	2
Dibromochloromethane		<2.00	µg/L	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	2
Tetrachloroethene (PCE)		<2.00	µg/L	2
Chlorobenzene		<2.00	µg/L	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	2
Ethylbenzene		<2.00	µg/L	2
m,p Xylene		<2.00	µg/L	2
Bromoform		<2.00	µg/L	2
Styrene		<2.00	µg/L	2
o-Xylene		<2.00	µg/L	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	2
2-Chlorotoluene		<2.00	µg/L	2
1,2,3-Trichloropropane		<2.00	µg/L	2
Isopropylbenzene		<2.00	µg/L	2
Bromobenzene		<2.00	µg/L	2
n-Propylbenzene		<2.00	µg/L	2
1,3,5-Trimethylbenzene		<2.00	µg/L	2
tert-Butylbenzene		<2.00	µg/L	2
1,2,4-Trimethylbenzene		<2.00	µg/L	2
1,4 Dichlorobenzene (para)		<2.00	µg/L	2
sec Butylbenzene		<2.00	µg/L	2
1,3-Dichlorobenzene		<2.00	µg/L	2
p Isopropyltoluene		<2.00	µg/L	2
4-Chlorotoluene		<2.00	µg/L	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	2
n-Butylbenzene		<2.00	µg/L	2
1,2-Dibromo 3 chloropropane		<5.00	µg/L	5
1,2,3-Trichlorobenzene		<5.00	µg/L	5
1,2,4-Trichlorobenzene		<5.00	µg/L	5
Naphthalene		<2.00	µg/L	2
Hexachlorobutadiene		<5.00	µg/L	5

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
Dibromofluoromethane		51.65	µg/L	50	103	84 - 116
Toluene-d8		51.61	µg/L	50	103	82 - 118
4-Bromofluorobenzene		43.93	µg/L	50	87	80 - 110

Sample: Method Blank QCBatch: QC03240

Param	Flag	Results	Units	Reporting Limit
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1
Bicarbonate Alkalinity		<2.0	mg/L as CaCo3	1
Total Alkalinity		<2.0	mg/L as CaCo3	1

Sample: Method Blank QCBatch: QC03374

Param	Flag	Results	Units	Reporting Limit
Dissolved Calcium		<0.50	mg/L	0.50
Dissolved Magnesium		<0.50	mg/L	0.50
Dissolved Potassium		<0.50	mg/L	0.50
Dissolved Sodium		<0.50	mg/L	0.50

Sample: Method Blank QCBatch: QC03389

Param	Flag	Results	Units	Reporting Limit
Total Aluminum		<0.10	mg/L	0.10
Total Arsenic		<0.10	mg/L	0.10
Total Barium		<0.10	mg/L	0.10
Total Boron		<0.10	mg/L	0.10
Total Cadmium		<0.01	mg/L	0.01
Total Chromium		<0.05	mg/L	0.05
Total Cobalt		<0.05	mg/L	0.05
Total Copper		<0.10	mg/L	0.10
Total Iron		<0.10	mg/L	0.10
Total Lead		<0.05	mg/L	0.05
Total Manganese		<0.10	mg/L	0.10
Total Molybdenum		<0.10	mg/L	0.10
Total Nickel		<0.10	mg/L	0.10
Total Selenium		<0.05	mg/L	0.05
Total Silica		<0.50	mg/L	0.50
Total Silver		<0.05	mg/L	0.05
Total Zinc		<0.10	mg/L	0.10

Sample: Method Blank QCBatch: QC03390

Param	Flag	Results	Units	Reporting Limit
Total Mercury		<0.0002	mg/L	0.0002

Quality Control Report

Lab Control Spikes and Duplicate Spikes

Sample: LCS QC Batch: QC03142

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec Limit	RPD Limit
Phenol		42.824	mg/L	1	80	<0.005	53		5 - 57	20
2-Chlorophenol		43.416	mg/L	1	80	<0.005	54		29 - 110	20
1,4-Dichlorobenzene		54.708	mg/L	1	80	<0.005	68		25 - 94	20
n-Nitrosodi-n-propylamine		58.916	mg/L	1	80	<0.005	73		36 - 119	20
1,2,4-Trichlorobenzene		56.370	mg/L	1	80	<0.005	70		28 - 110	20
4-Chloro-3-methylphenol		49.308	mg/L	1	80	<0.005	61		40 - 126	20
Acenaphthene		50.549	mg/L	1	80	<0.005	63		47 - 118	20
4-Nitrophenol		38.123	mg/L	1	80	<0.005	47		0 - 69	20
2,4-Dinitrotoluene		62.227	mg/L	1	80	<0.005	77		46 - 133	20
Pentachlorophenol		33.291	mg/L	1	80	<0.005	41		21 - 131	20
Pyrene		49.127	mg/L	1	80	<0.005	61		44 - 126	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
2-Fluorophenol		49.05	mg/L	1	80	61	8 - 73
Phenol-d5		53.54	mg/L	1	80	66	5 - 62
Nitrobenzene-d5		53.51	mg/L	1	80	66	44 - 109
2-Fluorobiphenyl		53.68	mg/L	1	80	67	45 - 105
2,4,6-Tribromophenol		51.74	mg/L	1	80	64	39 - 132
Terphenyl-d14		53.77	mg/L	1	80	67	46 - 121

Sample: LCSD QC Batch: QC03142

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec Limit	RPD Limit
Phenol		45.977	mg/L	1	80	<0.005	57	7.10	5 - 57	20
2-Chlorophenol		46.473	mg/L	1	80	<0.005	58	6.80	29 - 110	20
1,4-Dichlorobenzene		56.488	mg/L	1	80	<0.005	70	3.20	25 - 94	20
n-Nitrosodi-n-propylamine		61.484	mg/L	1	80	<0.005	76	4.25	36 - 119	20
1,2,4-Trichlorobenzene		57.925	mg/L	1	80	<0.005	72	3.25	28 - 110	20
4-Chloro-3-methylphenol		54.881	mg/L	1	80	<0.005	58	11.30	40 - 126	20
Acenaphthene		53.894	mg/L	1	80	<0.005	67	6.20	47 - 118	20
4-Nitrophenol		43.909	mg/L	1	80	<0.005	54	14.10	0 - 69	20
2,4-Dinitrotoluene		68.147	mg/L	1	80	<0.005	85	9.08	46 - 133	20
Pentachlorophenol		38.056	mg/L	1	80	<0.005	47	13.36	21 - 131	20
Pyrene		45.152	mg/L	1	80	<0.005	56	8.43	44 - 126	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
2-Fluorophenol		51.82	mg/L	1	80	64	8 - 73

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Surrogate	Flag	Result	Units	Dil	Spike Amount	% Rec.	% Rec Limit
Phenol-d5		56.70	mg/L	1	80	70	8 - 62
Nitrobenzene d5		55.67	mg/L	1	80	69	44 - 109
2-Fluorobiphenyl		58.17	mg/L	1	80	72	45 - 109
2,4,6-Tribromophenol		54.87	mg/L	1	80	68	39 - 132
Terphenyl-d14		50.62	mg/L	1	80	63	40 - 121

Sample: LCS

QC Batch: QC03195

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec Limit	RPD Limit
1,1-Dichloroethene		100	µg/L	1	100	<2.00	100		73 - 154	20
Benzene		98	µg/L	1	100	<2.00	98		84 - 126	20
Trichloroethene (TCE)		98	µg/L	1	100	<2.00	98		82 - 123	20
Toluene		97	µg/L	1	100	<2.00	97		81 - 122	20
Chlorobenzene		103	µg/L	1	100	<2.00	103		86 - 121	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec Limit
Dibromofluoromethane		50.92	µg/L	1	50	102	84 - 116
Toluene-d8		50.07	µg/L	1	50	100	92 - 108
4-Bromofluorobenzene		44.30	µg/L	1	50	88	80 - 110

Sample: LCSD

QC Batch: QC03195

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
1,1-Dichloroethene		100	µg/L	1	100	<2.00	100	0.00	73 - 154	20
Benzene		99	µg/L	1	100	<2.00	98	1.01	84 - 126	20
Trichloroethene (TCE)		98	µg/L	1	100	<2.00	98	0.00	82 - 123	20
Toluene		99	µg/L	1	100	<2.00	99	2.04	81 - 122	20
Chlorobenzene		105	µg/L	1	100	<2.00	105	1.92	86 - 121	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Dibromofluoromethane		51.22	µg/L	1	50	102	84 - 116
Toluene-d8		49.81	µg/L	1	50	99	92 - 108
4-Bromofluorobenzene		45.19	µg/L	1	50	90	80 - 110

Sample: LCS

QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec Limit	RPD Limit
Dissolved Calcium		1063	mg/L	1	1000	<0.50	106		75 - 125	20
Dissolved Magnesium		982	mg/L	1	1000	<0.50	98		75 - 125	20
Dissolved Potassium		968	mg/L	1	1000	<0.50	97		75 - 125	20
Dissolved Sodium		955	mg/L	1	1000	<0.50	96		75 - 125	20

Sample: LCSD

QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec Limit	RPD Limit
Dissolved Calcium		1077	mg/L	1	1000	<0.50	108	1.30	75 - 125	20
Dissolved Magnesium		992	mg/L	1	1000	<0.50	99	1.01	75 - 125	20
Dissolved Potassium		951	mg/L	1	1000	<0.50	95	1.77	75 - 125	20
Dissolved Sodium		960	mg/L	1	1000	<0.50	96	0.52	75 - 125	20

Sample: LCS

QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec Limit	RPD Limit
Total Aluminum		1.95	mg/L	1	2	<0.10	97		75 - 125	20
Total Arsenic		1.89	mg/L	1	2	<0.10	94		75 - 125	20
Total Barium		2.07	mg/L	1	2	<0.10	103		75 - 125	20
Total Boron		1.90	mg/L	1	2	<0.10	95		75 - 125	20
Total Cadmium		2.02	mg/L	1	2	<0.01	101		75 - 125	20
Total Chromium		2.07	mg/L	1	2	<0.05	103		75 - 125	20
Total Cobalt		2.13	mg/L	1	2	<0.05	106		75 - 125	20
Total Copper		2.06	mg/L	1	2	<0.10	103		75 - 125	20
Total Iron		2.08	mg/L	1	2	<0.10	104		75 - 125	20
Total Lead		2.01	mg/L	1	2	<0.05	100		75 - 125	20
Total Manganese		2.09	mg/L	1	2	<0.10	104		75 - 125	20
Total Molybdenum		2.14	mg/L	1	2	<0.10	107		75 - 125	20
Total Nickel		2.01	mg/L	1	2	<0.10	101		75 - 125	20
Total Selenium		1.66	mg/L	1	2	<0.05	83		75 - 125	20
Total Silica		9.75	mg/L	1	10	<0.50	97		75 - 125	20
Total Silver		0.35	mg/L	1	0.40	<0.05	87		75 - 125	20
Total Zinc		2.10	mg/L	1	2	<0.10	105		75 - 125	20

Sample: LCSD

QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		1.95	mg/L	1	2	<0.10	97	0.00	75 - 125	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec Limit	RPD Limit
Total Arsenic		1.93	mg/L	1	2	<0.10	95	0.52	75 - 125	20
Total Barium		2.08	mg/L	1	2	<0.10	104	0.48	75 - 125	20
Total Boron		1.91	mg/L	1	2	<0.10	95	0.52	75 - 125	20
Total Cadmium		2.03	mg/L	1	2	<0.01	101	0.49	75 - 125	20
Total Chromium		2.07	mg/L	1	2	<0.05	103	0.00	75 - 125	20
Total Cobalt		2.14	mg/L	1	2	<0.05	107	0.46	75 - 125	20
Total Copper		2.07	mg/L	1	2	<0.10	103	0.48	75 - 125	20
Total Iron		2.09	mg/L	1	2	<0.10	104	0.47	75 - 125	20
Total Lead		2.02	mg/L	1	2	<0.05	101	0.49	75 - 125	20
Total Manganese		2.10	mg/L	1	2	<0.10	105	0.47	75 - 125	20
Total Molybdenum		2.14	mg/L	1	2	<0.10	107	0.00	75 - 125	20
Total Nickel		2.03	mg/L	1	2	<0.10	102	0.99	75 - 125	20
Total Selenium		1.69	mg/L	1	2	<0.05	84	1.79	75 - 125	20
Total Silica		9.84	mg/L	1	10	<0.50	98	0.91	75 - 125	20
Total Silver		0.36	mg/L	1	0.40	<0.05	90	2.81	75 - 125	20
Total Zinc		2.10	mg/L	1	2	<0.10	105	0.00	75 - 125	20

Sample: LCS QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00103	mg/L	1	0.001	<0.0002	103		80 - 120	20

Sample: LCSD QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec Limit	RPD Limit
Total Mercury		0.00111	mg/L	1	0.001	<0.0002	111	7.47	80 - 120	20

Quality Control Report
Matrix Spikes and Duplicate Spikes

Sample: MS QC Batch: QC03190

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Cl		117.23	mg/L	1	62.50	58	94		80 - 120	20
Fluoride		13.97	mg/L	1	12.50	2.3	93		80 - 120	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec Limit	RPD Limit
Nitrate-N		26.33	mg/L	1	25	3.3	92		80 - 120	20
Sulfate		129.52	mg/L	1	62.50	69	96		80 - 120	20

Sample: MSD

QC Batch: QC03190

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Cl		117.28	mg/L	1	62.50	58	94	0.08	80 - 120	20
Fluoride		13.75	mg/L	1	12.50	2.3	91	1.90	80 - 120	20
Nitrate-N		25.86	mg/L	1	25	3.3	90	2.06	80 - 120	20
Sulfate		129.38	mg/L	1	62.50	69	96	0.23	80 - 120	20

Sample: MS

QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1182	mg/L	1	1000	162	102		75 - 125	20
Dissolved Magnesium		1010	mg/L	1	1000	26	98		75 - 125	20
Dissolved Potassium		953	mg/L	1	1000	2.9	95		75 - 125	20
Dissolved Sodium		1001	mg/L	1	1000	66	93		75 - 125	20

Sample: MSD

QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec Limit	RPD Limit
Dissolved Calcium		1157	mg/L	1	1000	162	99	2.48	75 - 125	20
Dissolved Magnesium		997	mg/L	1	1000	26	97	1.32	75 - 125	20
Dissolved Potassium		938	mg/L	1	1000	2.9	93	1.59	75 - 125	20
Dissolved Sodium		968	mg/L	1	1000	66	90	3.59	75 - 125	20

Sample: MS

QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec Limit	RPD Limit
Total Aluminum		2.12	mg/L	1	2	<0.10	106		75 - 125	20
Total Arsenic		1.92	mg/L	1	2	<0.10	96		75 - 125	20
Total Barium		2.11	mg/L	1	2	0.10	100		75 - 125	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec	RPD	% Rec. Limit	RPD Limit
Total Boron		2.08	mg/L	1	2	0.21	93		75 - 125	20
Total Cadmium		1.92	mg/L	1	2	<0.01	96		75 - 125	20
Total Chromium		1.99	mg/L	1	2	<0.05	99		75 - 125	20
Total Cobalt		2.00	mg/L	1	2	<0.05	100		75 - 125	20
Total Copper		1.99	mg/L	1	2	<0.10	99		75 - 125	20
Total Iron		2.04	mg/L	1	2	<0.10	102		75 - 125	20
Total Lead		1.92	mg/L	1	2	<0.05	96		75 - 125	20
Total Manganese		2.02	mg/L	1	2	<0.10	101		75 - 125	20
Total Molybdenum		2.08	mg/L	1	2	<0.10	104		75 - 125	20
Total Nickel		1.94	mg/L	1	2	<0.10	98		75 - 125	20
Total Selenium		1.67	mg/L	1	2	<0.05	83		75 - 125	20
Total Silica		119	mg/L	1	10	107	120		75 - 125	20
Total Silver		0.34	mg/L	1	0.40	<0.05	85		75 - 125	20
Total Zinc		2.00	mg/L	1	2	<0.10	100		75 - 125	20

Sample: MSD

QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		2.16	mg/L	1	2	<0.10	108	1.86	75 - 125	20
Total Arsenic		1.93	mg/L	1	2	<0.10	96	0.51	75 - 125	20
Total Barium		2.12	mg/L	1	2	0.10	101	0.49	75 - 125	20
Total Boron		2.10	mg/L	1	2	0.21	94	1.06	75 - 125	20
Total Cadmium		1.93	mg/L	1	2	<0.01	95	0.52	75 - 125	20
Total Chromium		1.99	mg/L	1	2	<0.05	99	0.00	75 - 125	20
Total Cobalt		2.00	mg/L	1	2	<0.05	100	0.00	75 - 125	20
Total Copper		2.01	mg/L	1	2	<0.10	100	0.99	75 - 125	20
Total Iron		2.05	mg/L	1	2	<0.10	102	0.48	75 - 125	20
Total Lead		1.92	mg/L	1	2	<0.05	96	0.00	75 - 125	20
Total Manganese		2.03	mg/L	1	2	<0.10	101	0.49	75 - 125	20
Total Molybdenum		2.08	mg/L	1	2	<0.10	104	0.00	75 - 125	20
Total Nickel		1.95	mg/L	1	2	<0.10	98	0.51	75 - 125	20
Total Selenium		1.69	mg/L	1	2	<0.05	84	1.19	75 - 125	20
Total Silica		118	mg/L	1	10	107	110	8.69	75 - 125	20
Total Silver		0.36	mg/L	1	0.40	<0.05	90	5.71	75 - 125	20
Total Zinc		1.99	mg/L	1	2	<0.10	99	0.50	75 - 125	20

Sample: MS

QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00112	mg/L	1	0.001	<0.0002	112		80 - 120	20

Sample: MSD QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00103	mg/L	1	0.001	<0.0002	103	8.37	80 - 120	20

Quality Control Report
Duplicate Samples

Sample: Duplicate QC Batch: QC03137

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Specific Conductance		943	940	uMHOS/cm	1	0.31	20

Sample: Duplicate QC Batch: QC03193

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids		2118	1900	mg/L	1	10.85	20

Sample: Duplicate QC Batch: QC03240

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Hydroxide Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0.00	20
Carbonate Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0.00	20
Bicarbonate Alkalinity		313	316	mg/L as CaCo3	1	0.95	20
Total Alkalinity		313	316	mg/L as CaCo3	1	0.95	20

Sample: Duplicate QC Batch: QC03270

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH		7.2	7.2	s.u.	1	0.00	20

Quality Control Report
Continuing Calibration Verification Standards

Sample: CCV (1)

QC Batch: QC03137

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1413	1406	99	80 - 120	6/12/00

Sample: ICV (1)

QC Batch: QC03137

Param	Flag	Units	CCVs True Conc	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1413	1406	99	80 - 120	6/12/00

Sample: CCV (1)

QC Batch: QC03142

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Phenol		mg/L	60	63.48	105	5 - 57	6/12/00
1,4-Dichlorobenzene		mg/L	60	58.75	97	25 - 94	6/12/00
2-Nitrophenol		mg/L	60	59.98	99	80 - 120	6/12/00
2,4-Dichlorophenol		mg/L	60	62.59	104	80 - 120	6/12/00
Hexachlorobutadiene		mg/L	60	55.74	92	80 - 120	6/12/00
4-Chloro-3-methylphenol		mg/L	60	62.67	104	40 - 126	6/12/00
2,4,6-Trichlorophenol		mg/L	60	57.22	95	80 - 120	6/12/00
Acenaphthene		mg/L	60	58.12	96	47 - 118	6/12/00
Diphenylamine		mg/L	60	58.17	96	80 - 120	6/12/00
Pentachlorophenol		mg/L	60	58.45	97	21 - 131	6/12/00
Fluoranthene		mg/L	60	59.51	99	80 - 120	6/12/00
Di-n-octylphthalate		mg/L	60	60.38	100	80 - 120	6/12/00
Benzo(a)pyrene		mg/L	60	55.79	92	80 - 120	6/12/00
2-Fluorophenol		mg/L	60	59.39	98	8 - 73	6/12/00
Phenol-d5		mg/L	60	63.57	105	8 - 62	6/12/00
Nitrobenzene-d5		mg/L	60	59.40	99	44 - 109	6/12/00
2-Fluorobiphenyl		mg/L	60	57.74	96	45 - 109	6/12/00
2,4,6-Tribromophenol		mg/L	60	54.22	90	38 - 132	6/12/00
Terphenyl-d14		mg/L	60	53.41	89	46 - 121	6/12/00

Sample: CCV (1)

QC Batch: QC03190

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Cl		mg/L	12.50	11.80	94	80 - 120	6/10/00
Fluoride		mg/L	2.50	2.45	98	80 - 120	6/10/00
Nitrate-N		mg/L	5	4.79	95	80 - 120	6/10/00

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		mg/L	12.50	12.07	96	80 - 120	6/10/00

Sample: ICV (1) QC Batch: QC03190

Param	Flag	Units	CCVs True Conc	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Cl		mg/L	12.50	11.57	92	80 - 120	6/10/00
Fluoride		mg/L	2.50	2.50	100	80 - 120	6/10/00
Nitrate-N		mg/L	5	4.81	96	80 - 120	6/10/00
Sulfate		mg/L	12.50	11.98	95	80 - 120	6/10/00

Sample: CCV (1) QC Batch: QC03193

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	1005	100	80 - 120	6/13/00

Sample: ICV (1) QC Batch: QC03193

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	991	99	80 - 120	6/13/00

Sample: CCV (1) QC Batch: QC03195

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Vinyl Chloride		µg/L	100	96	96	80 - 120	6/13/00
1,1-Dichloroethene		µg/L	100	99	99	73 - 154	6/13/00
Chloroform		µg/L	100	100	100	80 - 120	6/13/00
1,2-Dichloropropane		µg/L	100	101	101	80 - 120	6/13/00
Toluene		µg/L	100	100	100	81 - 122	6/13/00
Chlorobenzene		µg/L	100	102	102	86 - 121	6/13/00
Ethylbenzene		µg/L	100	106	106	80 - 120	6/13/00
Dibromofluoromethane		µg/L	50	50.44	100	80 - 120	6/13/00
Toluene-d8		µg/L	50	49.03	98	80 - 120	6/13/00
4-Bromofluorobenzene		µg/L	50	50.36	100	80 - 120	6/13/00

Sample: CCV (1)

QC Batch: QC03240

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	80 - 120	6/15/00
Carbonate Alkalinity		mg/L as CaCo3	0	198	0	80 - 120	6/16/00
Bicarbonate Alkalinity		mg/L as CaCo3	0	36	0	80 - 120	6/16/00
Total Alkalinity		mg/L as CaCo3	250	234	93	80 - 120	6/16/00

Sample: ICV (1)

QC Batch: QC03240

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	80 - 120	6/16/00
Carbonate Alkalinity		mg/L as CaCo3	0	230	0	80 - 120	6/16/00
Bicarbonate Alkalinity		mg/L as CaCo3	0	17	0	80 - 120	6/16/00
Total Alkalinity		mg/L as CaCo3	250	247	98	80 - 120	6/16/00

Sample: CCV (1)

QC Batch: QC03270

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.1	101	80 - 120	6/12/00

Sample: ICV (1)

QC Batch: QC03270

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.0	100	80 - 120	6/12/00

Sample: CCV (1)

QC Batch: QC03374

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	20	21.6	108	75 - 125	6/20/00
Dissolved Magnesium		mg/L	20	21.2	106	75 - 125	6/20/00
Dissolved Potassium		mg/L	20	20.9	104	75 - 125	6/20/00
Dissolved Sodium		mg/L	20	19.5	97	75 - 125	6/20/00

Sample: ICV (1)

QC Batch: QC03374

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	20	20.9	104	75 - 125	6/20/00
Dissolved Magnesium		mg/L	20	20.2	101	75 - 125	6/20/00
Dissolved Potassium		mg/L	20	20.3	101	75 - 125	6/20/00
Dissolved Sodium		mg/L	20	19.1	95	75 - 125	6/20/00

Sample: CCV (1)

QC Batch: QC03389

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	5	5.28	105	75 - 125	6/17/00
Total Arsenic		mg/L	2.50	2.63	105	75 - 125	6/17/00
Total Barium		mg/L	5	5.28	105	75 - 125	6/17/00
Total Boron		mg/L	2.50	2.64	105	75 - 125	6/17/00
Total Cadmium		mg/L	0.50	0.52	104	75 - 125	6/17/00
Total Chromium		mg/L	1	1.05	105	75 - 125	6/17/00
Total Cobalt		mg/L	2.50	2.61	104	75 - 125	6/17/00
Total Copper		mg/L	1	1.06	106	75 - 125	6/17/00
Total Iron		mg/L	5	5.25	104	75 - 125	6/17/00
Total Lead		mg/L	2.50	2.64	104	75 - 125	6/17/00
Total Manganese		mg/L	0.50	0.53	106	75 - 125	6/17/00
Total Molybdenum		mg/L	2.50	2.63	104	75 - 125	6/17/00
Total Nickel		mg/L	2.50	2.64	104	75 - 125	6/17/00
Total Selenium		mg/L	2.50	2.66	104	75 - 125	6/17/00
Total Silica		mg/L	2.50	2.60	104	75 - 125	6/17/00
Total Silver		mg/L	0.50	0.52	104	75 - 125	6/17/00
Total Zinc		mg/L	0.50	0.53	106	75 - 125	6/17/00

Sample: ICV (1)

QC Batch: QC03389

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	5	4.99	99	75 - 125	6/17/00
Total Arsenic		mg/L	2.50	2.46	98	75 - 125	6/17/00
Total Barium		mg/L	5	5.04	100	75 - 125	6/17/00
Total Boron		mg/L	2.50	2.57	102	75 - 125	6/17/00
Total Cadmium		mg/L	0.50	0.50	100	75 - 125	6/17/00
Total Chromium		mg/L	1	1.00	100	75 - 125	6/17/00
Total Cobalt		mg/L	2.50	2.50	100	75 - 125	6/17/00
Total Copper		mg/L	1	1.00	100	75 - 125	6/17/00
Total Iron		mg/L	5	5.03	101	75 - 125	6/17/00
Total Lead		mg/L	2.50	2.52	100	75 - 125	6/17/00
Total Manganese		mg/L	0.50	0.50	100	75 - 125	6/17/00

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Param	Flag	Units	CCVs True Conc	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Molybdenum		mg/L	2.50	2.50	100	75 - 125	6/17/06
Total Nickel		mg/L	2.50	2.51	100	75 - 125	6/17/06
Total Selenium		mg/L	2.50	2.50	100	75 - 125	6/17/06
Total Silica		mg/L	2.50	2.45	100	75 - 125	6/17/06
Total Silver		mg/L	0.50	0.50	100	75 - 125	6/17/06
Total Zinc		mg/L	0.50	0.51	100	75 - 125	6/17/06

Sample: CCV (1)

QC Batch: QC03390

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.001	0.00088	88	80 - 120	6/22/06

Sample: ICV (1)

QC Batch: QC03390

Param	Flag	Units	CCVs True Conc	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.001	0.00092	92	80 - 120	6/22/06

147774

Page 1 of 1

6701 Aberdeen Avenue, Ste. 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

TraceAnalysis, Inc.

4725 Ripley Dr., Ste A
E. Paso, Texas 79922-1020
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID #: 40001015

Company Name: NM Oil Conservation Division
Phone #: (505) 827-7154

Address: (Street, City, Zip) 2040 S. Pacheco, Santa Fe, NM 87505
Fax #: (505) 827-8177

Contact Person: Bill Olson

Invoice to: (If different from above)

Project #:
Project Name: Windmill Oil

Project Location: Brian Flowers
Sampler Signature: Bill Olson

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	NaHSO4	H2SO4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
147774	0006081445 (Flowers)	2	40ml	✓				✓					✓		6/8/00	1445
	0006081445 (Flowers)	1	1liter	✓									✓		6/8/00	1445
	0006081445 (Flowers)	1	1liter	✓									✓		6/8/00	1445
	0006081445 (Flowers)	1	500ml	✓					✓				✓		6/8/00	1445

ANALYSIS REQUEST (Circle or Specify Method No.)

VOA 8021B/602	BTEX 8021B/602	TPH 418.1/1X1005	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260B/624	GC/MS Semi Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	EPA CHEM CCB ITEM #24	CCA METALS ITEM #23	Turn Around Time if different from standard	Hold
										2								
											1							
															1			
																1		

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Bill Olson	6/9/00	1200			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by:	Date:	Time:
			Ali Hewadey	6/10/00	1000

LAB USE ONLY
Intact (Y) / N
Headspace ___ Y / N
Temp 2 °
Log-in Review

REMARKS:

Carrier # Bus 902 901 373 7

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.

ORIGINAL COPY

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Jennifer A. Salisbury
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

September 13, 2000

Mr. Charles Bradford
506 Carr Lane
Hobbs, New Mexico 88240

RE: WATER WELL SAMPLE ANALYSES

Dear Mr. Bradford:

Enclosed you will find a copy of the laboratory analytical results of the water samples that the New Mexico Oil Conservation Division (OCD) obtained from your private water well on June 8, 2000. The sample analyses did not detect any oil or natural gas production related contaminants in your water well. However, elevated levels of dichlorodifluoromethane, a form of Freon, were found to be present in the water at a concentration of 0.0139 mg/l. The New Mexico Water Quality Control Commission (WQCC) does not have a standard for dichlorodifluoromethane in drinking water, but the United States Environmental Protection Agency (EPA) has a health advisory limit of 1 mg/l for drinking water.

In addition, fluoride was found to be present in a concentration in excess of the New Mexico Water Quality Control Commission standard of 1.6 mg/l for drinking water. Since fluoride is not an oilfield-related constituent, I recommend that you contact Dennis McQuillan of the New Mexico Environment Department at (505) 827-2831 regarding the occurrence of fluoride in the area and possible effects of fluoride on human health.

The OCD is continuing to investigate oilfield ground water contamination in your area. If you have any questions regarding the laboratory analyses of your water or the OCD's investigations, please feel free to call me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrologist
Environmental Bureau

Enclosure

xc w/ enclosure: Chris Williams, OCD Hobbs District Supervisor
Dennis McQuillan, NMED Ground Water Quality Bureau

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
4725 Bluebird Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Bill Olson
OCD
2040 S. Pacheco
Santa Fe, NM 87505

RECEIVED
JUN 30 2000
ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Report Date: June 27, 2000

Order ID Number: A0006JC1

Project Number: Charles Bradford
Project Name: Windmill Oil
Project Location: Charles Bradford

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
147770	0006081615 (Bradford)	Water	6/8/00	16:15	6/10/00

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 24 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Cation-Anion Balance Sheet

Sample # 14770 Date 6/26/00

Cations	ppm	meq/L
Calcium	90	4.491
Magnesium	17	1.39893
Sodium	38	1.653
Potassium	1.2	0.030695

Total Cations 7.57363 in meq/L

Anions	ppm	meq/l
Alkalinity	238	4.76
Sulfate	48	0.99936
Chloride	48	1.35408
Nitrate as N	0	0
Fluoride	1.8	0.094752

Total Anions 7.20819 in meq/L

Percentage Error
4.94437 %
(needs to be <10%)

OTHER INFORMATION

TDS	0
EC	0

Measure EC and Cation Sums	757.3626	Range should be:	0	to	0
Measure EC and Anion Sums	720.8192	Range should be:	0	to	0
Calculated TDS/Conductivity	#DIV/0!	Range should be:	0.55	to	0.77
Measure TDS and Cation Sums	0	Range should be:	0.55	to	0.77
Measure TDS and Anion Sums	0	Range should be:	0.55	to	0.77

Analytical and Quality Control Report

Sample: 147770 - 0006081615 (Bradford)

Analysis:	8260	Analytical Method:	S 5260B	QC Batch:	QC06191	Date Analyzed:	6/13/00
Analyst:	JG	Preparation Method:	E 5030B	Prep Batch:	PB02746	Date Prepared	6/13/00

Param.	Flag	Result	Units	Dilution	RDL
Bromochloromethane		<2.00	µg/L	1	2
Dichlorodifluoromethane		13.90	µg/L	1	2
Chloromethane (methyl chloride)		<2.00	µg/L	1	2
Vinyl Chloride		<2.00	µg/L	1	2
Bromomethane (methyl bromide)		<5.00	µg/L	1	5
Chloroethane		<2.00	µg/L	1	2
Trichlorofluoromethane		<2.00	µg/L	1	2
Acetone		<10.00	µg/L	1	10
Iodomethane (methyl iodide)		<2.00	µg/L	1	2
Carbon Disulfide		<2.00	µg/L	1	2
Acrylonitrile		<2.00	µg/L	1	2
2 Butanone (MEK)		<2.00	µg/L	1	2
4-methyl-2-pentanone (MIBK)		<10.00	µg/L	1	10
2-hexanone		<2.00	µg/L	1	2
trans 1,4-Dichloro-2-butene		<10.00	µg/L	1	10
1,1-Dichloroethene		<2.00	µg/L	1	2
Methylene chloride		<5.00	µg/L	1	5
MTBE		<2.00	µg/L	1	2
trans-1,2-Dichloroethene		<2.00	µg/L	1	2
1,1-Dichloroethane		<2.00	µg/L	1	2
cis 1,2-dichloroethene		<2.00	µg/L	1	2
2,2-Dichloropropane		<2.00	µg/L	1	2
1,2-Dichloroethane (EDC)		<2.00	µg/L	1	2
Chloroform		<2.00	µg/L	1	2
1,1,1-Trichloroethane		<2.00	µg/L	1	2
1,1 Dichloropropene		<2.00	µg/L	1	2
Benzene		<2.00	µg/L	1	2
Carbon Tetrachloride		<2.00	µg/L	1	2
1,2-Dichloropropane		<2.00	µg/L	1	2
Trichloroethene (TCE)		<2.00	µg/L	1	2
Dibromomethane (methylene bromide)		<2.00	µg/L	1	2
Bromodichloromethane		<2.00	µg/L	1	2
2-Chloroethyl vinyl ether		<10.00	µg/L	1	10
cis-1,3 Dichloropropene		<2.00	µg/L	1	2
trans-1,3 Dichloropropene		<2.00	µg/L	1	2
Toluene		<2.00	µg/L	1	2
1,1,2-Trichloroethane		<2.00	µg/L	1	2
1,3-Dichloropropane		<2.00	µg/L	1	2
Dibromochloromethane		<2.00	µg/L	1	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	1	2
Tetrachloroethene (PCE)		<2.00	µg/L	1	2
Chlorobenzene		<2.00	µg/L	1	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	1	2
Ethylbenzene		<2.00	µg/L	1	2
m,p Xylene		<2.00	µg/L	1	2

Continued ...

... *Continued* Sample: 147770 Analysis: 8260

Param	Flag	Result	Units	Dilution	RDL
Bromoform		<2.00	µg/L	1	2
Styrene		<2.00	µg/L	1	2
o-Xylene		<2.00	µg/L	1	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	1	2
2-Chlorotoluene		<2.00	µg/L	1	2
1,2,3-Trichloropropane		<2.00	µg/L	1	2
Isopropylbenzene		<2.00	µg/L	1	2
Bromobenzene		<2.00	µg/L	1	2
n-Propylbenzene		<2.00	µg/L	1	2
1,3,5-Trimethylbenzene		<2.00	µg/L	1	2
tert-Butylbenzene		<2.00	µg/L	1	2
1,2,4-Trimethylbenzene		<2.00	µg/L	1	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	1	2
sec-Butylbenzene		<2.00	µg/L	1	2
1,3-Dichlorobenzene		<2.00	µg/L	1	2
p-Isopropyltoluene		<2.00	µg/L	1	2
4-Chlorotoluene		<2.00	µg/L	1	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	1	2
n-Butylbenzene		<2.00	µg/L	1	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5
Naphthalene		<2.00	µg/L	1	2
Hexachlorobutadiene		<5.00	µg/L	1	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		52.63	µg/L	1	50	105	84 - 116
Toluene d8		51.98	µg/L	1	50	103	92 - 108
4-Bromofluorobenzene		44.07	µg/L	1	50	88	80 - 110

Sample: 147770 - 0006081615 (Bradford)

Analysis:	8270	Analytical Method:	S 8270C	QC Batch	QC03142	Date Analyzed:	6/12/00
Analyst:	MA	Preparation Method:	E 3510C	Prep Batch:	PB02699	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Pyridine		<0.005	mg/L	1	0.005
n-Nitrosodimethylamine		<0.005	mg/L	1	0.005
2-Picoline		<0.005	mg/L	1	0.005
Methyl methanesulfonate		<0.005	mg/L	1	0.005
Ethyl methanesulfonate		<0.005	mg/L	1	0.005
Phenol		<0.005	mg/L	1	0.005
Aniline		<0.005	mg/L	1	0.005
bis (2-chloroethyl) ether		<0.005	mg/L	1	0.005
2-Chlorophenol		<0.005	mg/L	1	0.005
1,3-Dichlorobenzene		<0.005	mg/L	1	0.005
1,4-Dichlorobenzene		<0.005	mg/L	1	0.005
Benzyl alcohol		<0.005	mg/L	1	0.005

Continued

...*Continued* Sample: 147770 Analysis: 8270

Param	Flag	Result	Units	Dilution	RDL
1,2-Dichlorobenzene		<0.005	mg/L	1	0.005
2-Methylphenol		<0.005	mg/L	1	0.005
bis (2-chloroisopropyl) ether		<0.005	mg/L	1	0.005
4-Methylphenol/3 Methylphenol		<0.005	mg/L	1	0.005
Acetophenone		<0.005	mg/L	1	0.005
n Nitrosodi-n-propylamine		<0.005	mg/L	1	0.005
Hexachloroethane		<0.005	mg/L	1	0.005
Nitrobenzene		<0.005	mg/L	1	0.005
n Nitrosopiperidine		<0.005	mg/L	1	0.005
Isophorone		<0.005	mg/L	1	0.005
2-Nitrophenol		<0.005	mg/L	1	0.005
2,4-Dimethylphenol		<0.005	mg/L	1	0.005
bis (2-chloroethoxy) methane		<0.005	mg/L	1	0.005
Benzoic acid		<0.005	mg/L	1	0.005
2,4 Dichlorophenol		<0.005	mg/L	1	0.005
1,2,4-Trichlorobenzene		<0.005	mg/L	1	0.005
a,a Dimethylphenethylamine		<0.005	mg/L	1	0.005
Naphthalene		<0.005	mg/L	1	0.005
4-Chloroaniline		<0.005	mg/L	1	0.005
2,6 Dichlorophenol		<0.005	mg/L	1	0.005
Hexachlorobutadiene		<0.005	mg/L	1	0.005
n-Nitroso di-n-butylamine		<0.005	mg/L	1	0.005
4-Chloro-3-methylphenol		<0.005	mg/L	1	0.005
1-Methylnaphthalene		<0.005	mg/L	1	0.005
2 Methylnaphthalene		<0.005	mg/L	1	0.005
1,2,4,5 Tetrachlorobenzene		<0.005	mg/L	1	0.005
Hexachlorocyclopentadiene		<0.005	mg/L	1	0.005
2,4,6-Trichlorophenol		<0.005	mg/L	1	0.005
2,4,5-Trichlorophenol		<0.005	mg/L	1	0.005
2-Chloronaphthalene		<0.005	mg/L	1	0.005
1 Chloronaphthalene		<0.005	mg/L	1	0.005
2-Nitroaniline		<0.005	mg/L	1	0.005
Dimethylphthalate		<0.005	mg/L	1	0.005
Acenaphthylene		<0.005	mg/L	1	0.005
2,6-Dinitrotoluene		<0.005	mg/L	1	0.005
3-Nitroaniline		<0.005	mg/L	1	0.005
Acenaphthene		<0.005	mg/L	1	0.005
2,4-Dinitrophenol		<0.005	mg/L	1	0.005
Dibenzofuran		<0.005	mg/L	1	0.005
Pentachlorobenzene		<0.005	mg/L	1	0.005
4-Nitrophenol		<0.005	mg/L	1	0.005
1-Napthylamine		<0.005	mg/L	1	0.005
2,4-Dinitrotoluene		<0.005	mg/L	1	0.005
2 Napthylamine		<0.005	mg/L	1	0.005
2,3,4,6-Tetrachlorophenol		<0.005	mg/L	1	0.005
Fluorene		<0.005	mg/L	1	0.005
Diethylphthalate		<0.005	mg/L	1	0.005
4-Chlorophenyl-phenylether		<0.005	mg/L	1	0.005
4-Nitroaniline		<0.005	mg/L	1	0.005
4,6-Dinitro-2-methylphenol		<0.005	mg/L	1	0.005
Diphenylamine		<0.005	mg/L	1	0.005

Continued ...

... *Continued* Sample: 147770 Analysis: 8270

Param	Flag	Result	Units	Dilution	RDL
Diphenylhydrazine		<0.005	mg/L	1	0.005
4-Bromophenyl-phenylether		<0.005	mg/L	1	0.005
Phenacetin		<0.005	mg/L	1	0.005
Hexachlorobenzene		<0.005	mg/L	1	0.005
4-Aminobiphenyl		<0.005	mg/L	1	0.005
Pentachlorophenol		<0.005	mg/L	1	0.005
Pentachloronitrobenzene		<0.005	mg/L	1	0.005
Pronamide		<0.005	mg/L	1	0.005
Phenanthrene		<0.005	mg/L	1	0.005
Anthracene		<0.005	mg/L	1	0.005
Di-n-butylphthalate		<0.005	mg/L	1	0.005
Fluoranthene		<0.005	mg/L	1	0.005
Benzidine		<0.005	mg/L	1	0.005
Pyrene		<0.005	mg/L	1	0.005
p-Dimethylaminoazobenzene		<0.005	mg/L	1	0.005
Butylbenzylphthalate		<0.005	mg/L	1	0.005
Benzo(a)anthracene		<0.005	mg/L	1	0.005
3,3-Dichlorobenzidine		<0.005	mg/L	1	0.005
Chrysene		<0.005	mg/L	1	0.005
Bis (2-ethylhexyl) phthalate		<0.005	mg/L	1	0.005
Di n-octylphthalate		<0.005	mg/L	1	0.005
Benzo(b)fluoranthene		<0.005	mg/L	1	0.005
7,12-Dimethylbenz(a)anthracene		<0.005	mg/L	1	0.005
Benzo(k)fluoranthene		<0.005	mg/L	1	0.005
Benzo(a)pyrene		<0.005	mg/L	1	0.005
3-Methylcholanthrene		<0.005	mg/L	1	0.005
Dibenzo(a,j)acridine		<0.005	mg/L	1	0.005
Indeno(1,2,3 cd)pyrene		<0.005	mg/L	1	0.005
Dibenzo(a,h)anthracene		<0.005	mg/L	1	0.005
Benzo(g,h,i)perylene		<0.005	mg/L	1	0.005

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2 Fluorophenol		22.28	mg/L	1	80	27	8 - 73
Nitrobenzene-d5		55.50	mg/L	1	80	69	44 - 109
2-Fluorobiphenyl		54.77	mg/L	1	80	68	45 - 109
2,4,6-Tribromophenol		58.02	mg/L	1	80	72	39 - 132
Terphenyl-d14		55.05	mg/L	1	80	68	46 - 121

Sample: 147770 - 0006081615 (Bradford)

Analysis:	Alkalinity	Analytical Method:	E 310.1	QC Batch:	QC03240	Date Analyzed:	6/16/00
Analyst:	LD	Preparation Method:	N/A	Prep Batch:	PB02794	Date Prepared:	6/16/00

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		238	mg/L as CaCo3	1	1
Total Alkalinity		238	mg/L as CaCo3	1	1

Sample: 147770 - 0006081615 (Bradford)

Analysis: Conductivity | Analytical Method: SM 2510B | QC Batch: QC03137 | Date Analyzed: 6/12/00
Analyst: JS | Preparation Method: N/A | Prep Batch: PB02696 | Date Prepared: 6/12/00

Param	Flag	Result	Units	Dilution	RDL
Specific Conductance		710	uMHOS/cm	1	

Sample: 147770 - 0006081615 (Bradford)

Analysis: Dissolved Metals | Analytical Method: E 200.7 | QC Batch: QC03374 | Date Analyzed: 6/20/00
Analyst: RR | Preparation Method: E 3005A | Prep Batch: PB02731 | Date Prepared: 6/13/00

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		90	mg/L	1	0.50
Dissolved Magnesium		17	mg/L	1	0.50
Dissolved Potassium		1.2	mg/L	1	0.50
Dissolved Sodium		38	mg/L	1	0.50

Sample: 147770 - 0006081615 (Bradford)

Analysis: Hg, Total | Analytical Method: S 7470A | QC Batch: QC03390 | Date Analyzed: 6/22/00
Analyst: JM | Preparation Method: N/A | Prep Batch: PB02818 | Date Prepared: 6/19/00

Param	Flag	Result	Units	Dilution	RDL
Total Mercury		<0.0002	mg/L	1	0.0002

Sample: 147770 - 0006081615 (Bradford)

Analysis: Ion Chromatography (IC) | Analytical Method: E 300.0 | QC Batch: QC03190 | Date Analyzed: 6/10/00
Analyst: JS | Preparation Method: N/A | Prep Batch: PB02742 | Date Prepared: 6/10/00

Param	Flag	Result	Units	Dilution	RDL
Cl		48	mg/L	1	0.50
Fluoride		1.8	mg/L	1	0.20
Nitrate-N		<1.0	mg/L	1	0.20
Sulfate		48	mg/L	1	0.50

Sample: 147770 - 0006081615 (Bradford)

Analysis: TDS | Analytical Method: E 160.1 | QC Batch: QC03193 | Date Analyzed: 6/13/00
Analyst: JS | Preparation Method: N/A | Prep Batch: PB02733 | Date Prepared: 6/12/00

Param	Flag	Result	Units	Dilution	RDL
Total Dissolved Solids		460	mg/L	1	10

Sample: 147770 - 0006081615 (Bradford)

Analysis: Total Metals | Analytical Method: S 6010B | QC Batch: QC03389 | Date Analyzed: 6/17/00
Analyst: RR | Preparation Method: E 3010A | Prep Batch: PB02676 | Date Prepared: 6/12/00

Param	Flag	Result	Units	Dilution	RDL
Total Aluminum		<0.10	mg/L	1	0.10
Total Arsenic		<0.10	mg/L	1	0.10
Total Barium		0.22	mg/L	1	0.10
Total Boron		0.22	mg/L	1	0.10
Total Cadmium		<0.01	mg/L	1	0.01
Total Chromium		<0.05	mg/L	1	0.05
Total Cobalt		<0.05	mg/L	1	0.05
Total Copper		0.25	mg/L	1	0.10
Total Iron		0.24	mg/L	1	0.10
Total Lead		<0.05	mg/L	1	0.05
Total Manganese		0.13	mg/L	1	0.10
Total Molybdenum		<0.10	mg/L	1	0.10
Total Nickel		<0.10	mg/L	1	0.10
Total Selenium		<0.05	mg/L	1	0.05
Total Silica		116	mg/L	1	0.50
Total Silver		<0.05	mg/L	1	0.05
Total Zinc		0.34	mg/L	1	0.10

Sample: 147770 - 0006081615 (Bradford)

Analysis:	pH	Analytical Method:	E 150.1	QC Batch:	QC03271	Date Analyzed:	6/12/00
Analyst:	RS	Preparation Method:	N/A	Prep Batch:	PB02820	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
pH		7.4	s.u.	1	1

Quality Control Report
Method Blank

Sample: Method Blank QCBatch: QC03137

Param	Flag	Results	Units	Reporting Limit
Specific Conductance		2.8	uMHOS/cm	

Sample: Method Blank QCBatch: QC03142

Param	Flag	Results	Units	Reporting Limit
Pyridine		<0.005	mg/L	0.005
n-Nitrosodimethylamine		<0.005	mg/L	0.005
2-Picoline		<0.005	mg/L	0.005

Continued ...

[1]Out of holding time.

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Param	Flag	Results	Units	Reporting Limit
Methyl methanesulfonate		<0.005	mg/L	0.005
Ethyl methanesulfonate		<0.005	mg/L	0.005
Phenol		<0.005	mg/L	0.005
Aniline		<0.005	mg/L	0.005
bis (2-chloroethyl) ether		<0.005	mg/L	0.005
2-Chlorophenol		<0.005	mg/L	0.005
1,3 Dichlorobenzene		<0.005	mg/L	0.005
1,4-Dichlorobenzene		<0.005	mg/L	0.005
Benzyl alcohol		<0.005	mg/L	0.005
1,2-Dichlorobenzene		<0.005	mg/L	0.005
2-Methylphenol		<0.005	mg/L	0.005
bis (2-chloroisopropyl) ether		<0.005	mg/L	0.005
4 Methylphenol/3 Methylphenol		<0.005	mg/L	0.005
Acetophenone		<0.005	mg/L	0.005
n-Nitrosodi n propylamine		<0.005	mg/L	0.005
Hexachloroethane		<0.005	mg/L	0.005
Nitrobenzene		<0.005	mg/L	0.005
n-Nitrosopiperidine		<0.005	mg/L	0.005
Isophorone		<0.005	mg/L	0.005
2 Nitrophenol		<0.005	mg/L	0.005
2,4 Dimethylphenol		<0.005	mg/L	0.005
bis (2-chloroethoxy) methane		<0.005	mg/L	0.005
Benzoic acid		<0.005	mg/L	0.005
2,4 Dichlorophenol		<0.005	mg/L	0.005
1,2,4-Trichlorobenzene		<0.005	mg/L	0.005
a,a-Dimethylphenethylamine		<0.005	mg/L	0.005
Naphthalene		<0.005	mg/L	0.005
4-Chloroaniline		<0.005	mg/L	0.005
2,6-Dichlorophenol		<0.005	mg/L	0.005
Hexachlorobutadiene		<0.005	mg/L	0.005
n-Nitroso-di-n-butylamine		<0.005	mg/L	0.005
4-Chloro 3-methylphenol		<0.005	mg/L	0.005
1-Methylnaphthalene		<0.005	mg/L	0.005
2-Methylnaphthalene		<0.005	mg/L	0.005
1,2,4,5-Tetrachlorobenzene		<0.005	mg/L	0.005
Hexachlorocyclopentadiene		<0.005	mg/L	0.005
2,4,6 Trichlorophenol		<0.005	mg/L	0.005
2,4,5-Trichlorophenol		<0.005	mg/L	0.005
2 Chloronaphthalene		<0.005	mg/L	0.005
1-Chloronaphthalene		<0.005	mg/L	0.005
2 Nitroaniline		<0.005	mg/L	0.005
Dimethylphthalate		<0.005	mg/L	0.005
Acenaphthylene		<0.005	mg/L	0.005
2,6-Dinitrotoluene		<0.005	mg/L	0.005
3-Nitroaniline		<0.005	mg/L	0.005
Acenaphthene		<0.005	mg/L	0.005
2,4-Dinitrophenol		<0.005	mg/L	0.005
Dibenzofuran		<0.005	mg/L	0.005
Pentachlorobenzene		<0.005	mg/L	0.005
4-Nitrophenol		<0.005	mg/L	0.005

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Param	Flag	Results	Units	Reporting Limit
1-Napthylamine		<0.005	mg/L	0.005
2,4-Dinitrotoluene		<0.005	mg/L	0.005
2-Napthylamine		<0.005	mg/L	0.005
2,3,4,6-Tetrachlorophenol		<0.005	mg/L	0.005
Fluorene		<0.005	mg/L	0.005
Diethylphthalate		<0.005	mg/L	0.005
4-Chlorophenyl-phenylether		<0.005	mg/L	0.005
4-Nitroaniline		<0.005	mg/L	0.005
4,6-Dinitro-2-methylphenol		<0.005	mg/L	0.005
Diphenylamine		<0.005	mg/L	0.005
Diphenylhydrazine		<0.005	mg/L	0.005
4-Bromophenyl-phenylether		<0.005	mg/L	0.005
Phenacetin		<0.005	mg/L	0.005
Hexachlorobenzene		<0.005	mg/L	0.005
4-Aminobiphenyl		<0.005	mg/L	0.005
Pentachlorophenol		<0.005	mg/L	0.005
Pentachloronitrobenzene		<0.005	mg/L	0.005
Pronamide		<0.005	mg/L	0.005
Phenanthrene		<0.005	mg/L	0.005
Anthracene		<0.005	mg/L	0.005
Di-n-butylphthalate		<0.005	mg/L	0.005
Fluoranthene		<0.005	mg/L	0.005
Benzidine		<0.005	mg/L	0.005
Pyrene		<0.005	mg/L	0.005
p-Dimethylaminoazobenzene		<0.005	mg/L	0.005
Butylbenzylphthalate		<0.005	mg/L	0.005
Benzo(a)anthracene		<0.005	mg/L	0.005
3,3-Dichlorobenzidine		<0.005	mg/L	0.005
Chrysene		<0.005	mg/L	0.005
Bis (2-ethylhexyl) phthalate		<0.005	mg/L	0.005
Di-n-octylphthalate		<0.005	mg/L	0.005
Benzo(b)fluoranthene		<0.005	mg/L	0.005
7,12 Dimethylbenz(a)anthracene		<0.005	mg/L	0.005
Benzo(k)fluoranthene		<0.005	mg/L	0.005
Benzo(a)pyrene		<0.005	mg/L	0.005
3-Methylcholanthrene		<0.005	mg/L	0.005
Dibenzo(a,j)acridine		<0.005	mg/L	0.005
Indeno(1,2,3-cd)pyrene		<0.005	mg/L	0.005
Dibenzo(a,h)anthracene		<0.005	mg/L	0.005
Benzo(g,h,i)perylene		<0.005	mg/L	0.005

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
2-Fluorophenol		25.50	mg/L	80	31	8 - 73
Nitrobenzene-d5		59.91	mg/L	80	74	44 - 109
2-Fluorobiphenyl		58.24	mg/L	80	72	45 - 109
2,4,6-Tribromophenol		57.84	mg/L	80	72	38 - 132
Terphenyl-d14		53.99	mg/L	80	67	46 - 121

Sample: Method Blank QCBatch: QC03190

Param	Flag	Results	Units	Reporting Limit
Cl		<0.5	mg/L	0.50
Fluoride		<0.2	mg/L	0.20
Nitrate-N		<0.2	mg/L	0.20
Sulfate		<0.5	mg/L	0.50

Sample: Method Blank QCBatch: QC03193

Param	Flag	Results	Units	Reporting Limit
Total Dissolved Solids		10	mg/L	10

Sample: Method Blank QCBatch: QC03195

Param	Flag	Results	Units	Reporting Limit
Bromochloromethane		<2.00	µg/L	2
Dichlorodifluoromethane		<2.00	µg/L	2
Chloromethane (methyl chloride)		<2.00	µg/L	2
Vinyl Chloride		<2.00	µg/L	2
Bromomethane (methyl bromide)		<5.00	µg/L	5
Chloroethane		<2.00	µg/L	2
Trichlorofluoromethane		<2.00	µg/L	2
Acetone		<10.00	µg/L	10
Iodomethane (methyl iodide)		<2.00	µg/L	2
Carbon Disulfide		<2.00	µg/L	2
Acrylonitrile		<2.00	µg/L	2
2-Butanone (MEK)		<2.00	µg/L	2
4 methyl-2-pentanone (MIBK)		<10.00	µg/L	10
2-hexanone		<2.00	µg/L	2
trans 1,4 Dichloro-2-butene		<10.00	µg/L	10
1,1-Dichloroethene		<2.00	µg/L	2
Methylene chloride		<5.00	µg/L	5
MTBE		<2.00	µg/L	2
trans 1,2 Dichloroethene		<2.00	µg/L	2
1,1-Dichloroethane		<2.00	µg/L	2
cis-1,2-dichloroethene		<2.00	µg/L	2
2,2-Dichloropropane		<2.00	µg/L	2
1,2 Dichloroethane (EDC)		<2.00	µg/L	2
Chloroform		<2.00	µg/L	2
1,1,1-Trichloroethane		<2.00	µg/L	2
1,1-Dichloropropene		<2.00	µg/L	2
Benzene		<2.00	µg/L	2
Carbon Tetrachloride		<2.00	µg/L	2
1,2-Dichloropropane		<2.00	µg/L	2
Trichloroethene (TCE)		<2.00	µg/L	2

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Param	Flag	Results	Units	Reporting Limit
Dibromomethane (methylene bromide)		<2.00	µg/L	2
Bromodichloromethane		<2.00	µg/L	2
2-Chloroethyl vinyl ether		<10.00	µg/L	10
cis-1,3-Dichloropropene		<2.00	µg/L	2
trans-1,3-Dichloropropene		<2.00	µg/L	2
Toluene		<2.00	µg/L	2
1,1,2-Trichloroethane		<2.00	µg/L	2
1,3-Dichloropropane		<2.00	µg/L	2
Dibromochloromethane		<2.00	µg/L	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	2
Tetrachloroethene (PCE)		<2.00	µg/L	2
Chlorobenzene		<2.00	µg/L	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	2
Ethylbenzene		<2.00	µg/L	2
m,p-Xylene		<2.00	µg/L	2
Bromoform		<2.00	µg/L	2
Styrene		<2.00	µg/L	2
o-Xylene		<2.00	µg/L	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	2
2-Chlorotoluene		<2.00	µg/L	2
1,2,3-Trichloropropane		<2.00	µg/L	2
Isopropylbenzene		<2.00	µg/L	2
Bromobenzene		<2.00	µg/L	2
n Propylbenzene		<2.00	µg/L	2
1,3,5-Trimethylbenzene		<2.00	µg/L	2
tert-Butylbenzene		<2.00	µg/L	2
1,2,4 Trimethylbenzene		<2.00	µg/L	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	2
sec Butylbenzene		<2.00	µg/L	2
1,3-Dichlorobenzene		<2.00	µg/L	2
p-Isopropyltoluene		<2.00	µg/L	2
4-Chlorotoluene		<2.00	µg/L	2
1,2 Dichlorobenzene (ortho)		<2.00	µg/L	2
n-Butylbenzene		<2.00	µg/L	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5
1,2,3-Trichlorobenzene		<5.00	µg/L	5
1,2,4-Trichlorobenzene		<5.00	µg/L	5
Naphthalene		<2.00	µg/L	2
Hexachlorobutadiene		<5.00	µg/L	5

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
Dibromofluoromethane		51.65	µg/L	50	103	84 - 116
Toluene-d8		51.61	µg/L	50	103	92 - 108
4 Bromofluorobenzene		43.93	µg/L	50	87	80 - 110

Sample: Method Blank QCBatch: QC03240

Param	Flag	Results	Units	Reporting Limit
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1
Bicarbonate Alkalinity		<2.0	mg/L as CaCo3	1
Total Alkalinity		<2.0	mg/L as CaCo3	1

Sample: Method Blank QCBatch: QC03374

Param	Flag	Results	Units	Reporting Limit
Dissolved Calcium		<0.50	mg/L	0.50
Dissolved Magnesium		<0.50	mg/L	0.50
Dissolved Potassium		<0.50	mg/L	0.50
Dissolved Sodium		<0.50	mg/L	0.50

Sample: Method Blank QCBatch: QC03389

Param	Flag	Results	Units	Reporting Limit
Total Aluminum		<0.10	mg/L	0.10
Total Arsenic		<0.10	mg/L	0.10
Total Barium		<0.10	mg/L	0.10
Total Boron		<0.10	mg/L	0.10
Total Cadmium		<0.01	mg/L	0.01
Total Chromium		<0.05	mg/L	0.05
Total Cobalt		<0.05	mg/L	0.05
Total Copper		<0.10	mg/L	0.10
Total Iron		<0.10	mg/L	0.10
Total Lead		<0.05	mg/L	0.05
Total Manganese		<0.10	mg/L	0.10
Total Molybdenum		<0.10	mg/L	0.10
Total Nickel		<0.10	mg/L	0.10
Total Selenium		<0.05	mg/L	0.05
Total Silica		<0.50	mg/L	0.50
Total Silver		<0.05	mg/L	0.05
Total Zinc		<0.10	mg/L	0.10

Sample: Method Blank QCBatch: QC03390

Param	Flag	Results	Units	Reporting Limit
Total Mercury		<0.0002	mg/L	0.0002

Quality Control Report

Lab Control Spikes and Duplicate Spikes

Sample: LCS QC Batch: QC03142

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Phenol		42.824	mg/L	1	80	<0.005	53		5 - 57	20
2-Chlorophenol		43.416	mg/L	1	80	<0.005	54		29 - 110	20
1,4-Dichlorobenzene		54.708	mg/L	1	80	<0.005	68		25 - 94	20
n-Nitrosodi-n-propylamine		58.816	mg/L	1	80	<0.005	73		36 - 119	20
1,2,4-Trichlorobenzene		56.070	mg/L	1	80	<0.005	70		28 - 110	20
4-Chloro-3-methylphenol		49.008	mg/L	1	80	<0.005	61		40 - 126	20
Acenaphthene		50.649	mg/L	1	80	<0.005	63		47 - 118	20
4-Nitrophenol		38.123	mg/L	1	80	<0.005	47		0 - 69	20
2,4-Dinitrotoluene		62.227	mg/L	1	80	<0.005	77		46 - 133	20
Pentachlorophenol		33.291	mg/L	1	80	<0.005	41		21 - 131	20
Pyrene		49.127	mg/L	1	80	<0.005	61		44 - 125	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
2-Fluorophenol		49.05	mg/L	1	80	61	8 - 73
Phenol-d5		53.54	mg/L	1	80	66	8 - 62
Nitrobenzene-d5		53.51	mg/L	1	80	66	44 - 109
2-Fluorobiphenyl		53.68	mg/L	1	80	67	45 - 109
2,4,6-Tribromophenol		51.74	mg/L	1	80	64	39 - 132
Terphenyl-d14		53.77	mg/L	1	80	67	46 - 121

Sample: LCSD QC Batch: QC03142

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec	RPD	% Rec. Limit	RPD Limit
Phenol		45.977	mg/L	1	80	<0.005	57	7.10	5 - 57	20
2-Chlorophenol		46.473	mg/L	1	80	<0.005	58	6.80	29 - 110	20
1,4-Dichlorobenzene		56.488	mg/L	1	80	<0.005	70	3.20	25 - 94	20
n-Nitrosodi-n-propylamine		61.484	mg/L	1	80	<0.005	76	4.26	36 - 119	20
1,2,4-Trichlorobenzene		57.925	mg/L	1	80	<0.005	72	3.25	28 - 110	20
4-Chloro-3-methylphenol		54.861	mg/L	1	80	<0.005	68	11.30	40 - 126	20
Acenaphthene		53.894	mg/L	1	80	<0.005	67	6.20	47 - 118	20
4-Nitrophenol		43.909	mg/L	1	80	<0.005	54	14.10	0 - 69	20
2,4-Dinitrotoluene		68.147	mg/L	1	80	<0.005	85	9.08	46 - 133	20
Pentachlorophenol		38.058	mg/L	1	80	<0.005	47	13.36	21 - 131	20
Pyrene		45.151	mg/L	1	80	<0.005	56	8.43	44 - 125	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
2-Fluorophenol		51.82	mg/L	1	80	64	8 - 73

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Surrogate	Flag	Result	Units	Dil	Spike Amount	% Rec.	% Rec Limit
Phenol-d5		56.70	mg/L	1	80	70	8 - 69
Nitrobenzene-d5		55.67	mg/L	1	80	69	44 - 109
2 Fluorobiphenyl		58.17	mg/L	1	80	72	45 - 109
2,4,6-Tribromophenol		54.87	mg/L	1	80	68	39 - 132
Terphenyl-d14		50.62	mg/L	1	80	63	46 - 121

Sample: LCS

QC Batch: QC03195

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec Limit	RPD Limit
1,1-Dichloroethene		100	µg/L	1	100	<2.00	100		73 - 154	20
Benzene		98	µg/L	1	100	<2.00	98		84 - 126	20
Trichloroethene (TCE)		98	µg/L	1	100	<2.00	98		82 - 123	20
Toluene		97	µg/L	1	100	<2.00	97		81 - 122	20
Chlorobenzene		103	µg/L	1	100	<2.00	103		86 - 121	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec Limit
Dibromofluoromethane		50.92	µg/L	1	50	101	84 - 116
Toluene-d8		50.07	µg/L	1	50	100	92 - 108
4-Bromofluorobenzene		44.30	µg/L	1	50	88	80 - 110

Sample: LCSD

QC Batch: QC03195

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
1,1-Dichloroethene		100	µg/L	1	100	<2.00	100	0.00	73 - 154	20
Benzene		99	µg/L	1	100	<2.00	99	1.01	84 - 126	20
Trichloroethene (TCE)		98	µg/L	1	100	<2.00	98	0.00	82 - 123	20
Toluene		99	µg/L	1	100	<2.00	99	2.04	81 - 122	20
Chlorobenzene		105	µg/L	1	100	<2.00	105	1.92	86 - 121	20

Surrogate	Flag	Result	Units	Dil	Spike Amount	% Rec.	% Rec Limit
Dibromofluoromethane		51.22	µg/L	1	50	102	84 - 116
Toluene-d8		49.61	µg/L	1	50	99	92 - 108
4-Bromofluorobenzene		45.19	µg/L	1	50	90	80 - 110

Sample: LCS

QC Batch: QC03374

Param	Flag	Result	Units	Dil	Spike Amount Added	Matrix Spike Result	% Rec	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1063	mg/L	1	1000	<0.50	106		75 - 125	20
Dissolved Magnesium		982	mg/L	1	1000	<0.50	98		75 - 125	20
Dissolved Potassium		968	mg/L	1	1000	<0.50	97		75 - 125	20
Dissolved Sodium		955	mg/L	1	1000	<0.50	96		75 - 125	20

Sample: LCSD

QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1077	mg/L	1	1000	<0.50	108	1.30	75 - 125	20
Dissolved Magnesium		992	mg/L	1	1000	<0.50	99	1.01	75 - 125	20
Dissolved Potassium		951	mg/L	1	1000	<0.50	95	1.77	75 - 125	20
Dissolved Sodium		960	mg/L	1	1000	<0.50	96	0.52	75 - 125	20

Sample: LCS

QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		1.95	mg/L	1	2	<0.10	97		75 - 125	20
Total Arsenic		1.89	mg/L	1	2	<0.10	94		75 - 125	20
Total Barium		2.07	mg/L	1	2	<0.10	103		75 - 125	20
Total Boron		1.90	mg/L	1	2	<0.10	95		75 - 125	20
Total Cadmium		2.02	mg/L	1	2	<0.01	101		75 - 125	20
Total Chromium		2.07	mg/L	1	2	<0.05	103		75 - 125	20
Total Cobalt		2.13	mg/L	1	2	<0.05	106		75 - 125	20
Total Copper		2.06	mg/L	1	2	<0.10	103		75 - 125	20
Total Iron		2.08	mg/L	1	2	<0.10	104		75 - 125	20
Total Lead		2.01	mg/L	1	2	<0.05	100		75 - 125	20
Total Manganese		2.09	mg/L	1	2	<0.10	104		75 - 125	20
Total Molybdenum		2.14	mg/L	1	2	<0.10	107		75 - 125	20
Total Nickel		2.01	mg/L	1	2	<0.10	101		75 - 125	20
Total Selenium		1.66	mg/L	1	2	<0.05	83		75 - 125	20
Total Silica		9.75	mg/L	1	10	<0.50	97		75 - 125	20
Total Silver		0.35	mg/L	1	0.40	<0.05	87		75 - 125	20
Total Zinc		2.10	mg/L	1	2	<0.10	105		75 - 125	20

Sample: LCSD

QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		1.95	mg/L	1	2	<0.10	97	0.00	75 - 125	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec	RPD	% Rec. Limit	RPD Limit
Total Arsenic		1.90	mg/L	1	2	<0.10	95	0.52	75 - 125	20
Total Barium		2.08	mg/L	1	2	<0.10	104	0.48	75 - 125	20
Total Boron		1.91	mg/L	1	2	<0.10	95	0.52	75 - 125	20
Total Cadmium		2.03	mg/L	1	2	<0.01	101	0.49	75 - 125	20
Total Chromium		2.07	mg/L	1	2	<0.05	103	0.00	75 - 125	20
Total Cobalt		2.14	mg/L	1	2	<0.05	107	0.46	75 - 125	20
Total Copper		2.07	mg/L	1	2	<0.10	103	0.48	75 - 125	20
Total Iron		2.09	mg/L	1	2	<0.10	104	0.47	75 - 125	20
Total Lead		2.02	mg/L	1	2	<0.05	101	0.49	75 - 125	20
Total Manganese		2.10	mg/L	1	2	<0.10	105	0.47	75 - 125	20
Total Molybdenum		2.14	mg/L	1	2	<0.10	107	0.00	75 - 125	20
Total Nickel		2.03	mg/L	1	2	<0.10	102	0.99	75 - 125	20
Total Selenium		1.69	mg/L	1	2	<0.05	84	1.79	75 - 125	20
Total Silica		9.84	mg/L	1	10	<0.50	98	0.91	75 - 125	20
Total Silver		0.36	mg/L	1	0.40	<0.05	90	2.81	75 - 125	20
Total Zinc		2.10	mg/L	1	2	<0.10	105	0.00	75 - 125	20

Sample: LCS QC Batch: QC03390

Param	Flag	Result	Units	Dil	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00103	mg/L	1	0.001	<0.0002	103		80 - 120	20

Sample: LCSD QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00111	mg/L	1	0.001	<0.0002	111	7.47	80 - 120	20

Quality Control Report
Matrix Spikes and Duplicate Spikes

Sample: MS QC Batch: QC03190

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Cl		117.23	mg/L	1	62.50	58	94		80 - 120	20
Fluoride		13.97	mg/L	1	12.50	2.3	93		80 - 120	20

Continued ...

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec	RPD	% Rec. Limit	RPD Limit
Nitrate-N		26.33	mg/L	1	25	3.3	92		80 - 120	20
Sulfate		129.52	mg/L	1	62.50	69	96		80 - 120	20

Sample: MSD QC Batch: QC03190

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec Limit	RPD Limit
Cl		117.28	mg/L	1	62.50	58	94	0.08	80 - 120	20
Fluoride		13.75	mg/L	1	12.50	2.3	91	1.90	80 - 120	20
Nitrate-N		25.86	mg/L	1	25	3.3	90	2.06	80 - 120	20
Sulfate		129.38	mg/L	1	62.50	69	96	0.23	80 - 120	20

Sample: MS QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1182	mg/L	1	1000	162	102		75 - 125	20
Dissolved Magnesium		1010	mg/L	1	1000	26	98		75 - 125	20
Dissolved Potassium		953	mg/L	1	1000	2.9	95		75 - 125	20
Dissolved Sodium		1001	mg/L	1	1000	66	93		75 - 125	20

Sample: MSD QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1157	mg/L	1	1000	162	99	2.48	75 - 125	20
Dissolved Magnesium		997	mg/L	1	1000	26	97	1.32	75 - 125	20
Dissolved Potassium		938	mg/L	1	1000	2.9	93	1.59	75 - 125	20
Dissolved Sodium		968	mg/L	1	1000	66	90	3.59	75 - 125	20

Sample: MS QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		2.12	mg/L	1	2	<0.10	106		75 - 125	20
Total Arsenic		1.92	mg/L	1	2	<0.10	96		75 - 125	20
Total Barium		2.11	mg/L	1	2	0.10	100		75 - 125	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Boron		2.08	mg/L	1	2	0.21	93		75 - 125	20
Total Cadmium		1.92	mg/L	1	2	<0.01	96		75 - 125	20
Total Chromium		1.99	mg/L	1	2	<0.05	99		75 - 125	20
Total Cobalt		2.00	mg/L	1	2	<0.05	100		75 - 125	20
Total Copper		1.99	mg/L	1	2	<0.10	99		75 - 125	20
Total Iron		2.04	mg/L	1	2	<0.10	102		75 - 125	20
Total Lead		1.92	mg/L	1	2	<0.05	96		75 - 125	20
Total Manganese		2.02	mg/L	1	2	<0.10	101		75 - 125	20
Total Molybdenum		2.08	mg/L	1	2	<0.10	104		75 - 125	20
Total Nickel		1.94	mg/L	1	2	<0.10	98		75 - 125	20
Total Selenium		1.67	mg/L	1	2	<0.05	83		75 - 125	20
Total Silica		119	mg/L	1	10	107	120		75 - 125	20
Total Silver		0.34	mg/L	1	0.40	<0.05	85		75 - 125	20
Total Zinc		2.00	mg/L	1	2	<0.10	100		75 - 125	20

Sample: MSD

QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec Limit	RPD Limit
Total Aluminum		2.16	mg/L	1	2	<0.10	108	1.86	75 - 125	20
Total Arsenic		1.93	mg/L	1	2	<0.10	96	0.51	75 - 125	20
Total Barium		2.12	mg/L	1	2	0.10	101	0.49	75 - 125	20
Total Boron		2.10	mg/L	1	2	0.21	94	1.06	75 - 125	20
Total Cadmium		1.91	mg/L	1	2	<0.01	95	0.52	75 - 125	20
Total Chromium		1.99	mg/L	1	2	<0.05	99	0.00	75 - 125	20
Total Cobalt		2.00	mg/L	1	2	<0.05	100	0.00	75 - 125	20
Total Copper		2.01	mg/L	1	2	<0.10	100	0.99	75 - 125	20
Total Iron		2.05	mg/L	1	2	<0.10	102	0.48	75 - 125	20
Total Lead		1.92	mg/L	1	2	<0.05	96	0.00	75 - 125	20
Total Manganese		2.03	mg/L	1	2	<0.10	101	0.49	75 - 125	20
Total Molybdenum		2.08	mg/L	1	2	<0.10	104	0.00	75 - 125	20
Total Nickel		1.95	mg/L	1	2	<0.10	98	0.51	75 - 125	20
Total Selenium		1.69	mg/L	1	2	<0.05	84	1.19	75 - 125	20
Total Silica		118	mg/L	1	10	107	110	8.69	75 - 125	20
Total Silver		0.36	mg/L	1	0.40	<0.05	90	5.71	75 - 125	20
Total Zinc		1.99	mg/L	1	2	<0.10	99	0.50	75 - 125	20

Sample: MS

QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00112	mg/L	1	0.001	<0.0002	112		80 - 120	20

Sample: MSD QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec Limit	RPD Limit
Total Mercury		0.00103	mg/L	1	0.001	<0.0002	103	8.37	80 - 120	20

Quality Control Report
Duplicate Samples

Sample: Duplicate QC Batch: QC03137

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Specific Conductance		943	940	uMHOS/cm	1	0.31	20

Sample: Duplicate QC Batch: QC03193

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids		2118	1900	mg/L	1	10.85	20

Sample: Duplicate QC Batch: QC03240

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Hydroxide Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0.00	20
Carbonate Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0.00	20
Bicarbonate Alkalinity		313	316	mg/L as CaCo3	1	0.95	20
Total Alkalinity		313	316	mg/L as CaCo3	1	0.95	20

Sample: Duplicate QC Batch: QC03271

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH		7.1	7.1	s.u.	1	0.00	20

Quality Control Report
Continuing Calibration Verification Standards

Sample: CCV (1)

QC Batch: QC03137

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1413	1406	99	80 - 120	6/12/00

Sample: ICV (1)

QC Batch: QC03137

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1413	1406	99	80 - 120	6/12/00

Sample: CCV (1)

QC Batch: QC03142

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Phenol		mg/L	60	63.45	105	5 - 57	6/12/00
1,4-Dichlorobenzene		mg/L	60	58.75	97	25 - 94	6/12/00
2-Nitrophenol		mg/L	60	59.98	99	80 - 120	6/12/00
2,4-Dichlorophenol		mg/L	60	62.59	104	80 - 120	6/12/00
Hexachlorobutadiene		mg/L	60	55.74	92	80 - 120	6/12/00
4-Chloro-3-methylphenol		mg/L	60	62.67	104	40 - 126	6/12/00
2,4,6-Trichlorophenol		mg/L	60	57.22	95	80 - 120	6/12/00
Acenaphthene		mg/L	60	58.12	96	47 - 115	6/12/00
Diphenylamine		mg/L	60	58.17	96	80 - 120	6/12/00
Pentachlorophenol		mg/L	60	58.45	97	21 - 131	6/12/00
Fluoranthene		mg/L	60	59.51	99	80 - 120	6/12/00
Di-n-octylphthalate		mg/L	60	60.38	100	80 - 120	6/12/00
Benzo(a)pyrene		mg/L	60	55.79	92	80 - 120	6/12/00
2-Fluorophenol		mg/L	60	59.38	98	5 - 73	6/12/00
Phenol-d5		mg/L	60	63.57	105	8 - 62	6/12/00
Nitrobenzene-d5		mg/L	60	59.40	99	44 - 109	6/12/00
2-Fluorobiphenyl		mg/L	60	57.74	96	45 - 109	6/12/00
2,4,6-Tribromophenol		mg/L	60	54.22	90	39 - 132	6/12/00
Terphenyl-d14		mg/L	60	53.41	89	46 - 121	6/12/00

Sample: CCV (1)

QC Batch: QC03190

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Cl		mg/L	12.50	11.80	94	80 - 120	6/10/00
Fluoride		mg/L	2.50	2.45	98	80 - 120	6/10/00
Nitrate-N		mg/L	5	4.79	95	80 - 120	6/10/00

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		mg/L	12.50	12.07	96	80 - 120	6/16/00

Sample: ICV (1) QC Batch: QC03190

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Cl		mg/L	12.50	11.57	92	80 - 120	6/16/00
Fluoride		mg/L	2.50	2.50	100	80 - 120	6/16/00
Nitrate-N		mg/L	5	4.81	96	80 - 120	6/16/00
Sulfate		mg/L	12.50	11.98	96	80 - 120	6/16/00

Sample: CCV (1) QC Batch: QC03193

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	1005	100	80 - 120	6/13/00

Sample: ICV (1) QC Batch: QC03193

Param	Flag	Units	CCVs True Conc	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	991	99	80 - 120	6/13/00

Sample: CCV (1) QC Batch: QC03195

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Vinyl Chloride		µg/L	100	96	96	80 - 120	6/13/00
1,1-Dichloroethene		µg/L	100	99	99	73 - 154	6/13/00
Chloroform		µg/L	100	100	100	80 - 120	6/13/00
1,2-Dichloropropane		µg/L	100	101	101	80 - 120	6/13/00
Toluene		µg/L	100	100	100	81 - 122	6/13/00
Chlorobenzene		µg/L	100	102	102	86 - 121	6/13/00
Ethylbenzene		µg/L	100	106	106	80 - 120	6/13/00
Dibromofluoromethane		µg/L	50	50.44	100	80 - 120	6/13/00
Toluene-d8		µg/L	50	49.03	98	80 - 120	6/13/00
4-Bromofluorobenzene		µg/L	50	50.36	100	80 - 120	6/13/00

Sample: CCV (1) QC Batch: QC03240

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	80 - 120	6/16/00
Carbonate Alkalinity		mg/L as CaCo3	0	198	0	80 - 120	6/16/00
Bicarbonate Alkalinity		mg/L as CaCo3	0	36	0	80 - 120	6/16/00
Total Alkalinity		mg/L as CaCo3	250	234	93	80 - 120	6/16/00

Sample: ICV (1) QC Batch: QC03240

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	80 - 120	6/16/00
Carbonate Alkalinity		mg/L as CaCo3	0	230	0	80 - 120	6/16/00
Bicarbonate Alkalinity		mg/L as CaCo3	0	17	0	80 - 120	6/16/00
Total Alkalinity		mg/L as CaCo3	250	247	98	80 - 120	6/16/00

Sample: CCV (1) QC Batch: QC03271

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.0	100	80 - 120	6/12/00

Sample: ICV (1) QC Batch: QC03271

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.0	100	80 - 120	6/12/00

Sample: CCV (1) QC Batch: QC03374

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	20	21.6	108	75 - 125	6/20/00
Dissolved Magnesium		mg/L	20	21.2	106	75 - 125	6/20/00
Dissolved Potassium		mg/L	20	20.9	104	75 - 125	6/20/00
Dissolved Sodium		mg/L	20	19.5	97	75 - 125	6/20/00

Sample: ICV (1)

QC Batch: QC03374

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	20	20.9	104	75 - 125	6/20/00
Dissolved Magnesium		mg/L	20	20.2	101	75 - 125	6/20/00
Dissolved Potassium		mg/L	20	20.3	101	75 - 125	6/20/00
Dissolved Sodium		mg/L	20	19.1	95	75 - 125	6/20/00

Sample: CCV (1)

QC Batch: QC03389

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	5	5.25	105	75 - 125	6/17/00
Total Arsenic		mg/L	2.50	2.63	105	75 - 125	6/17/00
Total Barium		mg/L	5	5.28	105	75 - 125	6/17/00
Total Boron		mg/L	2.50	2.64	105	75 - 125	6/17/00
Total Cadmium		mg/L	0.50	0.52	104	75 - 125	6/17/00
Total Chromium		mg/L	1	1.05	105	75 - 125	6/17/00
Total Cobalt		mg/L	2.50	2.61	104	75 - 125	6/17/00
Total Copper		mg/L	1	1.06	106	75 - 125	6/17/00
Total Iron		mg/L	5	5.25	104	75 - 125	6/17/00
Total Lead		mg/L	2.50	2.64	104	75 - 125	6/17/00
Total Manganese		mg/L	0.50	0.53	106	75 - 125	6/17/00
Total Molybdenum		mg/L	2.50	2.63	104	75 - 125	6/17/00
Total Nickel		mg/L	2.50	2.64	104	75 - 125	6/17/00
Total Selenium		mg/L	2.50	2.66	104	75 - 125	6/17/00
Total Silica		mg/L	2.50	2.60	104	75 - 125	6/17/00
Total Silver		mg/L	0.50	0.52	104	75 - 125	6/17/00
Total Zinc		mg/L	0.50	0.53	106	75 - 125	6/17/00

Sample: ICV (1)

QC Batch: QC03389

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	5	4.99	99	75 - 125	6/17/00
Total Arsenic		mg/L	2.50	2.48	99	75 - 125	6/17/00
Total Barium		mg/L	5	5.04	100	75 - 125	6/17/00
Total Boron		mg/L	2.50	2.57	102	75 - 125	6/17/00
Total Cadmium		mg/L	0.50	0.50	100	75 - 125	6/17/00
Total Chromium		mg/L	1	1.00	100	75 - 125	6/17/00
Total Cobalt		mg/L	2.50	2.50	100	75 - 125	6/17/00
Total Copper		mg/L	1	1.00	100	75 - 125	6/17/00
Total Iron		mg/L	5	5.03	101	75 - 125	6/17/00
Total Lead		mg/L	2.50	2.52	100	75 - 125	6/17/00
Total Manganese		mg/L	0.50	0.50	100	75 - 125	6/17/00

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Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
bdenum	mg/L	2.50	2.50	100	75 - 125	6/17/00
	mg/L	2.50	2.51	100	75 - 125	6/17/00
ium	mg/L	2.50	2.50	100	75 - 125	6/17/00
	mg/L	2.50	2.45	100	75 - 125	6/17/00
	mg/L	0.50	0.50	100	75 - 125	6/17/00
	mg/L	0.50	0.51	100	75 - 125	6/17/00

CCV (1) QC Batch: QC03360

Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
ıry	mg/L	0.001	0.00088	88	80 - 120	6/22/00

ICV (1) QC Batch: QC03390

Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
ıry	mg/L	0.001	0.00092	92	80 - 120	6/22/00

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6701 Aberdeen Avenue, Ste 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

TraceAnalysis, Inc.

4725 Ripley Dr., Ste A
El Paso, Texas 79922-1028
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588 3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # A00061011

Company Name: NM OIL CONSERVATION DIV. Phone #: 505-827-7154

Address: (Street, City, Zip) 2040 S. PACHECO SANTA FE NM 87505 Fax #: 505-827-8177

Contact Person: BILL OLSON

Invoice to: (If different from above)

Project #: Project Name: WILDMILL OIL

Project Location: Charles Bradford Sampler Signature: X Bill Olson

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	NaHSO4	H2SO4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
147770	000608 1615 (Bradford)	2	40ml	✓				✓					✓		6/6/00	1615
	000608 1615 (Bradford)	1	liter	✓									✓		6/6/00	1615
	000608 1615 (Bradford)	1	liter	✓									✓		6/6/00	1615
	000608 1615 (Bradford)	1	liter	✓					✓				✓		6/6/00	1615

ANALYSIS REQUEST (Circle or Specify Method No.)

MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260B/624	GC/MS Semi Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	GEN CHEM NO3 NITRA #24	8RCRA METALS ICP-MS #23	Turn Around Time if different from standard	Hold
										2								
											1							
																1		

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Bill Olson	6/9/00	1200			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by: Vicki Beasley	Date: 6-10-00	Time: 10:00

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.

ORIGINAL COPY

LAB USE ONLY

Intact (Y) / N

Headspace Y / (N)

Temp 2 °

Log-in Review

REMARKS:

Carrier # 902 421 3737

Table 2: **Summary to BTEX and MTBE Analyses of Groundwater Samples from Water Wells**
Texaco Exploration and Production, Inc.
Texaco Exploration and Production, Inc.
McKinnley Lease (Abandoned), Lea County, New Mexico

Sample	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (mg/L)	MTBE (mg/L)
WW-1	10/20/99	<0.005	<0.005	<0.005	<0.005	<0.005
WW-2	"	<0.005	<0.005	<0.005	<0.005	<0.005

Notes: Analyses by Trace Analysis, Inc., Lubbock, Texas
1. (mg/L): Milligrams per liter
2. <: Concentration less than test method detection limit

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Jennifer A. Salisbury
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

September 11, 2000

Ms. Donna Henson
2020 Matts Dr.
Hobbs, New Mexico 88240

RE: WATER WELL SAMPLE ANALYSES

Dear Ms. Henson:

Enclosed you will find a copy of the laboratory analytical results of the water samples that the New Mexico Oil Conservation Division (OCD) obtained from your private water well on June 8, 2000. The sample analyses did not detect any oil or natural gas related contaminants in your water well. However, fluoride was found to be present at a concentration in excess of the New Mexico Water Quality Control Commission standard of 1.6 mg/l for drinking water. Since this is not an oilfield-related constituent, I recommend that you contact Dennis McQuillan of the New Mexico Environment Department at (505) 827-2831 regarding the occurrence of fluoride in the area and possible effects of fluoride on human health.

The OCD is continuing to investigate oilfield ground water contamination in your area. If you have any questions regarding the laboratory analyses of your water or the OCD's investigations, please feel free to call me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrologist
Environmental Bureau

Enclosure

xc w/ enclosure: Chris Williams, OCD Hobbs District Supervisor
Dennis McQuillan, NMED Ground Water Quality Bureau

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Bill Olson
OCD
2040 S. Pacheco
Santa Fe, NM 87505

RECEIVED
JUN 3 0 2000
ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Report Date: June 27, 2000

Order ID Number: A00061003

Project Number: Donna Henson
Project Name: Windmill Oil
Project Location: Donna Henson

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
147742	0006081230 Henson)	Water	6/8/00	12:30	6/10/00
147743	Trip Blank	Water	6/8/00	:	6/10/00

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 26 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Cation-Anion Balance Sheet

Sample # 147742 Date: 6/27/00

Cations	ppm	meq/L
Calcium	110	5.489
Magnesium	16	1.31664
Sodium	47	2.0445
Potassium	2.2	0.056276

Total Cations 8.90642 in meq/L

Anions	ppm	meq/L
Alkalinity	208	4.16
Sulfate	88	1.83216
Chloride	70	1.9747
Nitrate as N	4.4	0.314116
Fluoride	1.9	0.100016

Total Anions 8.38099 in meq/L

Percentage Error 6.07869 %
(needs to be <10%)

OTHER INFORMATION

TDS	0
EC	0

Measure EC and Cation Sums	890.6416	Range should be:	0	to	0
Measure EC and Anion Sums	838.0992	Range should be:	0	to	0
Calculated TDS/Conductivity	#DIV/0!	Range should be:	0.55	to	0.77
Measure TDS and Cation Sums	0	Range should be:	0.55	to	0.77
Measure TDS and Anion Sums	0	Range should be:	0.55	to	0.77

Analytical and Quality Control Report

Sample: 147742 - 0006081230 Henson)

Analysis:	8260	Analytical Method:	S 8260B	QC Batch:	QC03195	Date Analyzed:	6/13/00
Analyst:	JG	Preparation Method:	E 5030B	Prep Batch:	PB02746	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Bromochloromethane		<2.00	µg/L	1	2
Dichlorodifluoromethane		<2.00	µg/L	1	2
Chloromethane (methyl chloride)		<2.00	µg/L	1	2
Vinyl Chloride		<2.00	µg/L	1	2
Bromomethane (methyl bromide)		<5.00	µg/L	1	5
Chloroethane		<2.00	µg/L	1	2
Trichlorofluoromethane		<2.00	µg/L	1	2
Acetone		<10.00	µg/L	1	10
Iodomethane (methyl iodide)		<2.00	µg/L	1	2
Carbon Disulfide		<2.00	µg/L	1	2
Acrylonitrile		<2.00	µg/L	1	2
2-Butanone (MEK)		<2.00	µg/L	1	2
4-methyl-2-pentanone (MIBK)		<10.00	µg/L	1	10
2-hexanone		<2.00	µg/L	1	2
trans 1,4-Dichloro-2-butene		<10.00	µg/L	1	10
1,1-Dichloroethene		<2.00	µg/L	1	2
Methylene chloride		<5.00	µg/L	1	5
MTBE		<2.00	µg/L	1	2
trans-1,2-Dichloroethene		<2.00	µg/L	1	2
1,1-Dichloroethane		<2.00	µg/L	1	2
cis-1,2-dichloroethene		<2.00	µg/L	1	2
2,2-Dichloropropane		<2.00	µg/L	1	2
1,2-Dichloroethane (EDC)		<2.00	µg/L	1	2
Chloroform		<2.00	µg/L	1	2
1,1,1-Trichloroethane		<2.00	µg/L	1	2
1,1-Dichloropropene		<2.00	µg/L	1	2
Benzene		<2.00	µg/L	1	2
Carbon Tetrachloride		<2.00	µg/L	1	2
1,2-Dichloropropane		<2.00	µg/L	1	2
Trichloroethene (TCE)		<2.00	µg/L	1	2
Dibromomethane (methylene bromide)		<2.00	µg/L	1	2
Bromodichloromethane		<2.00	µg/L	1	2
2-Chloroethyl vinyl ether		<10.00	µg/L	1	10
cis-1,3-Dichloropropene		<2.00	µg/L	1	2
trans-1,3-Dichloropropene		<2.00	µg/L	1	2
Toluene		<2.00	µg/L	1	2
1,1,2-Trichloroethane		<2.00	µg/L	1	2
1,3-Dichloropropane		<2.00	µg/L	1	2
Dibromochloromethane		<2.00	µg/L	1	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	1	2
Tetrachloroethene (PCE)		<2.00	µg/L	1	2
Chlorobenzene		<2.00	µg/L	1	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	1	2
Ethylbenzene		<2.00	µg/L	1	2
m,p-Xylene		<2.00	µg/L	1	2

Continued ...

... *Continued* Sample: 147742 Analysis: 8260

Param	Flag	Result	Units	Dilution	RDL
Bromoform		<2.00	µg/L	1	2
Styrene		<2.00	µg/L	1	2
o-Xylene		<2.00	µg/L	1	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	1	2
2-Chlorotoluene		<2.00	µg/L	1	2
1,2,3-Trichloropropane		<2.00	µg/L	1	2
Isopropylbenzene		<2.00	µg/L	1	2
Bromobenzene		<2.00	µg/L	1	2
n-Propylbenzene		<2.00	µg/L	1	2
1,3,5-Trimethylbenzene		<2.00	µg/L	1	2
tert-Butylbenzene		<2.00	µg/L	1	2
1,2,4-Trimethylbenzene		<2.00	µg/L	1	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	1	2
sec-Butylbenzene		<2.00	µg/L	1	2
1,3-Dichlorobenzene		<2.00	µg/L	1	2
p-Isopropyltoluene		<2.00	µg/L	1	2
4-Chlorotoluene		<2.00	µg/L	1	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	1	2
n-Butylbenzene		<2.00	µg/L	1	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5
Naphthalene		<2.00	µg/L	1	2
Hexachlorobutadiene		<5.00	µg/L	1	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		52.38	µg/L	1	50	104	84 - 116
Toluene-d8		51.59	µg/L	1	50	103	92 - 108
4-Bromofluorobenzene		43.13	µg/L	1	50	86	80 - 110

Sample: 147742 - 0006081230 Henson)

Analysis:	8270	Analytical Method:	S 8270C	QC Batch:	QC03142	Date Analyzed:	6/12/00
Analyst:	MA	Preparation Method:	E 3510C	Prep Batch:	PB02699	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Pyridine		<0.005	mg/L	1	0.005
n-Nitrosodimethylamine		<0.005	mg/L	1	0.005
2-Picoline		<0.005	mg/L	1	0.005
Methyl methanesulfonate		<0.005	mg/L	1	0.005
Ethyl methanesulfonate		<0.005	mg/L	1	0.005
Phenol		<0.005	mg/L	1	0.005
Aniline		<0.005	mg/L	1	0.005
bis (2-chloroethyl) ether		<0.005	mg/L	1	0.005
2-Chlorophenol		<0.005	mg/L	1	0.005
1,3-Dichlorobenzene		<0.005	mg/L	1	0.005
1,4-Dichlorobenzene		<0.005	mg/L	1	0.005
Benzyl alcohol		<0.005	mg/L	1	0.005

Continued ...

... *Continued* Sample: 147742 Analysis: 8270

Param	Flag	Result	Units	Dilution	RDL
1,2-Dichlorobenzene		<0.005	mg/L	1	0.005
2-Methylphenol		<0.005	mg/L	1	0.005
bis (2-chloroisopropyl) ether		<0.005	mg/L	1	0.005
4-Methylphenol/3-Methylphenol		<0.005	mg/L	1	0.005
Acetophenone		<0.005	mg/L	1	0.005
n-Nitrosodi-n-propylamine		<0.005	mg/L	1	0.005
Hexachloroethane		<0.005	mg/L	1	0.005
Nitrobenzene		<0.005	mg/L	1	0.005
n-Nitrosopiperidine		<0.005	mg/L	1	0.005
Isophorone		<0.005	mg/L	1	0.005
2-Nitrophenol		<0.005	mg/L	1	0.005
2,4-Dimethylphenol		<0.005	mg/L	1	0.005
bis (2-chloroethoxy) methane		<0.005	mg/L	1	0.005
Benzoic acid		<0.005	mg/L	1	0.005
2,4-Dichlorophenol		<0.005	mg/L	1	0.005
1,2,4-Trichlorobenzene		<0.005	mg/L	1	0.005
a,a-Dimethylphenethylamine		<0.005	mg/L	1	0.005
Naphthalene		<0.005	mg/L	1	0.005
4-Chloroaniline		<0.005	mg/L	1	0.005
2,6-Dichlorophenol		<0.005	mg/L	1	0.005
Hexachlorobutadiene		<0.005	mg/L	1	0.005
n-Nitroso-di-n-butylamine		<0.005	mg/L	1	0.005
4-Chloro-3-methylphenol		<0.005	mg/L	1	0.005
1-Methylnaphthalene		<0.005	mg/L	1	0.005
2-Methylnaphthalene		<0.005	mg/L	1	0.005
1,2,4,5-Tetrachlorobenzene		<0.005	mg/L	1	0.005
Hexachlorocyclopentadiene		<0.005	mg/L	1	0.005
2,4,6-Trichlorophenol		<0.005	mg/L	1	0.005
2,4,5-Trichlorophenol		<0.005	mg/L	1	0.005
2-Chloronaphthalene		<0.005	mg/L	1	0.005
1-Chloronaphthalene		<0.005	mg/L	1	0.005
2-Nitroaniline		<0.005	mg/L	1	0.005
Dimethylphthalate		<0.005	mg/L	1	0.005
Acenaphthylene		<0.005	mg/L	1	0.005
2,6-Dinitrotoluene		<0.005	mg/L	1	0.005
3-Nitroaniline		<0.005	mg/L	1	0.005
Acenaphthene		<0.005	mg/L	1	0.005
2,4-Dinitrophenol		<0.005	mg/L	1	0.005
Dibenzofuran		<0.005	mg/L	1	0.005
Pentachlorobenzene		<0.005	mg/L	1	0.005
4-Nitrophenol		<0.005	mg/L	1	0.005
1-Napthylamine		<0.005	mg/L	1	0.005
2,4-Dinitrotoluene		<0.005	mg/L	1	0.005
2-Napthylamine		<0.005	mg/L	1	0.005
2,3,4,6-Tetrachlorophenol		<0.005	mg/L	1	0.005
Fluorene		<0.005	mg/L	1	0.005
Diethylphthalate		<0.005	mg/L	1	0.005
4-Chlorophenyl-phenylether		<0.005	mg/L	1	0.005
4-Nitroaniline		<0.005	mg/L	1	0.005
4,6-Dinitro-2-methylphenol		<0.005	mg/L	1	0.005
Diphenylamine		<0.005	mg/L	1	0.005

Continued ...

... *Continued* Sample: 147742 Analysis: 8270

Param	Flag	Result	Units	Dilution	RDL
Diphenylhydrazine		<0.005	mg/L	1	0.005
4-Bromophenyl-phenylether		<0.005	mg/L	1	0.005
Phenacetin		<0.005	mg/L	1	0.005
Hexachlorobenzene		<0.005	mg/L	1	0.005
4-Aminobiphenyl		<0.005	mg/L	1	0.005
Pentachlorophenol		<0.005	mg/L	1	0.005
Pentachloronitrobenzene		<0.005	mg/L	1	0.005
Pronamide		<0.005	mg/L	1	0.005
Phenanthrene		<0.005	mg/L	1	0.005
Anthracene		<0.005	mg/L	1	0.005
Di-n-butylphthalate		<0.005	mg/L	1	0.005
Fluoranthene		<0.005	mg/L	1	0.005
Benzidine		<0.005	mg/L	1	0.005
Pyrene		<0.005	mg/L	1	0.005
p-Dimethylaminoazobenzene		<0.005	mg/L	1	0.005
Butylbenzylphthalate		<0.005	mg/L	1	0.005
Benzo(a)anthracene		<0.005	mg/L	1	0.005
3,3-Dichlorobenzidine		<0.005	mg/L	1	0.005
Chrysene		<0.005	mg/L	1	0.005
Bis (2-ethylhexyl) phthalate		<0.005	mg/L	1	0.005
Di-n-octylphthalate		<0.005	mg/L	1	0.005
Benzo(b)fluoranthene		<0.005	mg/L	1	0.005
7,12-Dimethylbenz(a)anthracene		<0.005	mg/L	1	0.005
Benzo(k)fluoranthene		<0.005	mg/L	1	0.005
Benzo(a)pyrene		<0.005	mg/L	1	0.005
3-Methylcholanthrene		<0.005	mg/L	1	0.005
Dibenzo(a,j)acridine		<0.005	mg/L	1	0.005
Indeno(1,2,3-cd)pyrene		<0.005	mg/L	1	0.005
Dibenzo(a,h)anthracene		<0.005	mg/L	1	0.005
Benzo(g,h,i)perylene		<0.005	mg/L	1	0.005

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		21.16	mg/L	1	80	26	8 - 73
Nitrobenzene-d5		57.34	mg/L	1	80	71	44 - 109
2-Fluorobiphenyl		57.66	mg/L	1	80	72	45 - 109
2,4,6-Tribromophenol		55.79	mg/L	1	80	69	39 - 132
Terphenyl-d14		55.47	mg/L	1	80	69	46 - 121

Sample: 147742 - 0006081230 Henson)

Analysis:	Alkalinity	Analytical Method:	E 310.1	QC Batch:	QC03238	Date Analyzed:	6/13/00
Analyst:	LD	Preparation Method:		Prep Batch:	PB02792	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		208	mg/L as CaCo3	1	1
Total Alkalinity		208	mg/L as CaCo3	1	1

Sample: 147742 - 0006081230 Henson)

Analysis:	Conductivity	Analytical Method:	SM 2510B	QC Batch:	QC03138	Date Analyzed:	6/12/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02696	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Specific Conductance		820	uMHOS/cm	1	

Sample: 147742 - 0006081230 Henson)

Analysis:	Dissolved Metals	Analytical Method:	E 200.7	QC Batch:	QC03374	Date Analyzed:	6/20/00
Analyst:	RR	Preparation Method:		Prep Batch:	PB02731	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		110	mg/L	1	0.50
Dissolved Magnesium		16	mg/L	1	0.50
Dissolved Potassium		2.2	mg/L	1	0.50
Dissolved Sodium		47	mg/L	1	0.50

Sample: 147742 - 0006081230 Henson)

Analysis:	Hg, Total	Analytical Method:	S 7470A	QC Batch:	QC03390	Date Analyzed:	6/22/00
Analyst:	JM	Preparation Method:	N/A	Prep Batch:	PB02918	Date Prepared:	6/19/00

Param	Flag	Result	Units	Dilution	RDL
Total Mercury		<0.0002	mg/L	1	0.0002

Sample: 147742 - 0006081230 Henson)

Analysis:	Ion Chromatography (IC)	Analytical Method:	E 300.0	QC Batch:	QC03190	Date Analyzed:	6/10/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02742	Date Prepared:	6/10/00

Param	Flag	Result	Units	Dilution	RDL
CL		70	mg/L	1	0.50
Fluoride		1.9	mg/L	1	0.20
Nitrate-N		4.4	mg/L	1	0.20
Sulfate		88	mg/L	1	0.50

Sample: 147742 - 0006081230 Henson)

Analysis:	TDS	Analytical Method:	E 160.1	QC Batch:	QC03180	Date Analyzed:	6/12/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02733	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Total Dissolved Solids		540	mg/L	1	10

Sample: 147742 - 0006081230 Henson)

Analysis:	Total Metals	Analytical Method:	S 6010B	QC Batch:	QC03389	Date Analyzed:	6/17/00
Analyst:	RR	Preparation Method:	E 3010A	Prep Batch:	PB02676	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Total Aluminum		<0.10	mg/L	1	0.10
Total Arsenic		<0.10	mg/L	1	0.10
Total Barium		0.10	mg/L	1	0.10
Total Boron		0.21	mg/L	1	0.10
Total Cadmium		<0.01	mg/L	1	0.01
Total Chromium		<0.05	mg/L	1	0.05
Total Cobalt		<0.05	mg/L	1	0.05
Total Copper		<0.10	mg/L	1	0.10
Total Iron		<0.10	mg/L	1	0.10
Total Lead		<0.05	mg/L	1	0.05
Total Manganese		<0.10	mg/L	1	0.10
Total Molybdenum		<0.10	mg/L	1	0.10
Total Nickel		<0.10	mg/L	1	0.10
Total Selenium		<0.05	mg/L	1	0.05
Total Silica		107	mg/L	1	0.50
Total Silver		<0.05	mg/L	1	0.05
Total Zinc		<0.10	mg/L	1	0.10

Sample: 147742 - 0006081230 Henson)

Analysis:	pH	Analytical Method:	E 150.1	QC Batch:	QC03271	Date Analyzed:	6/12/00
Analyst:	RS	Preparation Method:	N/A	Prep Batch:	PB02820	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
pH	[1]	7.4	s.u.	1	1

Sample: 147743 - Trip Blank

Analysis:	8260	Analytical Method:	S 8260B	QC Batch:	QC03195	Date Analyzed:	6/13/00
Analyst:	JG	Preparation Method:	E 5030B	Prep Batch:	PB02746	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Bromochloromethane		<2.00	µg/L	1	2
Dichlorodifluoromethane		<2.00	µg/L	1	2
Chloromethane (methyl chloride)		<2.00	µg/L	1	2
Vinyl Chloride		<2.00	µg/L	1	2
Bromomethane (methyl bromide)		<5.00	µg/L	1	5
Chloroethane		<2.00	µg/L	1	2
Trichlorofluoromethane		<2.00	µg/L	1	2
Acetone		<10.00	µg/L	1	10
Iodomethane (methyl iodide)		<2.00	µg/L	1	2
Carbon Disulfide		<2.00	µg/L	1	2
Acrylonitrile		<2.00	µg/L	1	2
2-Butanone (MEK)		<2.00	µg/L	1	2
4-methyl-2-pentanone (MIBK)		<10.00	µg/L	1	10
2-hexanone		<2.00	µg/L	1	2
trans 1,4-Dichloro-2-butene		<10.00	µg/L	1	10
1,1-Dichloroethene		<2.00	µg/L	1	2
Methylene chloride		<5.00	µg/L	1	5

Continued ...

[1] Out of holding time.

... *Continued* Sample: 147743 Analysis: 8260

Param	Flag	Result	Units	Dilution	RDL
MTBE		<2.00	µg/L	1	2
trans-1,2-Dichloroethene		<2.00	µg/L	1	2
1,1-Dichloroethane		<2.00	µg/L	1	2
cis-1,2-dichloroethene		<2.00	µg/L	1	2
2,2-Dichloropropane		<2.00	µg/L	1	2
1,2-Dichloroethane (EDC)		<2.00	µg/L	1	2
Chloroform		<2.00	µg/L	1	2
1,1,1-Trichloroethane		<2.00	µg/L	1	2
1,1-Dichloropropene		<2.00	µg/L	1	2
Benzene		<2.00	µg/L	1	2
Carbon Tetrachloride		<2.00	µg/L	1	2
1,2-Dichloropropane		<2.00	µg/L	1	2
Trichloroethene (TCE)		<2.00	µg/L	1	2
Dibromomethane (methylene bromide)		<2.00	µg/L	1	2
Bromodichloromethane		<2.00	µg/L	1	2
2-Chloroethyl vinyl ether		<10.00	µg/L	1	10
cis-1,3-Dichloropropene		<2.00	µg/L	1	2
trans-1,3-Dichloropropene		<2.00	µg/L	1	2
Toluene		<2.00	µg/L	1	2
1,1,2-Trichloroethane		<2.00	µg/L	1	2
1,3-Dichloropropane		<2.00	µg/L	1	2
Dibromochloromethane		<2.00	µg/L	1	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	1	2
Tetrachloroethene (PCE)		<2.00	µg/L	1	2
Chlorobenzene		<2.00	µg/L	1	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	1	2
Ethylbenzene		<2.00	µg/L	1	2
m,p-Xylene		<2.00	µg/L	1	2
Bromoform		<2.00	µg/L	1	2
Styrene		<2.00	µg/L	1	2
o-Xylene		<2.00	µg/L	1	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	1	2
2-Chlorotoluene		<2.00	µg/L	1	2
1,2,3-Trichloropropane		<2.00	µg/L	1	2
Isopropylbenzene		<2.00	µg/L	1	2
Bromobenzene		<2.00	µg/L	1	2
n-Propylbenzene		<2.00	µg/L	1	2
1,3,5-Trimethylbenzene		<2.00	µg/L	1	2
tert-Butylbenzene		<2.00	µg/L	1	2
1,2,4-Trimethylbenzene		<2.00	µg/L	1	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	1	2
sec-Butylbenzene		<2.00	µg/L	1	2
1,3-Dichlorobenzene		<2.00	µg/L	1	2
p-Isopropyltoluene		<2.00	µg/L	1	2
4-Chlorotoluene		<2.00	µg/L	1	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	1	2
n-Butylbenzene		<2.00	µg/L	1	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5
Naphthalene		<2.00	µg/L	1	2

Continued ...

... *Continued* Sample: 147743 Analysis: 8260

Param	Flag	Result	Units	Dilution	RDL
Hexachlorobutadiene		<5.00	µg/L	1	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		52.47	µg/L	1	50	104	84 - 116
Toluene-d8		52.12	µg/L	1	50	104	92 - 108
4-Bromofluorobenzene		43.16	µg/L	1	50	86	80 - 110

Quality Control Report
Method Blank

Sample: Method Blank QCBatch: QC03138

Param	Flag	Results	Units	Reporting Limit
Specific Conductance		2.8	uMHOS/cm	

Sample: Method Blank QCBatch: QC03142

Param	Flag	Results	Units	Reporting Limit
Pyridine		<0.005	mg/L	0.005
n-Nitrosodimethylamine		<0.005	mg/L	0.005
2-Picoline		<0.005	mg/L	0.005
Methyl methanesulfonate		<0.005	mg/L	0.005
Ethyl methanesulfonate		<0.005	mg/L	0.005
Phenol		<0.005	mg/L	0.005
Aniline		<0.005	mg/L	0.005
bis (2-chloroethyl) ether		<0.005	mg/L	0.005
2-Chlorophenol		<0.005	mg/L	0.005
1,3-Dichlorobenzene		<0.005	mg/L	0.005
1,4-Dichlorobenzene		<0.005	mg/L	0.005
Benzyl alcohol		<0.005	mg/L	0.005
1,2-Dichlorobenzene		<0.005	mg/L	0.005
2-Methylphenol		<0.005	mg/L	0.005
bis (2-chloroisopropyl) ether		<0.005	mg/L	0.005
4-Methylphenol/3-Methylphenol		<0.005	mg/L	0.005
Acetophenone		<0.005	mg/L	0.005
n-Nitrosodi-n-propylamine		<0.005	mg/L	0.005
Hexachloroethane		<0.005	mg/L	0.005
Nitrobenzene		<0.005	mg/L	0.005
n-Nitrosopiperidine		<0.005	mg/L	0.005
Isophorone		<0.005	mg/L	0.005
2-Nitrophenol		<0.005	mg/L	0.005

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Param	Flag	Results	Units	Reporting Limit
2,4-Dimethylphenol		<0.005	mg/L	0.005
bis (2-chloroethoxy) methane		<0.005	mg/L	0.005
Benzoic acid		<0.005	mg/L	0.005
2,4-Dichlorophenol		<0.005	mg/L	0.005
1,2,4-Trichlorobenzene		<0.005	mg/L	0.005
a,a-Dimethylphenethylamine		<0.005	mg/L	0.005
Naphthalene		<0.005	mg/L	0.005
4-Chloroaniline		<0.005	mg/L	0.005
2,6-Dichlorophenol		<0.005	mg/L	0.005
Hexachlorobutadiene		<0.005	mg/L	0.005
n-Nitroso-di-n-butylamine		<0.005	mg/L	0.005
4-Chloro-3-methylphenol		<0.005	mg/L	0.005
1-Methylnaphthalene		<0.005	mg/L	0.005
2-Methylnaphthalene		<0.005	mg/L	0.005
1,2,4,5-Tetrachlorobenzene		<0.005	mg/L	0.005
Hexachlorocyclopentadiene		<0.005	mg/L	0.005
2,4,6-Trichlorophenol		<0.005	mg/L	0.005
2,4,5-Trichlorophenol		<0.005	mg/L	0.005
2-Chloronaphthalene		<0.005	mg/L	0.005
1-Chloronaphthalene		<0.005	mg/L	0.005
2-Nitroaniline		<0.005	mg/L	0.005
Dimethylphthalate		<0.005	mg/L	0.005
Acenaphthylene		<0.005	mg/L	0.005
2,6-Dinitrotoluene		<0.005	mg/L	0.005
3-Nitroaniline		<0.005	mg/L	0.005
Acenaphthene		<0.005	mg/L	0.005
2,4-Dinitrophenol		<0.005	mg/L	0.005
Dibenzofuran		<0.005	mg/L	0.005
Pentachlorobenzene		<0.005	mg/L	0.005
4-Nitrophenol		<0.005	mg/L	0.005
1-Napthylamine		<0.005	mg/L	0.005
2,4-Dinitrotoluene		<0.005	mg/L	0.005
2-Napthylamine		<0.005	mg/L	0.005
2,3,4,6-Tetrachlorophenol		<0.005	mg/L	0.005
Fluorene		<0.005	mg/L	0.005
Diethylphthalate		<0.005	mg/L	0.005
4-Chlorophenyl-phenylether		<0.005	mg/L	0.005
4-Nitroaniline		<0.005	mg/L	0.005
4,6-Dinitro-2-methylphenol		<0.005	mg/L	0.005
Diphenylamine		<0.005	mg/L	0.005
Diphenylhydrazine		<0.005	mg/L	0.005
4-Bromophenyl-phenylether		<0.005	mg/L	0.005
Phenacetin		<0.005	mg/L	0.005
Hexachlorobenzene		<0.005	mg/L	0.005
4-Aminobiphenyl		<0.005	mg/L	0.005
Pentachlorophenol		<0.005	mg/L	0.005
Pentachloronitrobenzene		<0.005	mg/L	0.005
Pronamide		<0.005	mg/L	0.005
Phenanthrene		<0.005	mg/L	0.005
Anthracene		<0.005	mg/L	0.005

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Param	Flag	Results	Units	Reporting Limit
Di-n-butylphthalate		<0.005	mg/L	0.005
Fluoranthene		<0.005	mg/L	0.005
Benzidine		<0.005	mg/L	0.005
Pyrene		<0.005	mg/L	0.005
p-Dimethylaminoazobenzene		<0.005	mg/L	0.005
Butylbenzylphthalate		<0.005	mg/L	0.005
Benzo(a)anthracene		<0.005	mg/L	0.005
3,3-Dichlorobenzidine		<0.005	mg/L	0.005
Chrysene		<0.005	mg/L	0.005
Bis (2-ethylhexyl) phthalate		<0.005	mg/L	0.005
Di-n-octylphthalate		<0.005	mg/L	0.005
Benzo(b)fluoranthene		<0.005	mg/L	0.005
7,12-Dimethylbenz(a)anthracene		<0.005	mg/L	0.005
Benzo(k)fluoranthene		<0.005	mg/L	0.005
Benzo(a)pyrene		<0.005	mg/L	0.005
3-Methylcholanthrene		<0.005	mg/L	0.005
Dibenzo(a,j)acridine		<0.005	mg/L	0.005
Indeno(1,2,3-cd)pyrene		<0.005	mg/L	0.005
Dibenzo(a,h)anthracene		<0.005	mg/L	0.005
Benzo(g,h,i)perylene		<0.005	mg/L	0.005

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
2-Fluorophenol		25.50	mg/L	80	31	8 - 73
Nitrobenzene-d5		59.91	mg/L	80	74	44 - 109
2-Fluorobiphenyl		58.24	mg/L	80	72	45 - 109
2,4,6-Tribromophenol		57.84	mg/L	80	72	39 - 132
Terphenyl-d14		53.99	mg/L	80	67	46 - 121

Sample: Method Blank

QCBatch: QC03180

Param	Flag	Results	Units	Reporting Limit
Total Dissolved Solids		<10	mg/L	10

Sample: Method Blank

QCBatch: QC03190

Param	Flag	Results	Units	Reporting Limit
CL		<0.5	mg/L	0.50
Fluoride		<0.2	mg/L	0.20
Nitrate-N		<0.2	mg/L	0.20
Sulfate		<0.5	mg/L	0.50

Sample: Method Blank

QCBatch: QC03195

Param	Flag	Results	Units	Reporting Limit
Bromochloromethane		<2.00	µg/L	2
Dichlorodifluoromethane		<2.00	µg/L	2
Chloromethane (methyl chloride)		<2.00	µg/L	2
Vinyl Chloride		<2.00	µg/L	2
Bromomethane (methyl bromide)		<5.00	µg/L	5
Chloroethane		<2.00	µg/L	2
Trichlorofluoromethane		<2.00	µg/L	2
Acetone		<10.00	µg/L	10
Iodomethane (methyl iodide)		<2.00	µg/L	2
Carbon Disulfide		<2.00	µg/L	2
Acrylonitrile		<2.00	µg/L	2
2-Butanone (MEK)		<2.00	µg/L	2
4-methyl-2-pentanone (MIBK)		<10.00	µg/L	10
2-hexanone		<2.00	µg/L	2
trans 1,4-Dichloro-2-butene		<10.00	µg/L	10
1,1-Dichloroethene		<2.00	µg/L	2
Methylene chloride		<5.00	µg/L	5
MTBE		<2.00	µg/L	2
trans-1,2-Dichloroethene		<2.00	µg/L	2
1,1-Dichloroethane		<2.00	µg/L	2
cis-1,2-dichloroethene		<2.00	µg/L	2
2,2-Dichloropropane		<2.00	µg/L	2
1,2-Dichloroethane (EDC)		<2.00	µg/L	2
Chloroform		<2.00	µg/L	2
1,1,1-Trichloroethane		<2.00	µg/L	2
1,1-Dichloropropene		<2.00	µg/L	2
Benzene		<2.00	µg/L	2
Carbon Tetrachloride		<2.00	µg/L	2
1,2-Dichloropropane		<2.00	µg/L	2
Trichloroethene (TCE)		<2.00	µg/L	2
Dibromomethane (methylene bromide)		<2.00	µg/L	2
Bromodichloromethane		<2.00	µg/L	2
2-Chloroethyl vinyl ether		<10.00	µg/L	10
cis-1,3-Dichloropropene		<2.00	µg/L	2
trans-1,3-Dichloropropene		<2.00	µg/L	2
Toluene		<2.00	µg/L	2
1,1,2-Trichloroethane		<2.00	µg/L	2
1,3-Dichloropropane		<2.00	µg/L	2
Dibromochloromethane		<2.00	µg/L	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	2
Tetrachloroethene (PCE)		<2.00	µg/L	2
Chlorobenzene		<2.00	µg/L	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	2
Ethylbenzene		<2.00	µg/L	2
m,p-Xylene		<2.00	µg/L	2
Bromoform		<2.00	µg/L	2
Styrene		<2.00	µg/L	2
o-Xylene		<2.00	µg/L	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	2
2-Chlorotoluene		<2.00	µg/L	2

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Param	Flag	Results	Units	Reporting Limit
1,2,3-Trichloropropane		<2.00	µg/L	2
Isopropylbenzene		<2.00	µg/L	2
Bromobenzene		<2.00	µg/L	2
n-Propylbenzene		<2.00	µg/L	2
1,3,5-Trimethylbenzene		<2.00	µg/L	2
tert-Butylbenzene		<2.00	µg/L	2
1,2,4-Trimethylbenzene		<2.00	µg/L	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	2
sec-Butylbenzene		<2.00	µg/L	2
1,3-Dichlorobenzene		<2.00	µg/L	2
p-Isopropyltoluene		<2.00	µg/L	2
4-Chlorotoluene		<2.00	µg/L	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	2
n-Butylbenzene		<2.00	µg/L	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5
1,2,3-Trichlorobenzene		<5.00	µg/L	5
1,2,4-Trichlorobenzene		<5.00	µg/L	5
Naphthalene		<2.00	µg/L	2
Hexachlorobutadiene		<5.00	µg/L	5

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
Dibromofluoromethane		51.65	µg/L	50	103	84 - 116
Toluene-d8		51.61	µg/L	50	103	92 - 108
4-Bromofluorobenzene		43.93	µg/L	50	87	80 - 110

Sample: Method Blank

QCBatch: QC03238

Param	Flag	Results	Units	Reporting Limit
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1
Bicarbonate Alkalinity		<4.0	mg/L as CaCo3	1
Total Alkalinity		<4.0	mg/L as CaCo3	1

Sample: Method Blank

QCBatch: QC03374

Param	Flag	Results	Units	Reporting Limit
Dissolved Calcium		<0.50	mg/L	0.50
Dissolved Magnesium		<0.50	mg/L	0.50
Dissolved Potassium		<0.50	mg/L	0.50
Dissolved Sodium		<0.50	mg/L	0.50

Sample: Method Blank QCBatch: QC03389

Param	Flag	Results	Units	Reporting Limit
Total Aluminum		<0.10	mg/L	0.10
Total Arsenic		<0.10	mg/L	0.10
Total Barium		<0.10	mg/L	0.10
Total Boron		<0.10	mg/L	0.10
Total Cadmium		<0.01	mg/L	0.01
Total Chromium		<0.05	mg/L	0.05
Total Cobalt		<0.05	mg/L	0.05
Total Copper		<0.10	mg/L	0.10
Total Iron		<0.10	mg/L	0.10
Total Lead		<0.05	mg/L	0.05
Total Manganese		<0.10	mg/L	0.10
Total Molybdenum		<0.10	mg/L	0.10
Total Nickel		<0.10	mg/L	0.10
Total Selenium		<0.05	mg/L	0.05
Total Silica		<0.50	mg/L	0.50
Total Silver		<0.05	mg/L	0.05
Total Zinc		<0.10	mg/L	0.10

Sample: Method Blank QCBatch: QC03390

Param	Flag	Results	Units	Reporting Limit
Total Mercury		<0.0002	mg/L	0.0002

Quality Control Report
Lab Control Spikes and Duplicate Spikes

Sample: LCS QC Batch: QC03142

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Phenol		42.824	mg/L	1	80	<0.005	53		5 - 57	20
2-Chlorophenol		43.416	mg/L	1	80	<0.005	54		29 - 110	20
1,4-Dichlorobenzene		54.708	mg/L	1	80	<0.005	68		25 - 94	20
n-Nitrosodi-n-propylamine		58.916	mg/L	1	80	<0.005	73		36 - 119	20
1,2,4-Trichlorobenzene		56.070	mg/L	1	80	<0.005	70		28 - 110	20
4-Chloro-3-methylphenol		49.008	mg/L	1	80	<0.005	61		40 - 126	20
Acenaphthene		50.649	mg/L	1	80	<0.005	63		47 - 118	20
4-Nitrophenol		38.123	mg/L	1	80	<0.005	47		0 - 69	20
2,4-Dinitrotoluene		62.227	mg/L	1	80	<0.005	77		46 - 133	20
Pentachlorophenol		33.291	mg/L	1	80	<0.005	41		21 - 131	20
Pyrene		49.127	mg/L	1	80	<0.005	61		44 - 125	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
2-Fluorophenol		49.05	mg/L	1	80	61	8 - 73
Phenol-d5		53.54	mg/L	1	80	66	8 - 62
Nitrobenzene-d5		53.51	mg/L	1	80	66	44 - 109
2-Fluorobiphenyl		53.68	mg/L	1	80	67	45 - 109
2,4,6-Tribromophenol		51.74	mg/L	1	80	64	39 - 132
Terphenyl-d14		53.77	mg/L	1	80	67	46 - 121

Sample: LCSD

QC Batch: QC03142

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Phenol		45.977	mg/L	1	80	<0.005	57	7.10	5 - 57	20
2-Chlorophenol		46.473	mg/L	1	80	<0.005	58	6.80	29 - 110	20
1,4-Dichlorobenzene		56.488	mg/L	1	80	<0.005	70	3.20	25 - 94	20
n-Nitrosodi-n-propylamine		61.484	mg/L	1	80	<0.005	76	4.26	36 - 119	20
1,2,4-Trichlorobenzene		57.925	mg/L	1	80	<0.005	72	3.25	28 - 110	20
4-Chloro-3-methylphenol		54.881	mg/L	1	80	<0.005	68	11.30	40 - 126	20
Acenaphthene		53.894	mg/L	1	80	<0.005	67	6.20	47 - 118	20
4-Nitrophenol		43.909	mg/L	1	80	<0.005	54	14.10	0 - 69	20
2,4-Dinitrotoluene		68.147	mg/L	1	80	<0.005	85	9.08	46 - 133	20
Pentachlorophenol		38.058	mg/L	1	80	<0.005	47	13.36	21 - 131	20
Pyrene		45.151	mg/L	1	80	<0.005	56	8.43	44 - 125	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
2-Fluorophenol		51.82	mg/L	1	80	64	8 - 73
Phenol-d5		56.70	mg/L	1	80	70	8 - 62
Nitrobenzene-d5		55.67	mg/L	1	80	69	44 - 109
2-Fluorobiphenyl		58.17	mg/L	1	80	72	45 - 109
2,4,6-Tribromophenol		54.87	mg/L	1	80	68	39 - 132
Terphenyl-d14		50.62	mg/L	1	80	63	46 - 121

Sample: LCS

QC Batch: QC03195

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
1,1-Dichloroethene		100	µg/L	1	100	<2.00	100		73 - 154	20
Benzene		98	µg/L	1	100	<2.00	98		84 - 126	20
Trichloroethene (TCE)		98	µg/L	1	100	<2.00	98		82 - 123	20
Toluene		97	µg/L	1	100	<2.00	97		81 - 122	20
Chlorobenzene		103	µg/L	1	100	<2.00	103		86 - 121	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Dibromofluoromethane		50.92	µg/L	1	50	101	84 - 116
Toluene-d8		50.07	µg/L	1	50	100	92 - 108
4-Bromofluorobenzene		44.30	µg/L	1	50	88	80 - 110

Sample: LCSD QC Batch: QC03195

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
1,1-Dichloroethene		100	µg/L	1	100	<2.00	100	0.00	73 - 154	20
Benzene		99	µg/L	1	100	<2.00	99	1.01	84 - 126	20
Trichloroethene (TCE)		98	µg/L	1	100	<2.00	98	0.00	82 - 123	20
Toluene		99	µg/L	1	100	<2.00	99	2.04	81 - 122	20
Chlorobenzene		105	µg/L	1	100	<2.00	105	1.92	86 - 121	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Dibromofluoromethane		51.22	µg/L	1	50	102	84 - 116
Toluene-d8		49.81	µg/L	1	50	99	92 - 108
4-Bromofluorobenzene		45.19	µg/L	1	50	90	80 - 110

Sample: LCS QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1063	mg/L	1	1000	<0.50	106		75 - 125	20
Dissolved Magnesium		982	mg/L	1	1000	<0.50	98		75 - 125	20
Dissolved Potassium		968	mg/L	1	1000	<0.50	97		75 - 125	20
Dissolved Sodium		955	mg/L	1	1000	<0.50	96		75 - 125	20

Sample: LCSD QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1077	mg/L	1	1000	<0.50	108	1.30	75 - 125	20
Dissolved Magnesium		992	mg/L	1	1000	<0.50	99	1.01	75 - 125	20
Dissolved Potassium		951	mg/L	1	1000	<0.50	95	1.77	75 - 125	20
Dissolved Sodium		960	mg/L	1	1000	<0.50	96	0.52	75 - 125	20

Sample: LCS QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		1.95	mg/L	1	2	<0.10	97		75 - 125	20
Total Arsenic		1.89	mg/L	1	2	<0.10	94		75 - 125	20
Total Barium		2.07	mg/L	1	2	<0.10	103		75 - 125	20
Total Boron		1.90	mg/L	1	2	<0.10	95		75 - 125	20
Total Cadmium		2.02	mg/L	1	2	<0.01	101		75 - 125	20
Total Chromium		2.07	mg/L	1	2	<0.05	103		75 - 125	20
Total Cobalt		2.13	mg/L	1	2	<0.05	106		75 - 125	20
Total Copper		2.06	mg/L	1	2	<0.10	103		75 - 125	20
Total Iron		2.08	mg/L	1	2	<0.10	104		75 - 125	20
Total Lead		2.01	mg/L	1	2	<0.05	100		75 - 125	20
Total Manganese		2.09	mg/L	1	2	<0.10	104		75 - 125	20
Total Molybdenum		2.14	mg/L	1	2	<0.10	107		75 - 125	20
Total Nickel		2.01	mg/L	1	2	<0.10	101		75 - 125	20
Total Selenium		1.66	mg/L	1	2	<0.05	83		75 - 125	20
Total Silica		9.75	mg/L	1	10	<0.50	97		75 - 125	20
Total Silver		0.35	mg/L	1	0.40	<0.05	87		75 - 125	20
Total Zinc		2.10	mg/L	1	2	<0.10	105		75 - 125	20

Sample: LCSD

QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		1.95	mg/L	1	2	<0.10	97	0.00	75 - 125	20
Total Arsenic		1.90	mg/L	1	2	<0.10	95	0.52	75 - 125	20
Total Barium		2.08	mg/L	1	2	<0.10	104	0.48	75 - 125	20
Total Boron		1.91	mg/L	1	2	<0.10	95	0.52	75 - 125	20
Total Cadmium		2.03	mg/L	1	2	<0.01	101	0.49	75 - 125	20
Total Chromium		2.07	mg/L	1	2	<0.05	103	0.00	75 - 125	20
Total Cobalt		2.14	mg/L	1	2	<0.05	107	0.46	75 - 125	20
Total Copper		2.07	mg/L	1	2	<0.10	103	0.48	75 - 125	20
Total Iron		2.09	mg/L	1	2	<0.10	104	0.47	75 - 125	20
Total Lead		2.02	mg/L	1	2	<0.05	101	0.49	75 - 125	20
Total Manganese		2.10	mg/L	1	2	<0.10	105	0.47	75 - 125	20
Total Molybdenum		2.14	mg/L	1	2	<0.10	107	0.00	75 - 125	20
Total Nickel		2.03	mg/L	1	2	<0.10	102	0.99	75 - 125	20
Total Selenium		1.69	mg/L	1	2	<0.05	84	1.79	75 - 125	20
Total Silica		9.84	mg/L	1	10	<0.50	98	0.91	75 - 125	20
Total Silver		0.36	mg/L	1	0.40	<0.05	90	2.81	75 - 125	20
Total Zinc		2.10	mg/L	1	2	<0.10	105	0.00	75 - 125	20

Sample: LCS

QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00103	mg/L	1	0.001	<0.0002	103		80 - 120	20

Sample: LCSD QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00111	mg/L	1	0.001	<0.0002	111	7.47	80 - 120	20

Quality Control Report
Matrix Spikes and Duplicate Spikes

Sample: MS QC Batch: QC03190

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
CL		117.23	mg/L	1	62.50	58	94		80 - 120	20
Fluoride		13.97	mg/L	1	12.50	2.3	93		80 - 120	20
Nitrate-N		26.33	mg/L	1	25	3.3	92		80 - 120	20
Sulfate		129.52	mg/L	1	62.50	69	96		80 - 120	20

Sample: MSD QC Batch: QC03190

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
CL		117.28	mg/L	1	62.50	58	94	0.08	80 - 120	20
Fluoride		13.75	mg/L	1	12.50	2.3	91	1.90	80 - 120	20
Nitrate-N		25.86	mg/L	1	25	3.3	90	2.06	80 - 120	20
Sulfate		129.38	mg/L	1	62.50	69	96	0.23	80 - 120	20

Sample: MS QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1182	mg/L	1	1000	162	102		75 - 125	20
Dissolved Magnesium		1010	mg/L	1	1000	26	98		75 - 125	20
Dissolved Potassium		953	mg/L	1	1000	2.9	95		75 - 125	20
Dissolved Sodium		1001	mg/L	1	1000	66	93		75 - 125	20

Sample: MSD QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1157	mg/L	1	1000	162	99	2.48	75 - 125	20
Dissolved Magnesium		997	mg/L	1	1000	26	97	1.32	75 - 125	20
Dissolved Potassium		938	mg/L	1	1000	2.9	93	1.59	75 - 125	20
Dissolved Sodium		968	mg/L	1	1000	66	90	3.59	75 - 125	20

Sample: MS

QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		2.12	mg/L	1	2	<0.10	106		75 - 125	20
Total Arsenic		1.92	mg/L	1	2	<0.10	96		75 - 125	20
Total Barium		2.11	mg/L	1	2	0.10	100		75 - 125	20
Total Boron		2.08	mg/L	1	2	0.21	93		75 - 125	20
Total Cadmium		1.92	mg/L	1	2	<0.01	96		75 - 125	20
Total Chromium		1.99	mg/L	1	2	<0.05	99		75 - 125	20
Total Cobalt		2.00	mg/L	1	2	<0.05	100		75 - 125	20
Total Copper		1.99	mg/L	1	2	<0.10	99		75 - 125	20
Total Iron		2.04	mg/L	1	2	<0.10	102		75 - 125	20
Total Lead		1.92	mg/L	1	2	<0.05	96		75 - 125	20
Total Manganese		2.02	mg/L	1	2	<0.10	101		75 - 125	20
Total Molybdenum		2.08	mg/L	1	2	<0.10	104		75 - 125	20
Total Nickel		1.94	mg/L	1	2	<0.10	98		75 - 125	20
Total Selenium		1.67	mg/L	1	2	<0.05	83		75 - 125	20
Total Silica		119	mg/L	1	10	107	120		75 - 125	20
Total Silver		0.34	mg/L	1	0.40	<0.05	85		75 - 125	20
Total Zinc		2.00	mg/L	1	2	<0.10	100		75 - 125	20

Sample: MSD

QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		2.16	mg/L	1	2	<0.10	108	1.86	75 - 125	20
Total Arsenic		1.93	mg/L	1	2	<0.10	96	0.51	75 - 125	20
Total Barium		2.12	mg/L	1	2	0.10	101	0.49	75 - 125	20
Total Boron		2.10	mg/L	1	2	0.21	94	1.06	75 - 125	20
Total Cadmium		1.91	mg/L	1	2	<0.01	95	0.52	75 - 125	20
Total Chromium		1.99	mg/L	1	2	<0.05	99	0.00	75 - 125	20
Total Cobalt		2.00	mg/L	1	2	<0.05	100	0.00	75 - 125	20
Total Copper		2.01	mg/L	1	2	<0.10	100	0.99	75 - 125	20
Total Iron		2.05	mg/L	1	2	<0.10	102	0.48	75 - 125	20
Total Lead		1.92	mg/L	1	2	<0.05	96	0.00	75 - 125	20
Total Manganese		2.03	mg/L	1	2	<0.10	101	0.49	75 - 125	20
Total Molybdenum		2.08	mg/L	1	2	<0.10	104	0.00	75 - 125	20
Total Nickel		1.95	mg/L	1	2	<0.10	98	0.51	75 - 125	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Selenium		1.69	mg/L	1	2	<0.05	84	1.19	75 - 125	20
Total Silica		118	mg/L	1	10	107	110	8.69	75 - 125	20
Total Silver		0.36	mg/L	1	0.40	<0.05	90	5.71	75 - 125	20
Total Zinc		1.99	mg/L	1	2	<0.10	99	0.50	75 - 125	20

Sample: MS QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00112	mg/L	1	0.001	<0.0002	112		80 - 120	20

Sample: MSD QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00103	mg/L	1	0.001	<0.0002	103	8.37	80 - 120	20

Quality Control Report
Duplicate Samples

Sample: Duplicate QC Batch: QC03138

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Specific Conductance		1222	1200	uMHOS/cm	1	1.81	20

Sample: Duplicate QC Batch: QC03180

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids		1648	1600	mg/L	1	2.95	20

Sample: Duplicate QC Batch: QC03238

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Hydroxide Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0.00	20
Carbonate Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0.00	20
Bicarbonate Alkalinity		180	172	mg/L as CaCo3	1	4.54	20
Total Alkalinity		180	172	mg/L as CaCo3	1	4.54	20

Sample: Duplicate QC Batch: QC03271

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH		7.1	7.1	s.u.	1	0.00	20

Quality Control Report
Continuing Calibration Verification Standards

Sample: CCV (1) QC Batch: QC03138

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1413	1419	100	80 - 120	6/12/00

Sample: ICV (1) QC Batch: QC03138

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1413	1406	99	80 - 120	6/12/00

Sample: CCV (1) QC Batch: QC03142

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Phenol		mg/L	60	63.48	105	5 - 57	6/12/00
1,4-Dichlorobenzene		mg/L	60	58.75	97	25 - 94	6/12/00
2-Nitrophenol		mg/L	60	59.98	99	80 - 120	6/12/00
2,4-Dichlorophenol		mg/L	60	62.59	104	80 - 120	6/12/00
Hexachlorobutadiene		mg/L	60	55.74	92	80 - 120	6/12/00
4-Chloro-3-methylphenol		mg/L	60	62.67	104	40 - 126	6/12/00
2,4,6-Trichlorophenol		mg/L	60	57.22	95	80 - 120	6/12/00
Acenaphthene		mg/L	60	58.12	96	47 - 118	6/12/00

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Diphenylamine		mg/L	60	58.17	96	80 - 120	6/12/00
Pentachlorophenol		mg/L	60	58.45	97	21 - 131	6/12/00
Fluoranthene		mg/L	60	59.51	99	80 - 120	6/12/00
Di-n-octylphthalate		mg/L	60	60.38	100	80 - 120	6/12/00
Benzo(a)pyrene		mg/L	60	55.79	92	80 - 120	6/12/00
2-Fluorophenol		mg/L	60	59.39	98	8 - 73	6/12/00
Phenol-d5		mg/L	60	63.57	105	8 - 62	6/12/00
Nitrobenzene-d5		mg/L	60	59.40	99	44 - 109	6/12/00
2-Fluorobiphenyl		mg/L	60	57.74	96	45 - 109	6/12/00
2,4,6-Tribromophenol		mg/L	60	54.22	90	39 - 132	6/12/00
Terphenyl-d14		mg/L	60	53.41	89	46 - 121	6/12/00

Sample: CCV (1)

QC Batch: QC03180

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	991	99	80 - 120	6/12/00

Sample: ICV (1)

QC Batch: QC03180

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	987	98	80 - 120	6/12/00

Sample: CCV (1)

QC Batch: QC03190

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
CL		mg/L	12.50	11.80	94	80 - 120	6/10/00
Fluoride		mg/L	2.50	2.45	98	80 - 120	6/10/00
Nitrate-N		mg/L	5	4.79	95	80 - 120	6/10/00
Sulfate		mg/L	12.50	12.07	96	80 - 120	6/10/00

Sample: ICV (1)

QC Batch: QC03190

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
CL		mg/L	12.50	11.57	92	80 - 120	6/10/00
Fluoride		mg/L	2.50	2.50	100	80 - 120	6/10/00
Nitrate-N		mg/L	5	4.81	96	80 - 120	6/10/00
Sulfate		mg/L	12.50	11.98	95	80 - 120	6/10/00

Sample: CCV (1) QC Batch: QC03195

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Vinyl Chloride		µg/L	100	96	96	80 - 120	6/13/00
1,1-Dichloroethene		µg/L	100	99	99	73 - 154	6/13/00
Chloroform		µg/L	100	100	100	80 - 120	6/13/00
1,2-Dichloropropane		µg/L	100	101	101	80 - 120	6/13/00
Toluene		µg/L	100	100	100	81 - 122	6/13/00
Chlorobenzene		µg/L	100	102	102	86 - 121	6/13/00
Ethylbenzene		µg/L	100	106	106	80 - 120	6/13/00
Dibromofluoromethane		µg/L	50	50.44	100	80 - 120	6/13/00
Toluene-d8		µg/L	50	49.03	98	80 - 120	6/13/00
4-Bromofluorobenzene		µg/L	50	50.36	100	80 - 120	6/13/00

Sample: CCV (1) QC Batch: QC03238

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	80 - 120	6/13/00
Carbonate Alkalinity		mg/L as CaCo3	0	204	0	80 - 120	6/13/00
Bicarbonate Alkalinity		mg/L as CaCo3	0	32	0	80 - 120	6/13/00
Total Alkalinity		mg/L as CaCo3	250	236	94	80 - 120	6/13/00

Sample: ICV (1) QC Batch: QC03238

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	80 - 120	6/13/00
Carbonate Alkalinity		mg/L as CaCo3	0	220	0	80 - 120	6/13/00
Bicarbonate Alkalinity		mg/L as CaCo3	0	31	0	80 - 120	6/13/00

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Alkalinity		mg/L as CaCo3	250	251	100	80 - 120	6/13/00

Sample: CCV (1) QC Batch: QC03271

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.0	100	80 - 120	6/12/00

Sample: ICV (1) QC Batch: QC03271

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.0	100	80 - 120	6/12/00

Sample: CCV (1) QC Batch: QC03374

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	20	21.6	108	75 - 125	6/20/00
Dissolved Magnesium		mg/L	20	21.2	106	75 - 125	6/20/00
Dissolved Potassium		mg/L	20	20.9	104	75 - 125	6/20/00
Dissolved Sodium		mg/L	20	19.5	97	75 - 125	6/20/00

Sample: ICV (1) QC Batch: QC03374

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	20	20.9	104	75 - 125	6/20/00
Dissolved Magnesium		mg/L	20	20.2	101	75 - 125	6/20/00
Dissolved Potassium		mg/L	20	20.3	101	75 - 125	6/20/00
Dissolved Sodium		mg/L	20	19.1	95	75 - 125	6/20/00

Sample: CCV (1) QC Batch: QC03389

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	5	5.28	105	75 - 125	6/17/00
Total Arsenic		mg/L	2.50	2.63	105	75 - 125	6/17/00
Total Barium		mg/L	5	5.28	105	75 - 125	6/17/00
Total Boron		mg/L	2.50	2.64	105	75 - 125	6/17/00
Total Cadmium		mg/L	0.50	0.52	104	75 - 125	6/17/00
Total Chromium		mg/L	1	1.05	105	75 - 125	6/17/00
Total Cobalt		mg/L	2.50	2.61	104	75 - 125	6/17/00
Total Copper		mg/L	1	1.06	106	75 - 125	6/17/00
Total Iron		mg/L	5	5.25	104	75 - 125	6/17/00
Total Lead		mg/L	2.50	2.64	104	75 - 125	6/17/00
Total Manganese		mg/L	0.50	0.53	106	75 - 125	6/17/00
Total Molybdenum		mg/L	2.50	2.63	104	75 - 125	6/17/00
Total Nickel		mg/L	2.50	2.64	104	75 - 125	6/17/00
Total Selenium		mg/L	2.50	2.66	104	75 - 125	6/17/00
Total Silica		mg/L	2.50	2.60	104	75 - 125	6/17/00
Total Silver		mg/L	0.50	0.52	104	75 - 125	6/17/00
Total Zinc		mg/L	0.50	0.53	106	75 - 125	6/17/00

Sample: ICV (1)

QC Batch: QC03389

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	5	4.99	99	75 - 125	6/17/00
Total Arsenic		mg/L	2.50	2.48	99	75 - 125	6/17/00
Total Barium		mg/L	5	5.04	100	75 - 125	6/17/00
Total Boron		mg/L	2.50	2.57	102	75 - 125	6/17/00
Total Cadmium		mg/L	0.50	0.50	100	75 - 125	6/17/00
Total Chromium		mg/L	1	1.00	100	75 - 125	6/17/00
Total Cobalt		mg/L	2.50	2.50	100	75 - 125	6/17/00
Total Copper		mg/L	1	1.00	100	75 - 125	6/17/00
Total Iron		mg/L	5	5.03	101	75 - 125	6/17/00
Total Lead		mg/L	2.50	2.52	100	75 - 125	6/17/00
Total Manganese		mg/L	0.50	0.50	100	75 - 125	6/17/00
Total Molybdenum		mg/L	2.50	2.50	100	75 - 125	6/17/00
Total Nickel		mg/L	2.50	2.51	100	75 - 125	6/17/00
Total Selenium		mg/L	2.50	2.50	100	75 - 125	6/17/00
Total Silica		mg/L	2.50	2.45	100	75 - 125	6/17/00
Total Silver		mg/L	0.50	0.50	100	75 - 125	6/17/00
Total Zinc		mg/L	0.50	0.51	100	75 - 125	6/17/00

Sample: CCV (1)

QC Batch: QC03390

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.001	0.00088	88	80 - 120	6/22/00

Sample: JCV (1) QC Batch: QC03390

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.001	0.00092	92	80 - 120	6/22/00

147742-43

Page_____of_____

6701 Aberdeen Avenue, Ste. 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

TraceAnalysis, Inc.

4725 Ripley Dr., Ste A
El Paso, Texas 79922-1028
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # 10006l003

Company Name: NM Oil Conservation Division
Phone #: (505) 827-7154

Address: (Street, City, Zip) 2040 S. Pacheco, Santa Fe, NM 87505
Fax #: (505) 827-8177

Contact Person: Bill Olson

Invoice to: (If different from above)

Project #:
Project Name: Windmill Oil

Project Location: Donna Henson
Sampler Signature: Bill Olson

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	NaHSO4	H2SO4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
147742	000608 1230 (Henson)	2	40ml	✓				✓					✓		6/8/00	1230
	000608 1230 (Henson)	1	liter	✓									✓		6/8/00	1230
	000608 1230 (Henson)	1	liter	✓									✓		6/8/00	1230
	000608 1230 (Henson)	1	500ml	✓					✓				✓		6/8/00	1230
147743	Trip Blankett	1														

ANALYSIS REQUEST
(Circle or Specify Method No.)

MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC-MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	Gen Chem (OCD contract Item #24)	OCD metals (OCD contract Item #23)	Turn Around Time if different from standard	Hold
										2								
											1							
															1			
																1		
										✓								

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Bill Olson	6/9/00	1200			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by: Vicki Hensley	6·10·00	10:00a

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.

ORIGINAL COPY

LAB USE ONLY

Intact (Y) / N
Headspace Y / N
Temp 4 °
Log-in Review

REMARKS:

Carrier # Courier 902-421-3737

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Jennifer A. Salisbury
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

September 8, 2000

Mr. Dwain Dobbs
2032 Roberts Lane
Hobbs, New Mexico 88240

RE: WATER WELL SAMPLE ANALYSES

Dear Mr. Dobbs:

Enclosed you will find a copy of the laboratory analytical results of the water samples that the New Mexico Oil Conservation Division (OCD) obtained from two of your private water wells on June 8, 2000. The sample analyses did not detect any oil or natural gas related contaminants in either of your wells. However, fluoride was found to be present in the Dobbs #1 well at concentrations in excess of the New Mexico Water Quality Control Commission standard of 1.6 mg/l for drinking water. The well designated Dobbs#1 was the well with the tap in your front yard under the tree. Since fluoride is not an oilfield-related constituent, I recommend that you contact Dennis McQuillan of the New Mexico Environment Department at (505) 827-2831 regarding the occurrence of fluoride in the area and possible effects of fluoride on human health.

The OCD is continuing to investigate oilfield ground water contamination in your area. If you have any questions regarding the laboratory analyses of your water or the OCD's investigations, please feel free to call me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrologist
Environmental Bureau

Enclosure

xc w/ enclosure: Chris Williams, OCD Hobbs District Supervisor
Dennis McQuillan, NMED Ground Water Bureau

TRACEANALYSIS, INC.

/enue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
je, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

ılytical and Quality Control Report

Report Date: June 27, 2000

Order ID Number: A00061005

›bbs

›bbs

Results and Quality Control Data Reports for the following samples submitted to Trace-

n	Matrix	Date Taken	Time Taken	Date Received
0 (Dobbs #1)	Water	6/8/00	13:00	6/10/00
5 (Dobbs #2)	Water	6/8/00	13:45	6/10/00

;he samples received in the laboratory. The Quality Control Report is generated on a batch
ned in this report is for the analytical batch(es) in which your sample(s) were analyzed .

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Dr. Blair Leftwich, Director

RECEIVED
JUN 30 2000
ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Cation-Anion Balance Sheet

DATE: 6/27/00

Sample #	Calcium ppm	Magnesium ppm	Sodium ppm	Potassium ppm	Alkalinity ppm	Sulfate ppm	Chloride ppm	Nitrate ppm	Fluoride ppm	TDS ppm	EC µMHOs/cm
147745	158	24	67	2.8	282	180	110	4.2	2	0	0
147746	117	20	39	3	178	130	72	4.4	1.5	0	0

Sample #	Calcium in meq/L	Magnesium in meq/L	Sodium in meq/L	Potassium in meq/L	Alkalinity in meq/L	Sulfate in meq/L	Chloride in meq/L	Nitrate in meq/L	Fluoride in meq/L	Total Cations in meq/L	Total Anions in meq/L	Percentage Error
147745	7.88	1.97	2.91	0.07	5.64	3.75	3.10	0.299838	0.10528	12.85	12.90	-0.392632763
147746	5.84	1.65	1.70	0.08	3.56	2.71	2.03	0.314116	0.07896	9.26	8.69	6.313123547

	EC/Cation	EC/Anion					TDS/EC	TDS/Cat	TDS/Anion	
147745	1284.5284	1289.5818	range		to	0	#DIV/0!	0.00	0.00	needs to be 0.55-0.77
147746	925.734	869.0796	range	0	to	0	#DIV/0!	0.00	0.00	needs to be 0.55-0.77

Analytical and Quality Control Report

Sample: 147745 - 0006081300 (Dobbs #1)

Analysis:	8260	Analytical Method:	S 8260B	QC Batch:	QC03195	Date Analyzed:	6/13/00
Analyst:	JG	Preparation Method:	E 5030B	Prep Batch:	PB02746	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Bromochloromethane		<2.00	µg/L	1	2
Dichlorodifluoromethane		<2.00	µg/L	1	2
Chloromethane (methyl chloride)		<2.00	µg/L	1	2
Vinyl Chloride		<2.00	µg/L	1	2
Bromomethane (methyl bromide)		<5.00	µg/L	1	5
Chloroethane		<2.00	µg/L	1	2
Trichlorofluoromethane		<2.00	µg/L	1	2
Acetone		<10.00	µg/L	1	10
Iodomethane (methyl iodide)		<2.00	µg/L	1	2
Carbon Disulfide		<2.00	µg/L	1	2
Acrylonitrile		<2.00	µg/L	1	2
2-Butanone (MEK)		<2.00	µg/L	1	2
4-methyl-2-pentanone (MIBK)		<10.00	µg/L	1	10
2-hexanone		<2.00	µg/L	1	2
trans 1,4-Dichloro-2-butene		<10.00	µg/L	1	10
1,1-Dichloroethene		<2.00	µg/L	1	2
Methylene chloride		<5.00	µg/L	1	5
MTBE		<2.00	µg/L	1	2
trans-1,2-Dichloroethene		<2.00	µg/L	1	2
1,1-Dichloroethane		<2.00	µg/L	1	2
cis-1,2-dichloroethene		<2.00	µg/L	1	2
2,2-Dichloropropane		<2.00	µg/L	1	2
1,2-Dichloroethane (EDC)		<2.00	µg/L	1	2
Chloroform		<2.00	µg/L	1	2
1,1,1-Trichloroethane		<2.00	µg/L	1	2
1,1-Dichloropropene		<2.00	µg/L	1	2
Benzene		<2.00	µg/L	1	2
Carbon Tetrachloride		<2.00	µg/L	1	2
1,2-Dichloropropane		<2.00	µg/L	1	2
Trichloroethene (TCE)		<2.00	µg/L	1	2
Dibromomethane (methylene bromide)		<2.00	µg/L	1	2
Bromodichloromethane		<2.00	µg/L	1	2
2-Chloroethyl vinyl ether		<10.00	µg/L	1	10
cis-1,3-Dichloropropene		<2.00	µg/L	1	2
trans-1,3-Dichloropropene		<2.00	µg/L	1	2
Toluene		<2.00	µg/L	1	2
1,1,2-Trichloroethane		<2.00	µg/L	1	2
1,3-Dichloropropane		<2.00	µg/L	1	2
Dibromochloromethane		<2.00	µg/L	1	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	1	2
Tetrachloroethene (PCE)		<2.00	µg/L	1	2
Chlorobenzene		<2.00	µg/L	1	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	1	2
Ethylbenzene		<2.00	µg/L	1	2
m,p-Xylene		<2.00	µg/L	1	2

Continued ...

... *Continued* Sample: 147745 Analysis: 8260

Param	Flag	Result	Units	Dilution	RDL
Bromoform		<2.00	µg/L	1	2
Styrene		<2.00	µg/L	1	2
o-Xylene		<2.00	µg/L	1	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	1	2
2-Chlorotoluene		<2.00	µg/L	1	2
1,2,3-Trichloropropane		<2.00	µg/L	1	2
Isopropylbenzene		<2.00	µg/L	1	2
Bromobenzene		<2.00	µg/L	1	2
n-Propylbenzene		<2.00	µg/L	1	2
1,3,5-Trimethylbenzene		<2.00	µg/L	1	2
tert-Butylbenzene		<2.00	µg/L	1	2
1,2,4-Trimethylbenzene		<2.00	µg/L	1	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	1	2
sec-Butylbenzene		<2.00	µg/L	1	2
1,3-Dichlorobenzene		<2.00	µg/L	1	2
p-Isopropyltoluene		<2.00	µg/L	1	2
4-Chlorotoluene		<2.00	µg/L	1	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	1	2
n-Butylbenzene		<2.00	µg/L	1	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5
Naphthalene		<2.00	µg/L	1	2
Hexachlorobutadiene		<5.00	µg/L	1	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		52.77	µg/L	1	50	105	84 - 116
Toluene-d8		52.40	µg/L	1	50	104	92 - 108
4-Bromofluorobenzene		43.18	µg/L	1	50	86	80 - 110

Sample: 147745 - 0006081300 (Dobbs #1)

Analysis:	8270	Analytical Method:	S 8270C	QC Batch:	QC03142	Date Analyzed:	6/12/00
Analyst:	MA	Preparation Method:	E 3510C	Prep Batch:	PB02699	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Pyridine		<0.005	mg/L	1	0.005
n-Nitrosodimethylamine		<0.005	mg/L	1	0.005
2-Picoline		<0.005	mg/L	1	0.005
Methyl methanesulfonate		<0.005	mg/L	1	0.005
Ethyl methanesulfonate		<0.005	mg/L	1	0.005
Phenol		<0.005	mg/L	1	0.005
Aniline		<0.005	mg/L	1	0.005
bis (2-chloroethyl) ether		<0.005	mg/L	1	0.005
2-Chlorophenol		<0.005	mg/L	1	0.005
1,3-Dichlorobenzene		<0.005	mg/L	1	0.005
1,4-Dichlorobenzene		<0.005	mg/L	1	0.005
Benzyl alcohol		<0.005	mg/L	1	0.005

Continued ...

... *Continued* Sample: 147745 Analysis: 8270

Param	Flag	Result	Units	Dilution	RDL
1,2-Dichlorobenzene		<0.005	mg/L	1	0.005
2-Methylphenol		<0.005	mg/L	1	0.005
bis (2-chloroisopropyl) ether		<0.005	mg/L	1	0.005
4-Methylphenol/3-Methylphenol		<0.005	mg/L	1	0.005
Acetophenone		<0.005	mg/L	1	0.005
n-Nitrosodi-n-propylamine		<0.005	mg/L	1	0.005
Hexachloroethane		<0.005	mg/L	1	0.005
Nitrobenzene		<0.005	mg/L	1	0.005
n-Nitrosopiperidine		<0.005	mg/L	1	0.005
Isophorone		<0.005	mg/L	1	0.005
2-Nitrophenol		<0.005	mg/L	1	0.005
2,4-Dimethylphenol		<0.005	mg/L	1	0.005
bis (2-chloroethoxy) methane		<0.005	mg/L	1	0.005
Benzoic acid		<0.005	mg/L	1	0.005
2,4-Dichlorophenol		<0.005	mg/L	1	0.005
1,2,4-Trichlorobenzene		<0.005	mg/L	1	0.005
a,a-Dimethylphenethylamine		<0.005	mg/L	1	0.005
Naphthalene		<0.005	mg/L	1	0.005
4-Chloroaniline		<0.005	mg/L	1	0.005
2,6-Dichlorophenol		<0.005	mg/L	1	0.005
Hexachlorobutadiene		<0.005	mg/L	1	0.005
n-Nitroso-di-n-butylamine		<0.005	mg/L	1	0.005
4-Chloro-3-methylphenol		<0.005	mg/L	1	0.005
1-Methylnaphthalene		<0.005	mg/L	1	0.005
2-Methylnaphthalene		<0.005	mg/L	1	0.005
1,2,4,5-Tetrachlorobenzene		<0.005	mg/L	1	0.005
Hexachlorocyclopentadiene		<0.005	mg/L	1	0.005
2,4,6-Trichlorophenol		<0.005	mg/L	1	0.005
2,4,5-Trichlorophenol		<0.005	mg/L	1	0.005
2-Chloronaphthalene		<0.005	mg/L	1	0.005
1-Chloronaphthalene		<0.005	mg/L	1	0.005
2-Nitroaniline		<0.005	mg/L	1	0.005
Dimethylphthalate		<0.005	mg/L	1	0.005
Acenaphthylene		<0.005	mg/L	1	0.005
2,6-Dinitrotoluene		<0.005	mg/L	1	0.005
3-Nitroaniline		<0.005	mg/L	1	0.005
Acenaphthene		<0.005	mg/L	1	0.005
2,4-Dinitrophenol		<0.005	mg/L	1	0.005
Dibenzofuran		<0.005	mg/L	1	0.005
Pentachlorobenzene		<0.005	mg/L	1	0.005
4-Nitrophenol		<0.005	mg/L	1	0.005
1-Napthylamine		<0.005	mg/L	1	0.005
2,4-Dinitrotoluene		<0.005	mg/L	1	0.005
2-Napthylamine		<0.005	mg/L	1	0.005
2,3,4,6-Tetrachlorophenol		<0.005	mg/L	1	0.005
Fluorene		<0.005	mg/L	1	0.005
Diethylphthalate		<0.005	mg/L	1	0.005
4-Chlorophenyl-phenylether		<0.005	mg/L	1	0.005
4-Nitroaniline		<0.005	mg/L	1	0.005
4,6-Dinitro-2-methylphenol		<0.005	mg/L	1	0.005
Diphenylamine		<0.005	mg/L	1	0.005

Continued ...

... *Continued* Sample: 147745 Analysis: 8270

Param	Flag	Result	Units	Dilution	RDL
Diphenylhydrazine		<0.005	mg/L	1	0.005
4-Bromophenyl-phenylether		<0.005	mg/L	1	0.005
Phenacetin		<0.005	mg/L	1	0.005
Hexachlorobenzene		<0.005	mg/L	1	0.005
4-Aminobiphenyl		<0.005	mg/L	1	0.005
Pentachlorophenol		<0.005	mg/L	1	0.005
Pentachloronitrobenzene		<0.005	mg/L	1	0.005
Pronamide		<0.005	mg/L	1	0.005
Phenanthrene		<0.005	mg/L	1	0.005
Anthracene		<0.005	mg/L	1	0.005
Di-n-butylphthalate		<0.005	mg/L	1	0.005
Fluoranthene		<0.005	mg/L	1	0.005
Benzidine		<0.005	mg/L	1	0.005
Pyrene		<0.005	mg/L	1	0.005
p-Dimethylaminoazobenzene		<0.005	mg/L	1	0.005
Butylbenzylphthalate		<0.005	mg/L	1	0.005
Benzo(a)anthracene		<0.005	mg/L	1	0.005
3,3-Dichlorobenzidine		<0.005	mg/L	1	0.005
Chrysene		<0.005	mg/L	1	0.005
Bis (2-ethylhexyl) phthalate		<0.005	mg/L	1	0.005
Di-n-octylphthalate		<0.005	mg/L	1	0.005
Benzo(b)fluoranthene		<0.005	mg/L	1	0.005
7,12-Dimethylbenz(a)anthracene		<0.005	mg/L	1	0.005
Benzo(k)fluoranthene		<0.005	mg/L	1	0.005
Benzo(a)pyrene		<0.005	mg/L	1	0.005
3-Methylcholanthrene		<0.005	mg/L	1	0.005
Dibenzo(a,j)acridine		<0.005	mg/L	1	0.005
Indeno(1,2,3-cd)pyrene		<0.005	mg/L	1	0.005
Dibenzo(a,h)anthracene		<0.005	mg/L	1	0.005
Benzo(g,h,i)perylene		<0.005	mg/L	1	0.005

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		17.22	mg/L	1	80	21	8 - 73
Nitrobenzene-d5		48.81	mg/L	1	80	61	44 - 109
2-Fluorobiphenyl		51.67	mg/L	1	80	64	45 - 109
2,4,6-Tribromophenol		47.59	mg/L	1	80	59	39 - 132
Terphenyl-d14		49.85	mg/L	1	80	62	46 - 121

Sample: 147745 - 0006081300 (Dobbs #1)

Analysis:	Alkalinity	Analytical Method:	E 310.1	QC Batch:	QC03238	Date Analyzed:	6/13/00
Analyst:	LD	Preparation Method:	N/A	Prep Batch:	PB02792	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		282	mg/L as CaCo3	1	1
Total Alkalinity		282	mg/L as CaCo3	1	1

Sample: 147745 - 0006081300 (Dobbs #1)

Analysis:	Conductivity	Analytical Method:	SM 2510B	QC Batch:	QC03138	Date Analyzed:	6/12/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02696	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Specific Conductance		1200	uMHOS/cm	1	

Sample: 147745 - 0006081300 (Dobbs #1)

Analysis:	Dissolved Metals	Analytical Method:	E 200.7	QC Batch:	QC03374	Date Analyzed:	6/20/00
Analyst:	RR	Preparation Method:	E 3005A	Prep Batch:	PB02731	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		158	mg/L	1	0.50
Dissolved Magnesium		24	mg/L	1	0.50
Dissolved Potassium		2.8	mg/L	1	0.50
Dissolved Sodium		67	mg/L	1	0.50

Sample: 147745 - 0006081300 (Dobbs #1)

Analysis:	Hg, Total	Analytical Method:	S 7470A	QC Batch:	QC03390	Date Analyzed:	6/22/00
Analyst:	JM	Preparation Method:	N/A	Prep Batch:	PB02918	Date Prepared:	6/19/00

Param	Flag	Result	Units	Dilution	RDL
Total Mercury		0.00053	mg/L	1	0.0002

Sample: 147745 - 0006081300 (Dobbs #1)

Analysis:	Ion Chromatography (IC)	Analytical Method:	E 300.0	QC Batch:	QC03190	Date Analyzed:	6/10/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02742	Date Prepared:	6/10/00

Param	Flag	Result	Units	Dilution	RDL
CL		110	mg/L	1	0.50
Fluoride		2.0	mg/L	1	0.20
Nitrate-N		4.2	mg/L	1	0.20
Sulfate		180	mg/L	1	0.50

Sample: 147745 - 0006081300 (Dobbs #1)

Analysis:	TDS	Analytical Method:	E 160.1	QC Batch:	QC03193	Date Analyzed:	6/13/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02733	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Total Dissolved Solids		830	mg/L	1	10

Sample: 147745 - 0006081300 (Dobbs #1)

Analysis:	Total Metals	Analytical Method:	S 6010B	QC Batch:	QC03389	Date Analyzed:	6/17/00
Analyst:	RR	Preparation Method:	E 3010A	Prep Batch:	PB02676	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Total Aluminum		<0.10	mg/L	1	0.10
Total Arsenic		<0.10	mg/L	1	0.10
Total Barium		0.10	mg/L	1	0.10
Total Boron		0.31	mg/L	1	0.10
Total Cadmium		<0.01	mg/L	1	0.01
Total Chromium		<0.05	mg/L	1	0.05
Total Cobalt		<0.05	mg/L	1	0.05
Total Copper		<0.10	mg/L	1	0.10
Total Iron		<0.10	mg/L	1	0.10
Total Lead		<0.05	mg/L	1	0.05
Total Manganese		<0.10	mg/L	1	0.10
Total Molybdenum		<0.10	mg/L	1	0.10
Total Nickel		<0.10	mg/L	1	0.10
Total Selenium		<0.05	mg/L	1	0.05
Total Silica		125	mg/L	1	0.50
Total Silver		<0.05	mg/L	1	0.05
Total Zinc		0.26	mg/L	1	0.10

Sample: 147745 - 0006081300 (Dobbs #1)

Analysis:	pH	Analytical Method:	E 150.1	QC Batch:	QC03271	Date Analyzed:	6/12/00
Analyst:	RS	Preparation Method:	N/A	Prep Batch:	PB02820	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
pH	[1]	7.1	s.u.	1	1

Sample: 147746 - 0006081345 (Dobbs #2)

Analysis:	8260	Analytical Method:	S 8260B	QC Batch:	QC03195	Date Analyzed:	6/13/00
Analyst:	JG	Preparation Method:	E 5030B	Prep Batch:	PB02746	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Bromochloromethane		<2.00	µg/L	1	2
Dichlorodifluoromethane		<2.00	µg/L	1	2
Chloromethane (methyl chloride)		<2.00	µg/L	1	2
Vinyl Chloride		<2.00	µg/L	1	2
Bromomethane (methyl bromide)		<5.00	µg/L	1	5
Chloroethane		<2.00	µg/L	1	2
Trichlorofluoromethane		<2.00	µg/L	1	2
Acetone		<10.00	µg/L	1	10
Iodomethane (methyl iodide)		<2.00	µg/L	1	2
Carbon Disulfide		<2.00	µg/L	1	2
Acrylonitrile		<2.00	µg/L	1	2
2-Butanone (MEK)		<2.00	µg/L	1	2
4-methyl-2-pentanone (MIBK)		<10.00	µg/L	1	10
2-hexanone		<2.00	µg/L	1	2
trans 1,4-Dichloro-2-butene		<10.00	µg/L	1	10
1,1-Dichloroethene		<2.00	µg/L	1	2
Methylene chloride		<5.00	µg/L	1	5

Continued ...

[1] Out of holding time.

... *Continued* Sample: 147746 Analysis: 8260

Param	Flag	Result	Units	Dilution	RDL
MTBE		<2.00	µg/L	1	2
trans-1,2-Dichloroethene		<2.00	µg/L	1	2
1,1-Dichloroethane		<2.00	µg/L	1	2
cis-1,2-dichloroethene		<2.00	µg/L	1	2
2,2-Dichloropropane		<2.00	µg/L	1	2
1,2-Dichloroethane (EDC)		<2.00	µg/L	1	2
Chloroform		<2.00	µg/L	1	2
1,1,1-Trichloroethane		<2.00	µg/L	1	2
1,1-Dichloropropene		<2.00	µg/L	1	2
Benzene		<2.00	µg/L	1	2
Carbon Tetrachloride		<2.00	µg/L	1	2
1,2-Dichloropropane		<2.00	µg/L	1	2
Trichloroethene (TCE)		<2.00	µg/L	1	2
Dibromomethane (methylene bromide)		<2.00	µg/L	1	2
Bromodichloromethane		<2.00	µg/L	1	2
2-Chloroethyl vinyl ether		<10.00	µg/L	1	10
cis-1,3-Dichloropropene		<2.00	µg/L	1	2
trans-1,3-Dichloropropene		<2.00	µg/L	1	2
Toluene		<2.00	µg/L	1	2
1,1,2-Trichloroethane		<2.00	µg/L	1	2
1,3-Dichloropropane		<2.00	µg/L	1	2
Dibromochloromethane		<2.00	µg/L	1	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	1	2
Tetrachloroethene (PCE)		<2.00	µg/L	1	2
Chlorobenzene		<2.00	µg/L	1	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	1	2
Ethylbenzene		<2.00	µg/L	1	2
m,p-Xylene		<2.00	µg/L	1	2
Bromoform		<2.00	µg/L	1	2
Styrene		<2.00	µg/L	1	2
o-Xylene		<2.00	µg/L	1	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	1	2
2-Chlorotoluene		<2.00	µg/L	1	2
1,2,3-Trichloropropane		<2.00	µg/L	1	2
Isopropylbenzene		<2.00	µg/L	1	2
Bromobenzene		<2.00	µg/L	1	2
n-Propylbenzene		<2.00	µg/L	1	2
1,3,5-Trimethylbenzene		<2.00	µg/L	1	2
tert-Butylbenzene		<2.00	µg/L	1	2
1,2,4-Trimethylbenzene		<2.00	µg/L	1	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	1	2
sec-Butylbenzene		<2.00	µg/L	1	2
1,3-Dichlorobenzene		<2.00	µg/L	1	2
p-Isopropyltoluene		<2.00	µg/L	1	2
4-Chlorotoluene		<2.00	µg/L	1	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	1	2
n-Butylbenzene		<2.00	µg/L	1	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5
Naphthalene		<2.00	µg/L	1	2

Continued ...

... *Continued* Sample: 147746 Analysis: 8260

Param	Flag	Result	Units	Dilution	RDL
Hexachlorobutadiene		<5.00	µg/L	1	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		52.65	µg/L	1	50	105	84 - 116
Toluene-d8		52.32	µg/L	1	50	104	92 - 108
4-Bromofluorobenzene		42.65	µg/L	1	50	85	80 - 110

Sample: 147746 - 0006081345 (Dobbs #2)

Analysis: 8270 Analytical Method: S 8270C QC Batch: QC03142 Date Analyzed: 6/12/00
Analyst: MA Preparation Method: E 3510C Prep Batch: PB02699 Date Prepared: 6/12/00

Param	Flag	Result	Units	Dilution	RDL
Pyridine		<0.005	mg/L	1	0.005
n-Nitrosodimethylamine		<0.005	mg/L	1	0.005
2-Picoline		<0.005	mg/L	1	0.005
Methyl methanesulfonate		<0.005	mg/L	1	0.005
Ethyl methanesulfonate		<0.005	mg/L	1	0.005
Phenol		<0.005	mg/L	1	0.005
Aniline		<0.005	mg/L	1	0.005
bis (2-chloroethyl) ether		<0.005	mg/L	1	0.005
2-Chlorophenol		<0.005	mg/L	1	0.005
1,3-Dichlorobenzene		<0.005	mg/L	1	0.005
1,4-Dichlorobenzene		<0.005	mg/L	1	0.005
Benzyl alcohol		<0.005	mg/L	1	0.005
1,2-Dichlorobenzene		<0.005	mg/L	1	0.005
2-Methylphenol		<0.005	mg/L	1	0.005
bis (2-chloroisopropyl) ether		<0.005	mg/L	1	0.005
4-Methylphenol/3-Methylphenol		<0.005	mg/L	1	0.005
Acetophenone		<0.005	mg/L	1	0.005
n-Nitrosodi-n-propylamine		<0.005	mg/L	1	0.005
Hexachloroethane		<0.005	mg/L	1	0.005
Nitrobenzene		<0.005	mg/L	1	0.005
n-Nitrosopiperidine		<0.005	mg/L	1	0.005
Isophorone		<0.005	mg/L	1	0.005
2-Nitrophenol		<0.005	mg/L	1	0.005
2,4-Dimethylphenol		<0.005	mg/L	1	0.005
bis (2-chloroethoxy) methane		<0.005	mg/L	1	0.005
Benzoic acid		<0.005	mg/L	1	0.005
2,4-Dichlorophenol		<0.005	mg/L	1	0.005
1,2,4-Trichlorobenzene		<0.005	mg/L	1	0.005
a,a-Dimethylphenethylamine		<0.005	mg/L	1	0.005
Naphthalene		<0.005	mg/L	1	0.005
4-Chloroaniline		<0.005	mg/L	1	0.005
2,6-Dichlorophenol		<0.005	mg/L	1	0.005
Hexachlorobutadiene		<0.005	mg/L	1	0.005
n-Nitroso-di-n-butylamine		<0.005	mg/L	1	0.005
4-Chloro-3-methylphenol		<0.005	mg/L	1	0.005

Continued ...

... *Continued* Sample: 147746 Analysis: 8270

Param	Flag	Result	Units	Dilution	RDL
1-Methylnaphthalene		<0.005	mg/L	1	0.005
2-Methylnaphthalene		<0.005	mg/L	1	0.005
1,2,4,5-Tetrachlorobenzene		<0.005	mg/L	1	0.005
Hexachlorocyclopentadiene		<0.005	mg/L	1	0.005
2,4,6-Trichlorophenol		<0.005	mg/L	1	0.005
2,4,5-Trichlorophenol		<0.005	mg/L	1	0.005
2-Chloronaphthalene		<0.005	mg/L	1	0.005
1-Chloronaphthalene		<0.005	mg/L	1	0.005
2-Nitroaniline		<0.005	mg/L	1	0.005
Dimethylphthalate		<0.005	mg/L	1	0.005
Acenaphthylene		<0.005	mg/L	1	0.005
2,6-Dinitrotoluene		<0.005	mg/L	1	0.005
3-Nitroaniline		<0.005	mg/L	1	0.005
Acenaphthene		<0.005	mg/L	1	0.005
2,4-Dinitrophenol		<0.005	mg/L	1	0.005
Dibenzofuran		<0.005	mg/L	1	0.005
Pentachlorobenzene		<0.005	mg/L	1	0.005
4-Nitrophenol		<0.005	mg/L	1	0.005
1-Napthylamine		<0.005	mg/L	1	0.005
2,4-Dinitrotoluene		<0.005	mg/L	1	0.005
2-Napthylamine		<0.005	mg/L	1	0.005
2,3,4,6-Tetrachlorophenol		<0.005	mg/L	1	0.005
Fluorene		<0.005	mg/L	1	0.005
Diethylphthalate		<0.005	mg/L	1	0.005
4-Chlorophenyl-phenylether		<0.005	mg/L	1	0.005
4-Nitroaniline		<0.005	mg/L	1	0.005
4,6-Dinitro-2-methylphenol		<0.005	mg/L	1	0.005
Diphenylamine		<0.005	mg/L	1	0.005
Diphenylhydrazine		<0.005	mg/L	1	0.005
4-Bromophenyl-phenylether		<0.005	mg/L	1	0.005
Phenacetin		<0.005	mg/L	1	0.005
Hexachlorobenzene		<0.005	mg/L	1	0.005
4-Aminobiphenyl		<0.005	mg/L	1	0.005
Pentachlorophenol		<0.005	mg/L	1	0.005
Pentachloronitrobenzene		<0.005	mg/L	1	0.005
Pronamide		<0.005	mg/L	1	0.005
Phenanthrene		<0.005	mg/L	1	0.005
Anthracene		<0.005	mg/L	1	0.005
Di-n-butylphthalate		<0.005	mg/L	1	0.005
Fluoranthene		<0.005	mg/L	1	0.005
Benzidine		<0.005	mg/L	1	0.005
Pyrene		<0.005	mg/L	1	0.005
p-Dimethylaminoazobenzene		<0.005	mg/L	1	0.005
Butylbenzylphthalate		<0.005	mg/L	1	0.005
Benzo(a)anthracene		<0.005	mg/L	1	0.005
3,3-Dichlorobenzidine		<0.005	mg/L	1	0.005
Chrysene		<0.005	mg/L	1	0.005
Bis (2-ethylhexyl) phthalate		<0.005	mg/L	1	0.005
Di-n-octylphthalate		<0.005	mg/L	1	0.005
Benzo(b)fluoranthene		<0.005	mg/L	1	0.005
7,12-Dimethylbenz(a)anthracene		<0.005	mg/L	1	0.005

Continued ...

... *Continued* Sample: 147746 Analysis: 8270

Param	Flag	Result	Units	Dilution	RDL
Benzo(k)fluoranthene		<0.005	mg/L	1	0.005
Benzo(a)pyrene		<0.005	mg/L	1	0.005
3-Methylcholanthrene		<0.005	mg/L	1	0.005
Dibenzo(a,j)acridine		<0.005	mg/L	1	0.005
Indeno(1,2,3-cd)pyrene		<0.005	mg/L	1	0.005
Dibenzo(a,h)anthracene		<0.005	mg/L	1	0.005
Benzo(g,h,i)perylene		<0.005	mg/L	1	0.005

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		20.88	mg/L	1	80	26	8 - 73
Nitrobenzene-d5		53.54	mg/L	1	80	66	44 - 109
2-Fluorobiphenyl		52.78	mg/L	1	80	65	45 - 109
2,4,6-Tribromophenol		48.28	mg/L	1	80	60	39 - 132
Terphenyl-d14		50.90	mg/L	1	80	63	46 - 121

Sample: 147746 - 0006081345 (Dobbs #2)

Analysis: Alkalinity | Analytical Method: E 310.1 | QC Batch: QC03238 | Date Analyzed: 6/13/00
Analyst: LD | Preparation Method: N/A | Prep Batch: PB02792 | Date Prepared: 6/13/00

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		178	mg/L as CaCo3	1	1
Total Alkalinity		178	mg/L as CaCo3	1	1

Sample: 147746 - 0006081345 (Dobbs #2)

Analysis: Conductivity | Analytical Method: SM 2510B | QC Batch: QC03137 | Date Analyzed: 6/12/00
Analyst: JS | Preparation Method: N/A | Prep Batch: PB02696 | Date Prepared: 6/12/00

Param	Flag	Result	Units	Dilution	RDL
Specific Conductance		850	uMHOS/cm	1	

Sample: 147746 - 0006081345 (Dobbs #2)

Analysis: Dissolved Metals | Analytical Method: E 200.7 | QC Batch: QC03374 | Date Analyzed: 6/20/00
Analyst: RR | Preparation Method: E 3005A | Prep Batch: PB02731 | Date Prepared: 6/13/00

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		117	mg/L	1	0.50
Dissolved Magnesium		20	mg/L	1	0.50
Dissolved Potassium		3.0	mg/L	1	0.50
Dissolved Sodium		39	mg/L	1	0.50

Sample: 147746 - 0006081345 (Dobbs #2)

Analysis:	Hg, Total	Analytical Method:	S 7470A	QC Batch:	QC03390	Date Analyzed:	6/22/00
Analyst:	JM	Preparation Method:	N/A	Prep Batch:	PB02918	Date Prepared:	6/19/00

Param	Flag	Result	Units	Dilution	RDL
Total Mercury		<0.0002	mg/L	1	0.0002

Sample: 147746 - 0006081345 (Dobbs #2)

Analysis:	Ion Chromatography (IC)	Analytical Method:	E 300.0	QC Batch:	QC03190	Date Analyzed:	6/10/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02742	Date Prepared:	6/10/00

Param	Flag	Result	Units	Dilution	RDL
CL		72	mg/L	1	0.50
Fluoride		1.5	mg/L	1	0.20
Nitrate-N		4.4	mg/L	1	0.20
Sulfate		130	mg/L	1	0.50

Sample: 147746 - 0006081345 (Dobbs #2)

Analysis:	TDS	Analytical Method:	E 160.1	QC Batch:	QC03193	Date Analyzed:	6/13/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02733	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Total Dissolved Solids		570	mg/L	1	10

Sample: 147746 - 0006081345 (Dobbs #2)

Analysis:	Total Metals	Analytical Method:	S 6010B	QC Batch:	QC03389	Date Analyzed:	6/17/00
Analyst:	RR	Preparation Method:	E 3010A	Prep Batch:	PB02676	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Total Aluminum		<0.10	mg/L	1	0.10
Total Arsenic		<0.10	mg/L	1	0.10
Total Barium		0.10	mg/L	1	0.10
Total Boron		0.14	mg/L	1	0.10
Total Cadmium		<0.01	mg/L	1	0.01
Total Chromium		<0.05	mg/L	1	0.05
Total Cobalt		<0.05	mg/L	1	0.05
Total Copper		<0.10	mg/L	1	0.10
Total Iron		<0.10	mg/L	1	0.10
Total Lead		<0.05	mg/L	1	0.05
Total Manganese		<0.10	mg/L	1	0.10
Total Molybdenum		<0.10	mg/L	1	0.10
Total Nickel		<0.10	mg/L	1	0.10
Total Selenium		<0.05	mg/L	1	0.05
Total Silica		79	mg/L	1	0.50
Total Silver		<0.05	mg/L	1	0.05
Total Zinc		<0.10	mg/L	1	0.10

Sample: 147746 - 0006081345 (Dobbs #2)

Analysis:	pH	Analytical Method:	E 150.1	QC Batch:	QC03271	Date Analyzed:	6/12/00
Analyst:	RS	Preparation Method:	N/A	Prep Batch:	PB02820	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
pH	[2]	7.5	s.u.	1	1

Quality Control Report
Method Blank

Sample: Method Blank QCBatch: QC03137

Param	Flag	Results	Units	Reporting Limit
Specific Conductance		2.8	uMHOS/cm	

Sample: Method Blank QCBatch: QC03138

Param	Flag	Results	Units	Reporting Limit
Specific Conductance		2.8	uMHOS/cm	

Sample: Method Blank QCBatch: QC03142

Param	Flag	Results	Units	Reporting Limit
Pyridine		<0.005	mg/L	0.005
n-Nitrosodimethylamine		<0.005	mg/L	0.005
2-Picoline		<0.005	mg/L	0.005
Methyl methanesulfonate		<0.005	mg/L	0.005
Ethyl methanesulfonate		<0.005	mg/L	0.005
Phenol		<0.005	mg/L	0.005
Aniline		<0.005	mg/L	0.005
bis (2-chloroethyl) ether		<0.005	mg/L	0.005
2-Chlorophenol		<0.005	mg/L	0.005
1,3-Dichlorobenzene		<0.005	mg/L	0.005
1,4-Dichlorobenzene		<0.005	mg/L	0.005
Benzyl alcohol		<0.005	mg/L	0.005
1,2-Dichlorobenzene		<0.005	mg/L	0.005
2-Methylphenol		<0.005	mg/L	0.005
bis (2-chloroisopropyl) ether		<0.005	mg/L	0.005
4-Methylphenol/3-Methylphenol		<0.005	mg/L	0.005

Continued ...

[2]Out of holding time.

... *Continued*

Param	Flag	Results	Units	Reporting Limit
Acetophenone		<0.005	mg/L	0.005
n-Nitrosodi-n-propylamine		<0.005	mg/L	0.005
Hexachloroethane		<0.005	mg/L	0.005
Nitrobenzene		<0.005	mg/L	0.005
n-Nitrosopiperidine		<0.005	mg/L	0.005
Isophorone		<0.005	mg/L	0.005
2-Nitrophenol		<0.005	mg/L	0.005
2,4-Dimethylphenol		<0.005	mg/L	0.005
bis (2-chloroethoxy) methane		<0.005	mg/L	0.005
Benzoic acid		<0.005	mg/L	0.005
2,4-Dichlorophenol		<0.005	mg/L	0.005
1,2,4-Trichlorobenzene		<0.005	mg/L	0.005
a,a-Dimethylphenethylamine		<0.005	mg/L	0.005
Naphthalene		<0.005	mg/L	0.005
4-Chloroaniline		<0.005	mg/L	0.005
2,6-Dichlorophenol		<0.005	mg/L	0.005
Hexachlorobutadiene		<0.005	mg/L	0.005
n-Nitroso-di-n-butylamine		<0.005	mg/L	0.005
4-Chloro-3-methylphenol		<0.005	mg/L	0.005
1-Methylnaphthalene		<0.005	mg/L	0.005
2-Methylnaphthalene		<0.005	mg/L	0.005
1,2,4,5-Tetrachlorobenzene		<0.005	mg/L	0.005
Hexachlorocyclopentadiene		<0.005	mg/L	0.005
2,4,6-Trichlorophenol		<0.005	mg/L	0.005
2,4,5-Trichlorophenol		<0.005	mg/L	0.005
2-Chloronaphthalene		<0.005	mg/L	0.005
1-Chloronaphthalene		<0.005	mg/L	0.005
2-Nitroaniline		<0.005	mg/L	0.005
Dimethylphthalate		<0.005	mg/L	0.005
Acenaphthylene		<0.005	mg/L	0.005
2,6-Dinitrotoluene		<0.005	mg/L	0.005
3-Nitroaniline		<0.005	mg/L	0.005
Acenaphthene		<0.005	mg/L	0.005
2,4-Dinitrophenol		<0.005	mg/L	0.005
Dibenzofuran		<0.005	mg/L	0.005
Pentachlorobenzene		<0.005	mg/L	0.005
4-Nitrophenol		<0.005	mg/L	0.005
1-Napthylamine		<0.005	mg/L	0.005
2,4-Dinitrotoluene		<0.005	mg/L	0.005
2-Napthylamine		<0.005	mg/L	0.005
2,3,4,6-Tetrachlorophenol		<0.005	mg/L	0.005
Fluorene		<0.005	mg/L	0.005
Diethylphthalate		<0.005	mg/L	0.005
4-Chlorophenyl-phenylether		<0.005	mg/L	0.005
4-Nitroaniline		<0.005	mg/L	0.005
4,6-Dinitro-2-methylphenol		<0.005	mg/L	0.005
Diphenylamine		<0.005	mg/L	0.005
Diphenylhydrazine		<0.005	mg/L	0.005
4-Bromophenyl-phenylether		<0.005	mg/L	0.005
Phenacetin		<0.005	mg/L	0.005

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Param	Flag	Results	Units	Reporting Limit
Hexachlorobenzene		<0.005	mg/L	0.005
4-Aminobiphenyl		<0.005	mg/L	0.005
Pentachlorophenol		<0.005	mg/L	0.005
Pentachloronitrobenzene		<0.005	mg/L	0.005
Pronamide		<0.005	mg/L	0.005
Phenanthrene		<0.005	mg/L	0.005
Anthracene		<0.005	mg/L	0.005
Di-n-butylphthalate		<0.005	mg/L	0.005
Fluoranthene		<0.005	mg/L	0.005
Benzidine		<0.005	mg/L	0.005
Pyrene		<0.005	mg/L	0.005
p-Dimethylaminoazobenzene		<0.005	mg/L	0.005
Butylbenzylphthalate		<0.005	mg/L	0.005
Benzo(a)anthracene		<0.005	mg/L	0.005
3,3-Dichlorobenzidine		<0.005	mg/L	0.005
Chrysene		<0.005	mg/L	0.005
Bis (2-ethylhexyl) phthalate		<0.005	mg/L	0.005
Di-n-octylphthalate		<0.005	mg/L	0.005
Benzo(b)fluoranthene		<0.005	mg/L	0.005
7,12-Dimethylbenz(a)anthracene		<0.005	mg/L	0.005
Benzo(k)fluoranthene		<0.005	mg/L	0.005
Benzo(a)pyrene		<0.005	mg/L	0.005
3-Methylcholanthrene		<0.005	mg/L	0.005
Dibenzo(a,j)acridine		<0.005	mg/L	0.005
Indeno(1,2,3-cd)pyrene		<0.005	mg/L	0.005
Dibenzo(a,h)anthracene		<0.005	mg/L	0.005
Benzo(g,h,i)perylene		<0.005	mg/L	0.005

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
2-Fluorophenol		25.50	mg/L	80	31	8 - 73
Nitrobenzene-d5		59.91	mg/L	80	74	44 - 109
2-Fluorobiphenyl		58.24	mg/L	80	72	45 - 109
2,4,6-Tribromophenol		57.84	mg/L	80	72	39 - 132
Terphenyl-d14		53.99	mg/L	80	67	46 - 121

Sample: Method Blank QCBatch: QC03190

Param	Flag	Results	Units	Reporting Limit
CL		<0.5	mg/L	0.50
Fluoride		<0.2	mg/L	0.20
Nitrate-N		<0.2	mg/L	0.20
Sulfate		<0.5	mg/L	0.50

Sample: Method Blank QCBatch: QC03193

Param	Flag	Results	Units	Reporting Limit
Total Dissolved Solids		10	mg/L	10

Sample: Method Blank

QCBatch: QC03195

Param	Flag	Results	Units	Reporting Limit
Bromochloromethane		<2.00	µg/L	2
Dichlorodifluoromethane		<2.00	µg/L	2
Chloromethane (methyl chloride)		<2.00	µg/L	2
Vinyl Chloride		<2.00	µg/L	2
Bromomethane (methyl bromide)		<5.00	µg/L	5
Chloroethane		<2.00	µg/L	2
Trichlorofluoromethane		<2.00	µg/L	2
Acetone		<10.00	µg/L	10
Iodomethane (methyl iodide)		<2.00	µg/L	2
Carbon Disulfide		<2.00	µg/L	2
Acrylonitrile		<2.00	µg/L	2
2-Butanone (MEK)		<2.00	µg/L	2
4-methyl-2-pentanone (MIBK)		<10.00	µg/L	10
2-hexanone		<2.00	µg/L	2
trans 1,4-Dichloro-2-butene		<10.00	µg/L	10
1,1-Dichloroethene		<2.00	µg/L	2
Methylene chloride		<5.00	µg/L	5
MTBE		<2.00	µg/L	2
trans-1,2-Dichloroethene		<2.00	µg/L	2
1,1-Dichloroethane		<2.00	µg/L	2
cis-1,2-dichloroethene		<2.00	µg/L	2
2,2-Dichloropropane		<2.00	µg/L	2
1,2-Dichloroethane (EDC)		<2.00	µg/L	2
Chloroform		<2.00	µg/L	2
1,1,1-Trichloroethane		<2.00	µg/L	2
1,1-Dichloropropene		<2.00	µg/L	2
Benzene		<2.00	µg/L	2
Carbon Tetrachloride		<2.00	µg/L	2
1,2-Dichloropropane		<2.00	µg/L	2
Trichloroethene (TCE)		<2.00	µg/L	2
Dibromomethane (methylene bromide)		<2.00	µg/L	2
Bromodichloromethane		<2.00	µg/L	2
2-Chloroethyl vinyl ether		<10.00	µg/L	10
cis-1,3-Dichloropropene		<2.00	µg/L	2
trans-1,3-Dichloropropene		<2.00	µg/L	2
Toluene		<2.00	µg/L	2
1,1,2-Trichloroethane		<2.00	µg/L	2
1,3-Dichloropropane		<2.00	µg/L	2
Dibromochloromethane		<2.00	µg/L	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	2
Tetrachloroethene (PCE)		<2.00	µg/L	2
Chlorobenzene		<2.00	µg/L	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	2

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Param	Flag	Results	Units	Reporting Limit
Ethylbenzene		<2.00	µg/L	2
m,p-Xylene		<2.00	µg/L	2
Bromoform		<2.00	µg/L	2
Styrene		<2.00	µg/L	2
o-Xylene		<2.00	µg/L	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	2
2-Chlorotoluene		<2.00	µg/L	2
1,2,3-Trichloropropane		<2.00	µg/L	2
Isopropylbenzene		<2.00	µg/L	2
Bromobenzene		<2.00	µg/L	2
n-Propylbenzene		<2.00	µg/L	2
1,3,5-Trimethylbenzene		<2.00	µg/L	2
tert-Butylbenzene		<2.00	µg/L	2
1,2,4-Trimethylbenzene		<2.00	µg/L	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	2
sec-Butylbenzene		<2.00	µg/L	2
1,3-Dichlorobenzene		<2.00	µg/L	2
p-Isopropyltoluene		<2.00	µg/L	2
4-Chlorotoluene		<2.00	µg/L	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	2
n-Butylbenzene		<2.00	µg/L	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5
1,2,3-Trichlorobenzene		<5.00	µg/L	5
1,2,4-Trichlorobenzene		<5.00	µg/L	5
Naphthalene		<2.00	µg/L	2
Hexachlorobutadiene		<5.00	µg/L	5

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
Dibromofluoromethane		51.65	µg/L	50	103	84 - 116
Toluene-d8		51.61	µg/L	50	103	92 - 108
4-Bromofluorobenzene		43.93	µg/L	50	87	80 - 110

Sample: Method Blank

QCBatch: QC03238

Param	Flag	Results	Units	Reporting Limit
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1
Bicarbonate Alkalinity		<4.0	mg/L as CaCo3	1
Total Alkalinity		<4.0	mg/L as CaCo3	1

Sample: Method Blank

QCBatch: QC03374

Param	Flag	Results	Units	Reporting Limit
Dissolved Calcium		<0.50	mg/L	0.50
Dissolved Magnesium		<0.50	mg/L	0.50
Dissolved Potassium		<0.50	mg/L	0.50
Dissolved Sodium		<0.50	mg/L	0.50

Sample: Method Blank QCBatch: QC03389

Param	Flag	Results	Units	Reporting Limit
Total Aluminum		<0.10	mg/L	0.10
Total Arsenic		<0.10	mg/L	0.10
Total Barium		<0.10	mg/L	0.10
Total Boron		<0.10	mg/L	0.10
Total Cadmium		<0.01	mg/L	0.01
Total Chromium		<0.05	mg/L	0.05
Total Cobalt		<0.05	mg/L	0.05
Total Copper		<0.10	mg/L	0.10
Total Iron		<0.10	mg/L	0.10
Total Lead		<0.05	mg/L	0.05
Total Manganese		<0.10	mg/L	0.10
Total Molybdenum		<0.10	mg/L	0.10
Total Nickel		<0.10	mg/L	0.10
Total Selenium		<0.05	mg/L	0.05
Total Silica		<0.50	mg/L	0.50
Total Silver		<0.05	mg/L	0.05
Total Zinc		<0.10	mg/L	0.10

Sample: Method Blank QCBatch: QC03390

Param	Flag	Results	Units	Reporting Limit
Total Mercury		<0.0002	mg/L	0.0002

Quality Control Report
Lab Control Spikes and Duplicate Spikes

Sample: LCS QC Batch: QC03142

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Phenol		42.824	mg/L	1	80	<0.005	53		5 - 57	20
2-Chlorophenol		43.416	mg/L	1	80	<0.005	54		29 - 110	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
1,4-Dichlorobenzene		54.708	mg/L	1	80	<0.005	68		25 - 94	20
n-Nitrosodi-n-propylamine		58.916	mg/L	1	80	<0.005	73		36 - 119	20
1,2,4-Trichlorobenzene		56.070	mg/L	1	80	<0.005	70		28 - 110	20
4-Chloro-3-methylphenol		49.008	mg/L	1	80	<0.005	61		40 - 126	20
Acenaphthene		50.649	mg/L	1	80	<0.005	63		47 - 118	20
4-Nitrophenol		38.123	mg/L	1	80	<0.005	47		0 - 69	20
2,4-Dinitrotoluene		62.227	mg/L	1	80	<0.005	77		46 - 133	20
Pentachlorophenol		33.291	mg/L	1	80	<0.005	41		21 - 131	20
Pyrene		49.127	mg/L	1	80	<0.005	61		44 - 125	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
2-Fluorophenol		49.05	mg/L	1	80	61	8 - 73
Phenol-d5		53.54	mg/L	1	80	66	8 - 62
Nitrobenzene-d5		53.51	mg/L	1	80	66	44 - 109
2-Fluorobiphenyl		53.68	mg/L	1	80	67	45 - 109
2,4,6-Tribromophenol		51.74	mg/L	1	80	64	39 - 132
Terphenyl-d14		53.77	mg/L	1	80	67	46 - 121

Sample: LCSD QC Batch: QC03142

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Phenol		45.977	mg/L	1	80	<0.005	57	7.10	5 - 57	20
2-Chlorophenol		46.473	mg/L	1	80	<0.005	58	6.80	29 - 110	20
1,4-Dichlorobenzene		56.488	mg/L	1	80	<0.005	70	3.20	25 - 94	20
n-Nitrosodi-n-propylamine		61.484	mg/L	1	80	<0.005	76	4.26	36 - 119	20
1,2,4-Trichlorobenzene		57.925	mg/L	1	80	<0.005	72	3.25	28 - 110	20
4-Chloro-3-methylphenol		54.881	mg/L	1	80	<0.005	68	11.30	40 - 126	20
Acenaphthene		53.894	mg/L	1	80	<0.005	67	6.20	47 - 118	20
4-Nitrophenol		43.909	mg/L	1	80	<0.005	54	14.10	0 - 69	20
2,4-Dinitrotoluene		68.147	mg/L	1	80	<0.005	85	9.08	46 - 133	20
Pentachlorophenol		38.058	mg/L	1	80	<0.005	47	13.36	21 - 131	20
Pyrene		45.151	mg/L	1	80	<0.005	56	8.43	44 - 125	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
2-Fluorophenol		51.82	mg/L	1	80	64	8 - 73
Phenol-d5		56.70	mg/L	1	80	70	8 - 62
Nitrobenzene-d5		55.67	mg/L	1	80	69	44 - 109
2-Fluorobiphenyl		58.17	mg/L	1	80	72	45 - 109
2,4,6-Tribromophenol		54.87	mg/L	1	80	68	39 - 132
Terphenyl-d14		50.62	mg/L	1	80	63	46 - 121

Sample: LCS QC Batch: QC03195

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
1,1-Dichloroethene		100	µg/L	1	100	<2.00	100		73 - 154	20
Benzene		98	µg/L	1	100	<2.00	98		84 - 126	20
Trichloroethene (TCE)		98	µg/L	1	100	<2.00	98		82 - 123	20
Toluene		97	µg/L	1	100	<2.00	97		81 - 122	20
Chlorobenzene		103	µg/L	1	100	<2.00	103		86 - 121	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Dibromofluoromethane		50.92	µg/L	1	50	101	84 - 116
Toluene-d8		50.07	µg/L	1	50	100	92 - 108
4-Bromofluorobenzene		44.30	µg/L	1	50	88	80 - 110

Sample: LCSD QC Batch: QC03195

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
1,1-Dichloroethene		100	µg/L	1	100	<2.00	100	0.00	73 - 154	20
Benzene		99	µg/L	1	100	<2.00	99	1.01	84 - 126	20
Trichloroethene (TCE)		98	µg/L	1	100	<2.00	98	0.00	82 - 123	20
Toluene		99	µg/L	1	100	<2.00	99	2.04	81 - 122	20
Chlorobenzene		105	µg/L	1	100	<2.00	105	1.92	86 - 121	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Dibromofluoromethane		51.22	µg/L	1	50	102	84 - 116
Toluene-d8		49.81	µg/L	1	50	99	92 - 108
4-Bromofluorobenzene		45.19	µg/L	1	50	90	80 - 110

Sample: LCS QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1063	mg/L	1	1000	<0.50	106		75 - 125	20
Dissolved Magnesium		982	mg/L	1	1000	<0.50	98		75 - 125	20
Dissolved Potassium		968	mg/L	1	1000	<0.50	97		75 - 125	20
Dissolved Sodium		955	mg/L	1	1000	<0.50	96		75 - 125	20

Sample: LCSD QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1077	mg/L	1	1000	<0.50	108	1.30	75 - 125	20
Dissolved Magnesium		992	mg/L	1	1000	<0.50	99	1.01	75 - 125	20
Dissolved Potassium		951	mg/L	1	1000	<0.50	95	1.77	75 - 125	20
Dissolved Sodium		960	mg/L	1	1000	<0.50	96	0.52	75 - 125	20

Sample: LCS

QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		1.95	mg/L	1	2	<0.10	97		75 - 125	20
Total Arsenic		1.89	mg/L	1	2	<0.10	94		75 - 125	20
Total Barium		2.07	mg/L	1	2	<0.10	103		75 - 125	20
Total Boron		1.90	mg/L	1	2	<0.10	95		75 - 125	20
Total Cadmium		2.02	mg/L	1	2	<0.01	101		75 - 125	20
Total Chromium		2.07	mg/L	1	2	<0.05	103		75 - 125	20
Total Cobalt		2.13	mg/L	1	2	<0.05	106		75 - 125	20
Total Copper		2.06	mg/L	1	2	<0.10	103		75 - 125	20
Total Iron		2.08	mg/L	1	2	<0.10	104		75 - 125	20
Total Lead		2.01	mg/L	1	2	<0.05	100		75 - 125	20
Total Manganese		2.09	mg/L	1	2	<0.10	104		75 - 125	20
Total Molybdenum		2.14	mg/L	1	2	<0.10	107		75 - 125	20
Total Nickel		2.01	mg/L	1	2	<0.10	101		75 - 125	20
Total Selenium		1.66	mg/L	1	2	<0.05	83		75 - 125	20
Total Silica		9.75	mg/L	1	10	<0.50	97		75 - 125	20
Total Silver		0.35	mg/L	1	0.40	<0.05	87		75 - 125	20
Total Zinc		2.10	mg/L	1	2	<0.10	105		75 - 125	20

Sample: LCSD

QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		1.95	mg/L	1	2	<0.10	97	0.00	75 - 125	20
Total Arsenic		1.90	mg/L	1	2	<0.10	95	0.52	75 - 125	20
Total Barium		2.08	mg/L	1	2	<0.10	104	0.48	75 - 125	20
Total Boron		1.91	mg/L	1	2	<0.10	95	0.52	75 - 125	20
Total Cadmium		2.03	mg/L	1	2	<0.01	101	0.49	75 - 125	20
Total Chromium		2.07	mg/L	1	2	<0.05	103	0.00	75 - 125	20
Total Cobalt		2.14	mg/L	1	2	<0.05	107	0.46	75 - 125	20
Total Copper		2.07	mg/L	1	2	<0.10	103	0.48	75 - 125	20
Total Iron		2.09	mg/L	1	2	<0.10	104	0.47	75 - 125	20
Total Lead		2.02	mg/L	1	2	<0.05	101	0.49	75 - 125	20
Total Manganese		2.10	mg/L	1	2	<0.10	105	0.47	75 - 125	20
Total Molybdenum		2.14	mg/L	1	2	<0.10	107	0.00	75 - 125	20
Total Nickel		2.03	mg/L	1	2	<0.10	102	0.99	75 - 125	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Selenium		1.69	mg/L	1	2	<0.05	84	1.79	75 - 125	20
Total Silica		9.84	mg/L	1	10	<0.50	98	0.91	75 - 125	20
Total Silver		0.36	mg/L	1	0.40	<0.05	90	2.81	75 - 125	20
Total Zinc		2.10	mg/L	1	2	<0.10	105	0.00	75 - 125	20

Sample: LCS QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00103	mg/L	1	0.001	<0.0002	103		80 - 120	20

Sample: LCSD QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00111	mg/L	1	0.001	<0.0002	111	7.47	80 - 120	20

Quality Control Report
Matrix Spikes and Duplicate Spikes

Sample: MS QC Batch: QC03190

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
CL		117.23	mg/L	1	62.50	58	94		80 - 120	20
Fluoride		13.97	mg/L	1	12.50	2.3	93		80 - 120	20
Nitrate-N		26.33	mg/L	1	25	3.3	92		80 - 120	20
Sulfate		129.52	mg/L	1	62.50	69	96		80 - 120	20

Sample: MSD QC Batch: QC03190

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
CL		117.28	mg/L	1	62.50	58	94	0.08	80 - 120	20
Fluoride		13.75	mg/L	1	12.50	2.3	91	1.90	80 - 120	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Nitrate-N		25.86	mg/L	1	25	3.3	90	2.06	80 - 120	20
Sulfate		129.38	mg/L	1	62.50	69	96	0.23	80 - 120	20

Sample: MS QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1182	mg/L	1	1000	162	102		75 - 125	20
Dissolved Magnesium		1010	mg/L	1	1000	26	98		75 - 125	20
Dissolved Potassium		953	mg/L	1	1000	2.9	95		75 - 125	20
Dissolved Sodium		1001	mg/L	1	1000	66	93		75 - 125	20

Sample: MSD QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1157	mg/L	1	1000	162	99	2.48	75 - 125	20
Dissolved Magnesium		997	mg/L	1	1000	26	97	1.32	75 - 125	20
Dissolved Potassium		938	mg/L	1	1000	2.9	93	1.59	75 - 125	20
Dissolved Sodium		968	mg/L	1	1000	66	90	3.59	75 - 125	20

Sample: MS QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		2.12	mg/L	1	2	<0.10	106		75 - 125	20
Total Arsenic		1.92	mg/L	1	2	<0.10	96		75 - 125	20
Total Barium		2.11	mg/L	1	2	0.10	100		75 - 125	20
Total Boron		2.08	mg/L	1	2	0.21	93		75 - 125	20
Total Cadmium		1.92	mg/L	1	2	<0.01	96		75 - 125	20
Total Chromium		1.99	mg/L	1	2	<0.05	99		75 - 125	20
Total Cobalt		2.00	mg/L	1	2	<0.05	100		75 - 125	20
Total Copper		1.99	mg/L	1	2	<0.10	99		75 - 125	20
Total Iron		2.04	mg/L	1	2	<0.10	102		75 - 125	20
Total Lead		1.92	mg/L	1	2	<0.05	96		75 - 125	20
Total Manganese		2.02	mg/L	1	2	<0.10	101		75 - 125	20
Total Molybdenum		2.08	mg/L	1	2	<0.10	104		75 - 125	20
Total Nickel		1.94	mg/L	1	2	<0.10	98		75 - 125	20
Total Selenium		1.67	mg/L	1	2	<0.05	83		75 - 125	20
Total Silica		119	mg/L	1	10	107	120		75 - 125	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Silver		0.34	mg/L	1	0.40	<0.05	85		75 - 125	20
Total Zinc		2.00	mg/L	1	2	<0.10	100		75 - 125	20

Sample: MSD QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		2.16	mg/L	1	2	<0.10	108	1.86	75 - 125	20
Total Arsenic		1.93	mg/L	1	2	<0.10	96	0.51	75 - 125	20
Total Barium		2.12	mg/L	1	2	0.10	101	0.49	75 - 125	20
Total Boron		2.10	mg/L	1	2	0.21	94	1.06	75 - 125	20
Total Cadmium		1.91	mg/L	1	2	<0.01	95	0.52	75 - 125	20
Total Chromium		1.99	mg/L	1	2	<0.05	99	0.00	75 - 125	20
Total Cobalt		2.00	mg/L	1	2	<0.05	100	0.00	75 - 125	20
Total Copper		2.01	mg/L	1	2	<0.10	100	0.99	75 - 125	20
Total Iron		2.05	mg/L	1	2	<0.10	102	0.48	75 - 125	20
Total Lead		1.92	mg/L	1	2	<0.05	96	0.00	75 - 125	20
Total Manganese		2.03	mg/L	1	2	<0.10	101	0.49	75 - 125	20
Total Molybdenum		2.08	mg/L	1	2	<0.10	104	0.00	75 - 125	20
Total Nickel		1.95	mg/L	1	2	<0.10	98	0.51	75 - 125	20
Total Selenium		1.69	mg/L	1	2	<0.05	84	1.19	75 - 125	20
Total Silica		118	mg/L	1	10	107	110	8.69	75 - 125	20
Total Silver		0.36	mg/L	1	0.40	<0.05	90	5.71	75 - 125	20
Total Zinc		1.99	mg/L	1	2	<0.10	99	0.50	75 - 125	20

Sample: MS QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00112	mg/L	1	0.001	<0.0002	112		80 - 120	20

Sample: MSD QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00103	mg/L	1	0.001	<0.0002	103	8.37	80 - 120	20

Quality Control Report

Duplicate Samples

Sample: Duplicate QC Batch: QC03137

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Specific Conductance		943	940	uMHOS/cm	1	0.31	20

Sample: Duplicate QC Batch: QC03138

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Specific Conductance		1222	1200	uMHOS/cm	1	1.81	20

Sample: Duplicate QC Batch: QC03193

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids		2118	1900	mg/L	1	10.85	20

Sample: Duplicate QC Batch: QC03238

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Hydroxide Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0.00	20
Carbonate Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0.00	20
Bicarbonate Alkalinity		180	172	mg/L as CaCo3	1	4.54	20
Total Alkalinity		180	172	mg/L as CaCo3	1	4.54	20

Sample: Duplicate QC Batch: QC03271

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH		7.1	7.1	s.u.	1	0.00	20

Quality Control Report
Continuing Calibration Verification Standards

Sample: CCV (1) QC Batch: QC03137

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1413	1406	99	80 - 120	6/12/00

Sample: ICV (1) QC Batch: QC03137

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1413	1406	99	80 - 120	6/12/00

Sample: CCV (1) QC Batch: QC03138

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1413	1419	100	80 - 120	6/12/00

Sample: ICV (1) QC Batch: QC03138

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1413	1406	99	80 - 120	6/12/00

Sample: CCV (1) QC Batch: QC03142

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Phenol		mg/L	60	63.48	105	5 - 57	6/12/00
1,4-Dichlorobenzene		mg/L	60	58.75	97	25 - 94	6/12/00
2-Nitrophenol		mg/L	60	59.98	99	80 - 120	6/12/00
2,4-Dichlorophenol		mg/L	60	62.59	104	80 - 120	6/12/00
Hexachlorobutadiene		mg/L	60	55.74	92	80 - 120	6/12/00
4-Chloro-3-methylphenol		mg/L	60	62.67	104	40 - 126	6/12/00
2,4,6-Trichlorophenol		mg/L	60	57.22	95	80 - 120	6/12/00
Acenaphthene		mg/L	60	58.12	96	47 - 118	6/12/00
Diphenylamine		mg/L	60	58.17	96	80 - 120	6/12/00
Pentachlorophenol		mg/L	60	58.45	97	21 - 131	6/12/00
Fluoranthene		mg/L	60	59.51	99	80 - 120	6/12/00
Di-n-octylphthalate		mg/L	60	60.38	100	80 - 120	6/12/00
Benzo(a)pyrene		mg/L	60	55.79	92	80 - 120	6/12/00
2-Fluorophenol		mg/L	60	59.39	98	8 - 73	6/12/00

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Phenol-d5		mg/L	60	63.57	105	8 - 62	6/12/00
Nitrobenzene-d5		mg/L	60	59.40	99	44 - 109	6/12/00
2-Fluorobiphenyl		mg/L	60	57.74	96	45 - 109	6/12/00
2,4,6-Tribromophenol		mg/L	60	54.22	90	39 - 132	6/12/00
Terphenyl-d14		mg/L	60	53.41	89	46 - 121	6/12/00

Sample: CCV (1)

QC Batch: QC03190

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
CL		mg/L	12.50	11.80	94	80 - 120	6/10/00
Fluoride		mg/L	2.50	2.45	98	80 - 120	6/10/00
Nitrate-N		mg/L	5	4.79	95	80 - 120	6/10/00
Sulfate		mg/L	12.50	12.07	96	80 - 120	6/10/00

Sample: ICV (1)

QC Batch: QC03190

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
CL		mg/L	12.50	11.57	92	80 - 120	6/10/00
Fluoride		mg/L	2.50	2.50	100	80 - 120	6/10/00
Nitrate-N		mg/L	5	4.81	96	80 - 120	6/10/00
Sulfate		mg/L	12.50	11.98	95	80 - 120	6/10/00

Sample: CCV (1)

QC Batch: QC03193

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	1005	100	80 - 120	6/13/00

Sample: ICV (1)

QC Batch: QC03193

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	991	99	80 - 120	6/13/00

Sample: CCV (1)

QC Batch: QC03195

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Vinyl Chloride		µg/L	100	96	96	80 - 120	6/13/00
1,1-Dichloroethene		µg/L	100	99	99	73 - 154	6/13/00
Chloroform		µg/L	100	100	100	80 - 120	6/13/00
1,2-Dichloropropane		µg/L	100	101	101	80 - 120	6/13/00
Toluene		µg/L	100	100	100	81 - 122	6/13/00
Chlorobenzene		µg/L	100	102	102	86 - 121	6/13/00
Ethylbenzene		µg/L	100	106	106	80 - 120	6/13/00
Dibromofluoromethane		µg/L	50	50.44	100	80 - 120	6/13/00
Toluene-d8		µg/L	50	49.03	98	80 - 120	6/13/00
4-Bromofluorobenzene		µg/L	50	50.36	100	80 - 120	6/13/00

Sample: CCV (1)

QC Batch: QC03238

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	80 - 120	6/13/00
Carbonate Alkalinity		mg/L as CaCo3	0	204	0	80 - 120	6/13/00
Bicarbonate Alkalinity		mg/L as CaCo3	0	32	0	80 - 120	6/13/00
Total Alkalinity		mg/L as CaCo3	250	236	94	80 - 120	6/13/00

Sample: ICV (1)

QC Batch: QC03238

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	80 - 120	6/13/00
Carbonate Alkalinity		mg/L as CaCo3	0	220	0	80 - 120	6/13/00
Bicarbonate Alkalinity		mg/L as CaCo3	0	31	0	80 - 120	6/13/00
Total Alkalinity		mg/L as CaCo3	250	251	100	80 - 120	6/13/00

Sample: CCV (1)

QC Batch: QC03271

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.0	100	80 - 120	6/12/00

Sample: ICV (1)

QC Batch: QC03271

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.0	100	80 - 120	6/12/00

Sample: CCV (1)

QC Batch: QC03374

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	20	21.6	108	75 - 125	6/20/00
Dissolved Magnesium		mg/L	20	21.2	106	75 - 125	6/20/00
Dissolved Potassium		mg/L	20	20.9	104	75 - 125	6/20/00
Dissolved Sodium		mg/L	20	19.5	97	75 - 125	6/20/00

Sample: ICV (1)

QC Batch: QC03374

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	20	20.9	104	75 - 125	6/20/00
Dissolved Magnesium		mg/L	20	20.2	101	75 - 125	6/20/00
Dissolved Potassium		mg/L	20	20.3	101	75 - 125	6/20/00
Dissolved Sodium		mg/L	20	19.1	95	75 - 125	6/20/00

Sample: CCV (1)

QC Batch: QC03389

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	5	5.28	105	75 - 125	6/17/00
Total Arsenic		mg/L	2.50	2.63	105	75 - 125	6/17/00
Total Barium		mg/L	5	5.28	105	75 - 125	6/17/00
Total Boron		mg/L	2.50	2.64	105	75 - 125	6/17/00
Total Cadmium		mg/L	0.50	0.52	104	75 - 125	6/17/00
Total Chromium		mg/L	1	1.05	105	75 - 125	6/17/00
Total Cobalt		mg/L	2.50	2.61	104	75 - 125	6/17/00
Total Copper		mg/L	1	1.06	106	75 - 125	6/17/00
Total Iron		mg/L	5	5.25	104	75 - 125	6/17/00
Total Lead		mg/L	2.50	2.64	104	75 - 125	6/17/00
Total Manganese		mg/L	0.50	0.53	106	75 - 125	6/17/00
Total Molybdenum		mg/L	2.50	2.63	104	75 - 125	6/17/00
Total Nickel		mg/L	2.50	2.64	104	75 - 125	6/17/00
Total Selenium		mg/L	2.50	2.66	104	75 - 125	6/17/00
Total Silica		mg/L	2.50	2.60	104	75 - 125	6/17/00
Total Silver		mg/L	0.50	0.52	104	75 - 125	6/17/00
Total Zinc		mg/L	0.50	0.53	106	75 - 125	6/17/00

Sample: ICV (1) QC Batch: QC03389

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	5	4.99	99	75 - 125	6/17/00
Total Arsenic		mg/L	2.50	2.48	99	75 - 125	6/17/00
Total Barium		mg/L	5	5.04	100	75 - 125	6/17/00
Total Boron		mg/L	2.50	2.57	102	75 - 125	6/17/00
Total Cadmium		mg/L	0.50	0.50	100	75 - 125	6/17/00
Total Chromium		mg/L	1	1.00	100	75 - 125	6/17/00
Total Cobalt		mg/L	2.50	2.50	100	75 - 125	6/17/00
Total Copper		mg/L	1	1.00	100	75 - 125	6/17/00
Total Iron		mg/L	5	5.03	101	75 - 125	6/17/00
Total Lead		mg/L	2.50	2.52	100	75 - 125	6/17/00
Total Manganese		mg/L	0.50	0.50	100	75 - 125	6/17/00
Total Molybdenum		mg/L	2.50	2.50	100	75 - 125	6/17/00
Total Nickel		mg/L	2.50	2.51	100	75 - 125	6/17/00
Total Selenium		mg/L	2.50	2.50	100	75 - 125	6/17/00
Total Silica		mg/L	2.50	2.45	100	75 - 125	6/17/00
Total Silver		mg/L	0.50	0.50	100	75 - 125	6/17/00
Total Zinc		mg/L	0.50	0.51	100	75 - 125	6/17/00

Sample: CCV (1) QC Batch: QC03390

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.001	0.00088	88	80 - 120	6/22/00

Sample: ICV (1) QC Batch: QC03390

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.001	0.00092	92	80 - 120	6/22/00

147745-46

Page 1 of 1

6701 Aberdeen Avenue, Ste. 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

TraceAnalysis, Inc.

4725 Ripley Dr., Ste A
El Paso, Texas 79922-1028
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # A0006[illegible]

Company Name: NM Oil Conservation Division Phone #: (505) 827-7154

Address: (Street, City, Zip) 2040 S. Pacheco, Santa Fe, NM 87505 Fax #: (505) 827-8177

Contact Person: Bill Olson

Invoice to: (If different from above)

Project #: Project Name: Windmill Oil

Project Location: Owen Dobbs Sampler Signature: Bill Olson

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	$NaHSO_4$	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
147745	000608 1300 (Dobbs #1)	2	40ml	✓				✓					✓		6/8/00	1300
	000608 1300 (Dobbs #1)	1	liter	✓									✓		6/8/00	1300
	000608 1300 (Dobbs #1)	1	liter	✓									✓		6/8/00	1300
	000608 1300 (Dobbs #1)	1	500ml	✓					✓				✓		6/8/00	1300
147746	000608 1345 (Dobbs #2)	2	40ml	✓				✓					✓		6/8/00	1345
	000608 1345 (Dobbs #2)	1	liter	✓									✓		6/8/00	1345
	000608 1345 (Dobbs #2)	1	liter	✓									✓		6/8/00	1345
	000608 1345 (Dobbs #2)	1	500ml	✓					✓				✓		6/8/00	1345

ANALYSIS REQUEST
(Circle or Specify Method No.)

MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC-MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	Gen Chem (OCD contract item #24)	OCD metals (OCD contract item #23)			Turn Around Time if different from standard	Hold
										2										
											1									
															1					
																1				
										2										
											1									
															1					
																1				

Relinquished by: Bill Olson Date: 6/8/00 Time: 1200

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received at Laboratory by: Vicki Hensley Date: 6-10-00 Time: 10:00

LAB USE ONLY

Intact Y / N

Headspace Y / N

Temp 4 °

Log-in Review

REMARKS:

Carrier # 902 421 373 7 BUS

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.

ORIGINAL COPY

Laboratory Services, Inc.
4016 Fiesta Drive
Hobbs, New Mexico 88240
Telephone: (505) 397-3713

Water Analysis

COMPANY Altura Energy Ltd,

SAMPLE Fresh Water Well For Well 30-121
SAMPLED BY

DATE TAKEN 5/10/00
REMARKS T18S-R38E-Sec 30, Qtr Sec 1,4,2

Barium as Ba	0	
Carbonate alkalinity PPM	0	
Bicarbonate alkalinity PPM	184	
pH at Lab	7.42	
Specific Gravity @ 60°F	1.001	
Magnesium as Mg	128	
Total Hardness as CaCO3	220	
Chlorides as Cl	42	
Sulfate as SO4	75	
Iron as Fe	0	
Potassium	0.08	
Hydrogen Sulfide	0	
Rw	12.1	23.0 C
Total Dissolved Solids	544	
Calcium as Ca	92	
Nitrate	11	

Results reported as Parts per Million unless stated

Langelier Saturation Index - 0.33

Analysis by: Rolland Perry
Date: 5/14/00

Laboratory Services, Inc.
4016 Fiesta Drive
Hobbs, New Mexico 88240
Telephone: (505) 397-3713

Water Analysis

COMPANY Altura Energy Ltd,

SAMPLE Fresh Water Well For Well 30-121
SAMPLED BY

DATE TAKEN 5/10/00
REMARKS T18S-R38E-Sec.30, Qtr Sec. 1,2,3

Barium as Ba	0
Carbonate alkalinity PPM	0
Bicarbonate alkalinity PPM	224
pH at Lab	7.4
Specific Gravity @ 60°F	1.001
Magnesium as Mg	167
Total Hardness as CaCO3	288
Chlorides as Cl	76
Sulfate as SO4	110
Iron as Fe	0
Potassium	0.08
Hydrogen Sulfide	0
Rw	8
Total Dissolved Solids	717
Calcium as Ca	121
Nitrate	10.6

Results reported as Parts per Million unless stated

Langelier Saturation Index 0

Analysis by: Rolland Perry
Date: 5/14/00

Laboratory Services, Inc.
4016 Fiesta Drive
Hobbs, New Mexico 88240
Telephone: (505) 397-3713

Water Analysis

COMPANY Altura Energy Ltd,

SAMPLE Fresh Water Well For Well 30-411
SAMPLED BY

DATE TAKEN 5/11/00
REMARKS T18S-R38E-Sec 30, Qtr Sec 2,2.2

Barium as Ba	0	
Carbonate alkalinity PPM	0	
Bicarbonate alkalinity PPM	360	
pH at Lab	6.97	
Specific Gravity @ 60°F	1.001	
Magnesium as Mg	248	
Total Hardness as CaCO3	428	
Chlorides as Cl	200	
Sulfate as SO4	170	
Iron as Fe	0.1	
Potassium	0.13	
Hydrogen Sulfide	0	
Rw	9.5	23.0 C
Total Dissolved Solids	1,205	
Calcium as Ca	180	
Nitrate	33.9	

Results reported as Parts per Million unless stated

Langelier Saturation Index - 0.18

Analysis by: Rolland Perry
Date: 5/14/00

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Jennifer A. Salisbury
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

September 13, 2000

Mr. Jerry Brown
1717 Bensing
Hobbs, New Mexico 88240

RE: WATER WELL SAMPLE ANALYSES

Dear Mr. Brown:

Enclosed you will find a copy of the laboratory analytical results of the water samples that the New Mexico Oil Conservation Division (OCD) obtained from your private water well on June 8, 2000. The sample analyses did not detect any petroleum contaminants in your water well. However, elevated levels of chloride and total dissolved solids were found to be present in the water. The chloride levels, while at an elevated concentration compared to normal ground water in the area, are below the New Mexico Water Quality Control Commission (WQCC) drinking water standard of 250 mg/l. Total dissolved solids were found to be present in concentrations just above the WQCC standard of 1000 mg/l for drinking water. It is possible that these salts are a result of oilfield activities since brine waters are generated during the production of oil and natural gas. In addition, fluoride was found to be present in a concentration in excess of the New Mexico Water Quality Control Commission standard of 1.6 mg/l for drinking water. Since fluoride is not an oilfield-related constituent, I recommend that you contact Dennis McQuillan of the New Mexico Environment Department at (505) 827-2831 regarding the occurrence of fluoride in the area and possible effects of fluoride on human health.

The OCD is continuing to investigate oilfield ground water contamination in your area. If you have any questions regarding the laboratory analyses of your water or the OCD's investigations, please feel free to call me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrologist
Environmental Bureau

Enclosure

xc w/ enclosure: Chris Williams, OCD Hobbs District Supervisor
Dennis McQuillan, NMED Ground Water Quality Bureau

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Bill Olson
OCD
2040 S. Pacheco
Santa Fe, NM 87505

RECEIVED
JUN 30 2000
ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Report Date: June 27, 2000

Order ID Number: A00061013

Project Number: Jerry Brown
Project Name: Windmill
Project Location: Jerry Brown

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
147772	0006081715 (Brown)	Water	6/8/00	17:15	6/10/00

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 24 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Cation-Anion Balance Sheet

Sample # 147772 Date: 6/27/00

Cations

	ppm	meq/L
Calcium	210	10.479
Magnesium	34	2.79786
Sodium	113	4.9155
Potassium	3.6	0.092088

Total Cations
18.2844 in meq/L

Anions

	ppm	meq/L
Alkalinity	327	6.54
Sulfate	250	5.205
Chloride	180	5.0778
Nitrate as N	14	0.99946
Fluoride	1.7	0.089488

Total Anions
17.9117 in meq/L

Percentage Error
2.05933 %
(needs to be <10%)

OTHER INFORMATION

TDS	0
EC	0

Measure EC and Cation Sums	1828.4448	Range should be:	0	to	0
Measure EC and Anion Sums	1791.1748	Range should be:	0	to	0
Calculated TDS/Conductivity	#DIV/0!	Range should be:	0.55	to	0.77
Measure TDS and Cation Sums	0	Range should be:	0.55	to	0.77
Measure TDS and Anion Sums	0	Range should be:	0.55	to	0.77

Analytical and Quality Control Report

Sample: 147772 - 0006081715 (Brown)

Analysis:	8260	Analytical Method:	S 8260B	QC Batch:	QC03195	Date Analyzed:	6/13/00
Analyst:	JG	Preparation Method:	E 5030B	Prep Batch:	PB02746	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Bromochloromethane		<2.00	µg/L	1	2
Dichlorodifluoromethane		<2.00	µg/L	1	2
Chloromethane (methyl chloride)		<2.00	µg/L	1	2
Vinyl Chloride		<2.00	µg/L	1	2
Bromomethane (methyl bromide)		<5.00	µg/L	1	5
Chloroethane		<2.00	µg/L	1	2
Trichlorofluoromethane		<2.00	µg/L	1	2
Acetone		<10.00	µg/L	1	10
Iodomethane (methyl iodide)		<2.00	µg/L	1	2
Carbon Disulfide		<2.00	µg/L	1	2
Acrylonitrile		<2.00	µg/L	1	2
2-Butanone (MEK)		<2.00	µg/L	1	2
4-methyl-2-pentanone (MIBK)		<10.00	µg/L	1	10
2-hexanone		<2.00	µg/L	1	2
trans 1,4-Dichloro-2-butene		<10.00	µg/L	1	10
1,1-Dichloroethene		<2.00	µg/L	1	2
Methylene chloride		<5.00	µg/L	1	5
MTBE		<2.00	µg/L	1	2
trans-1,2-Dichloroethene		<2.00	µg/L	1	2
1,1-Dichloroethane		<2.00	µg/L	1	2
cis-1,2-dichloroethene		<2.00	µg/L	1	2
2,2-Dichloropropane		<2.00	µg/L	1	2
1,2-Dichloroethane (EDC)		<2.00	µg/L	1	2
Chloroform		<2.00	µg/L	1	2
1,1,1-Trichloroethane		<2.00	µg/L	1	2
1,1-Dichloropropene		<2.00	µg/L	1	2
Benzene		<2.00	µg/L	1	2
Carbon Tetrachloride		<2.00	µg/L	1	2
1,2-Dichloropropane		<2.00	µg/L	1	2
Trichloroethene (TCE)		<2.00	µg/L	1	2
Dibromomethane (methylene bromide)		<2.00	µg/L	1	2
Bromodichloromethane		<2.00	µg/L	1	2
2-Chloroethyl vinyl ether		<10.00	µg/L	1	10
cis-1,3-Dichloropropene		<2.00	µg/L	1	2
trans-1,3-Dichloropropene		<2.00	µg/L	1	2
Toluene		<2.00	µg/L	1	2
1,1,2-Trichloroethane		<2.00	µg/L	1	2
1,3-Dichloropropane		<2.00	µg/L	1	2
Dibromochloromethane		<2.00	µg/L	1	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	1	2
Tetrachloroethene (PCE)		<2.00	µg/L	1	2
Chlorobenzene		<2.00	µg/L	1	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	1	2
Ethylbenzene		<2.00	µg/L	1	2
m,p-Xylene		<2.00	µg/L	1	2

Continued ...

... *Continued* Sample: 147772 Analysis: 8260

Param	Flag	Result	Units	Dilution	RDL
Bromoform		<2.00	µg/L	1	2
Styrene		<2.00	µg/L	1	2
o-Xylene		<2.00	µg/L	1	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	1	2
2-Chlorotoluene		<2.00	µg/L	1	2
1,2,3-Trichloropropane		<2.00	µg/L	1	2
Isopropylbenzene		<2.00	µg/L	1	2
Bromobenzene		<2.00	µg/L	1	2
n-Propylbenzene		<2.00	µg/L	1	2
1,3,5-Trimethylbenzene		<2.00	µg/L	1	2
tert-Butylbenzene		<2.00	µg/L	1	2
1,2,4-Trimethylbenzene		<2.00	µg/L	1	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	1	2
sec-Butylbenzene		<2.00	µg/L	1	2
1,3-Dichlorobenzene		<2.00	µg/L	1	2
p-Isopropyltoluene		<2.00	µg/L	1	2
4-Chlorotoluene		<2.00	µg/L	1	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	1	2
n-Butylbenzene		<2.00	µg/L	1	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5
Naphthalene		<2.00	µg/L	1	2
Hexachlorobutadiene		<5.00	µg/L	1	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		52.48	µg/L	1	50	104	84 - 116
Toluene-d8		53.03	µg/L	1	50	106	92 - 108
4-Bromofluorobenzene		42.17	µg/L	1	50	84	80 - 110

Sample: 147772 - 0006081715 (Brown)

Analysis:	8270	Analytical Method:	S 8270C	QC Batch:	QC03142	Date Analyzed:	6/12/00
Analyst:	MA	Preparation Method:	E 3510C	Prep Batch:	PB02699	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Pyridine		<0.005	mg/L	1	0.005
n-Nitrosodimethylamine		<0.005	mg/L	1	0.005
2-Picoline		<0.005	mg/L	1	0.005
Methyl methanesulfonate		<0.005	mg/L	1	0.005
Ethyl methanesulfonate		<0.005	mg/L	1	0.005
Phenol		<0.005	mg/L	1	0.005
Aniline		<0.005	mg/L	1	0.005
bis (2-chloroethyl) ether		<0.005	mg/L	1	0.005
2-Chlorophenol		<0.005	mg/L	1	0.005
1,3-Dichlorobenzene		<0.005	mg/L	1	0.005
1,4-Dichlorobenzene		<0.005	mg/L	1	0.005
Benzyl alcohol		<0.005	mg/L	1	0.005

Continued ...

... *Continued* Sample: 147772 Analysis: 8270

Param	Flag	Result	Units	Dilution	RDL
1,2-Dichlorobenzene		<0.005	mg/L	1	0.005
2-Methylphenol		<0.005	mg/L	1	0.005
bis (2-chloroisopropyl) ether		<0.005	mg/L	1	0.005
4-Methylphenol/3-Methylphenol		<0.005	mg/L	1	0.005
Acetophenone		<0.005	mg/L	1	0.005
n-Nitrosodi-n-propylamine		<0.005	mg/L	1	0.005
Hexachloroethane		<0.005	mg/L	1	0.005
Nitrobenzene		<0.005	mg/L	1	0.005
n-Nitrosopiperidine		<0.005	mg/L	1	0.005
Isophorone		<0.005	mg/L	1	0.005
2-Nitrophenol		<0.005	mg/L	1	0.005
2,4-Dimethylphenol		<0.005	mg/L	1	0.005
bis (2-chloroethoxy) methane		<0.005	mg/L	1	0.005
Benzoic acid		<0.005	mg/L	1	0.005
2,4-Dichlorophenol		<0.005	mg/L	1	0.005
1,2,4-Trichlorobenzene		<0.005	mg/L	1	0.005
a,a-Dimethylphenethylamine		<0.005	mg/L	1	0.005
Naphthalene		<0.005	mg/L	1	0.005
4-Chloroaniline		<0.005	mg/L	1	0.005
2,6-Dichlorophenol		<0.005	mg/L	1	0.005
Hexachlorobutadiene		<0.005	mg/L	1	0.005
n-Nitroso-di-n-butylamine		<0.005	mg/L	1	0.005
4-Chloro-3-methylphenol		<0.005	mg/L	1	0.005
1-Methylnaphthalene		<0.005	mg/L	1	0.005
2-Methylnaphthalene		<0.005	mg/L	1	0.005
1,2,4,5-Tetrachlorobenzene		<0.005	mg/L	1	0.005
Hexachlorocyclopentadiene		<0.005	mg/L	1	0.005
2,4,6-Trichlorophenol		<0.005	mg/L	1	0.005
2,4,5-Trichlorophenol		<0.005	mg/L	1	0.005
2-Chloronaphthalene		<0.005	mg/L	1	0.005
1-Chloronaphthalene		<0.005	mg/L	1	0.005
2-Nitroaniline		<0.005	mg/L	1	0.005
Dimethylphthalate		<0.005	mg/L	1	0.005
Acenaphthylene		<0.005	mg/L	1	0.005
2,6-Dinitrotoluene		<0.005	mg/L	1	0.005
3-Nitroaniline		<0.005	mg/L	1	0.005
Acenaphthene		<0.005	mg/L	1	0.005
2,4-Dinitrophenol		<0.005	mg/L	1	0.005
Dibenzofuran		<0.005	mg/L	1	0.005
Pentachlorobenzene		<0.005	mg/L	1	0.005
4-Nitrophenol		<0.005	mg/L	1	0.005
1-Napthylamine		<0.005	mg/L	1	0.005
2,4-Dinitrotoluene		<0.005	mg/L	1	0.005
2-Napthylamine		<0.005	mg/L	1	0.005
2,3,4,6-Tetrachlorophenol		<0.005	mg/L	1	0.005
Fluorene		<0.005	mg/L	1	0.005
Diethylphthalate		<0.005	mg/L	1	0.005
4-Chlorophenyl-phenylether		<0.005	mg/L	1	0.005
4-Nitroaniline		<0.005	mg/L	1	0.005
4,6-Dinitro-2-methylphenol		<0.005	mg/L	1	0.005
Diphenylamine		<0.005	mg/L	1	0.005

Continued ...

... *Continued* Sample: 147772 Analysis: 8270

Param	Flag	Result	Units	Dilution	RDL
Diphenylhydrazine		<0.005	mg/L	1	0.005
4-Bromophenyl-phenylether		<0.005	mg/L	1	0.005
Phenacetin		<0.005	mg/L	1	0.005
Hexachlorobenzene		<0.005	mg/L	1	0.005
4-Aminobiphenyl		<0.005	mg/L	1	0.005
Pentachlorophenol		<0.005	mg/L	1	0.005
Pentachloronitrobenzene		<0.005	mg/L	1	0.005
Pronamide		<0.005	mg/L	1	0.005
Phenanthrene		<0.005	mg/L	1	0.005
Anthracene		<0.005	mg/L	1	0.005
Di-n-butylphthalate		<0.005	mg/L	1	0.005
Fluoranthene		<0.005	mg/L	1	0.005
Benzidine		<0.005	mg/L	1	0.005
Pyrene		<0.005	mg/L	1	0.005
p-Dimethylaminoazobenzene		<0.005	mg/L	1	0.005
Butylbenzylphthalate		<0.005	mg/L	1	0.005
Benzo(a)anthracene		<0.005	mg/L	1	0.005
3,3-Dichlorobenzidine		<0.005	mg/L	1	0.005
Chrysene		<0.005	mg/L	1	0.005
Bis (2-ethylhexyl) phthalate		<0.005	mg/L	1	0.005
Di-n-octylphthalate		<0.005	mg/L	1	0.005
Benzo(b)fluoranthene		<0.005	mg/L	1	0.005
7,12-Dimethylbenz(a)anthracene		<0.005	mg/L	1	0.005
Benzo(k)fluoranthene		<0.005	mg/L	1	0.005
Benzo(a)pyrene		<0.005	mg/L	1	0.005
3-Methylcholanthrene		<0.005	mg/L	1	0.005
Dibenzo(a,j)acridine		<0.005	mg/L	1	0.005
Indeno(1,2,3-cd)pyrene		<0.005	mg/L	1	0.005
Dibenzo(a,h)anthracene		<0.005	mg/L	1	0.005
Benzo(g,h,i)perylene		<0.005	mg/L	1	0.005

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		20.21	mg/L	1	80	25	8 - 73
Nitrobenzene-d5		53.36	mg/L	1	80	66	44 - 109
2-Fluorobiphenyl		54.05	mg/L	1	80	67	45 - 109
2,4,6-Tribromophenol		51.69	mg/L	1	80	64	39 - 132
Terphenyl-d14		53.72	mg/L	1	80	67	46 - 121

Sample: 147772 - 0006081715 (Brown)

Analysis:	Alkalinity	Analytical Method:	E 310.1	QC Batch:	QC03240	Date Analyzed:	6/16/00
Analyst:	LD	Preparation Method:	N/A	Prep Batch:	PB02794	Date Prepared:	6/16/00

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		327	mg/L as CaCo3	1	1
Total Alkalinity		327	mg/L as CaCo3	1	1

Sample: 147772 - 0006081715 (Brown)

Analysis:	Conductivity	Analytical Method:	SM 2510B	QC Batch:	QC03137	Date Analyzed:	6/12/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02696	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Specific Conductance		1700	uMHOS/cm	1	

Sample: 147772 - 0006081715 (Brown)

Analysis:	Dissolved Metals	Analytical Method:	E 200.7	QC Batch:	QC03374	Date Analyzed:	6/20/00
Analyst:	RR	Preparation Method:	E 3005A	Prep Batch:	PB02731	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		210	mg/L	1	0.50
Dissolved Magnesium		34	mg/L	1	0.50
Dissolved Potassium		3.6	mg/L	1	0.50
Dissolved Sodium		113	mg/L	1	0.50

Sample: 147772 - 0006081715 (Brown)

Analysis:	Hg, Total	Analytical Method:	S 7470A	QC Batch:	QC03390	Date Analyzed:	6/22/00
Analyst:	JM	Preparation Method:	N/A	Prep Batch:	PB02918	Date Prepared:	6/19/00

Param	Flag	Result	Units	Dilution	RDL
Total Mercury		<0.0002	mg/L	1	0.0002

Sample: 147772 - 0006081715 (Brown)

Analysis:	Ion Chromatography (IC)	Analytical Method:	E 300.0	QC Batch:	QC03190	Date Analyzed:	6/10/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02742	Date Prepared:	6/10/00

Param	Flag	Result	Units	Dilution	RDL
CL		180	mg/L	1	0.50
Fluoride		1.7	mg/L	1	0.20
Nitrate-N		14	mg/L	1	0.20
Sulfate		250	mg/L	1	0.50

Sample: 147772 - 0006081715 (Brown)

Analysis:	TDS	Analytical Method:	E 160.1	QC Batch:	QC03193	Date Analyzed:	6/13/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02733	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Total Dissolved Solids		1200	mg/L	1	10

Sample: 147772 - 0006081715 (Brown)

Analysis:	Total Metals	Analytical Method:	S 6010B	QC Batch:	QC03389	Date Analyzed:	6/17/00
Analyst:	RR	Preparation Method:	E 3010A	Prep Batch:	PB02676	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Total Aluminum		<0.10	mg/L	1	0.10
Total Arsenic		<0.10	mg/L	1	0.10
Total Barium		<0.10	mg/L	1	0.10
Total Boron		0.66	mg/L	1	0.10
Total Cadmium		<0.01	mg/L	1	0.01
Total Chromium		<0.05	mg/L	1	0.05
Total Cobalt		<0.05	mg/L	1	0.05
Total Copper		<0.10	mg/L	1	0.10
Total Iron		<0.10	mg/L	1	0.10
Total Lead		<0.05	mg/L	1	0.05
Total Manganese		<0.10	mg/L	1	0.10
Total Molybdenum		<0.10	mg/L	1	0.10
Total Nickel		<0.10	mg/L	1	0.10
Total Selenium		<0.05	mg/L	1	0.05
Total Silica		130	mg/L	1	0.50
Total Silver		<0.05	mg/L	1	0.05
Total Zinc		0.17	mg/L	1	0.10

Sample: 147772 - 0006081715 (Brown)

Analysis:	pH	Analytical Method:	E 150.1	QC Batch:	QC03271	Date Analyzed:	6/12/00
Analyst:	RS	Preparation Method:	N/A	Prep Batch:	PB02820	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
pH	[1]	7.2	s.u.	1	1

Quality Control Report
Method Blank

Sample: Method Blank QCBatch: QC03137

Param	Flag	Results	Units	Reporting Limit
Specific Conductance		2.8	uMHOS/cm	

Sample: Method Blank QCBatch: QC03142

Param	Flag	Results	Units	Reporting Limit
Pyridine		<0.005	mg/L	0.005
n-Nitrosodimethylamine		<0.005	mg/L	0.005
2-Picoline		<0.005	mg/L	0.005

Continued ...

[1] Out of holding time.

... *Continued*

Param	Flag	Results	Units	Reporting Limit
Methyl methanesulfonate		<0.005	mg/L	0.005
Ethyl methanesulfonate		<0.005	mg/L	0.005
Phenol		<0.005	mg/L	0.005
Aniline		<0.005	mg/L	0.005
bis (2-chloroethyl) ether		<0.005	mg/L	0.005
2-Chlorophenol		<0.005	mg/L	0.005
1,3-Dichlorobenzene		<0.005	mg/L	0.005
1,4-Dichlorobenzene		<0.005	mg/L	0.005
Benzyl alcohol		<0.005	mg/L	0.005
1,2-Dichlorobenzene		<0.005	mg/L	0.005
2-Methylphenol		<0.005	mg/L	0.005
bis (2-chloroisopropyl) ether		<0.005	mg/L	0.005
4-Methylphenol/3-Methylphenol		<0.005	mg/L	0.005
Acetophenone		<0.005	mg/L	0.005
n-Nitrosodi-n-propylamine		<0.005	mg/L	0.005
Hexachloroethane		<0.005	mg/L	0.005
Nitrobenzene		<0.005	mg/L	0.005
n-Nitrosopiperidine		<0.005	mg/L	0.005
Isophorone		<0.005	mg/L	0.005
2-Nitrophenol		<0.005	mg/L	0.005
2,4-Dimethylphenol		<0.005	mg/L	0.005
bis (2-chloroethoxy) methane		<0.005	mg/L	0.005
Benzoic acid		<0.005	mg/L	0.005
2,4-Dichlorophenol		<0.005	mg/L	0.005
1,2,4-Trichlorobenzene		<0.005	mg/L	0.005
a,a-Dimethylphenethylamine		<0.005	mg/L	0.005
Naphthalene		<0.005	mg/L	0.005
4-Chloroaniline		<0.005	mg/L	0.005
2,6-Dichlorophenol		<0.005	mg/L	0.005
Hexachlorobutadiene		<0.005	mg/L	0.005
n-Nitroso-di-n-butylamine		<0.005	mg/L	0.005
4-Chloro-3-methylphenol		<0.005	mg/L	0.005
1-Methylnaphthalene		<0.005	mg/L	0.005
2-Methylnaphthalene		<0.005	mg/L	0.005
1,2,4,5-Tetrachlorobenzene		<0.005	mg/L	0.005
Hexachlorocyclopentadiene		<0.005	mg/L	0.005
2,4,6-Trichlorophenol		<0.005	mg/L	0.005
2,4,5-Trichlorophenol		<0.005	mg/L	0.005
2-Chloronaphthalene		<0.005	mg/L	0.005
1-Chloronaphthalene		<0.005	mg/L	0.005
2-Nitroaniline		<0.005	mg/L	0.005
Dimethylphthalate		<0.005	mg/L	0.005
Acenaphthylene		<0.005	mg/L	0.005
2,6-Dinitrotoluene		<0.005	mg/L	0.005
3-Nitroaniline		<0.005	mg/L	0.005
Acenaphthene		<0.005	mg/L	0.005
2,4-Dinitrophenol		<0.005	mg/L	0.005
Dibenzofuran		<0.005	mg/L	0.005
Pentachlorobenzene		<0.005	mg/L	0.005
4-Nitrophenol		<0.005	mg/L	0.005

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Param	Flag	Results	Units	Reporting Limit
1-Napthylamine		<0.005	mg/L	0.005
2,4-Dinitrotoluene		<0.005	mg/L	0.005
2-Napthylamine		<0.005	mg/L	0.005
2,3,4,6-Tetrachlorophenol		<0.005	mg/L	0.005
Fluorene		<0.005	mg/L	0.005
Diethylphthalate		<0.005	mg/L	0.005
4-Chlorophenyl-phenylether		<0.005	mg/L	0.005
4-Nitroaniline		<0.005	mg/L	0.005
4,6-Dinitro-2-methylphenol		<0.005	mg/L	0.005
Diphenylamine		<0.005	mg/L	0.005
Diphenylhydrazine		<0.005	mg/L	0.005
4-Bromophenyl-phenylether		<0.005	mg/L	0.005
Phenacetin		<0.005	mg/L	0.005
Hexachlorobenzene		<0.005	mg/L	0.005
4-Aminobiphenyl		<0.005	mg/L	0.005
Pentachlorophenol		<0.005	mg/L	0.005
Pentachloronitrobenzene		<0.005	mg/L	0.005
Pronamide		<0.005	mg/L	0.005
Phenanthrene		<0.005	mg/L	0.005
Anthracene		<0.005	mg/L	0.005
Di-n-butylphthalate		<0.005	mg/L	0.005
Fluoranthene		<0.005	mg/L	0.005
Benzidine		<0.005	mg/L	0.005
Pyrene		<0.005	mg/L	0.005
p-Dimethylaminoazobenzene		<0.005	mg/L	0.005
Butylbenzylphthalate		<0.005	mg/L	0.005
Benzo(a)anthracene		<0.005	mg/L	0.005
3,3-Dichlorobenzidine		<0.005	mg/L	0.005
Chrysene		<0.005	mg/L	0.005
Bis (2-ethylhexyl) phthalate		<0.005	mg/L	0.005
Di-n-octylphthalate		<0.005	mg/L	0.005
Benzo(b)fluoranthene		<0.005	mg/L	0.005
7,12-Dimethylbenz(a)anthracene		<0.005	mg/L	0.005
Benzo(k)fluoranthene		<0.005	mg/L	0.005
Benzo(a)pyrene		<0.005	mg/L	0.005
3-Methylcholanthrene		<0.005	mg/L	0.005
Dibenzo(a,j)acridine		<0.005	mg/L	0.005
Indeno(1,2,3-cd)pyrene		<0.005	mg/L	0.005
Dibenzo(a,h)anthracene		<0.005	mg/L	0.005
Benzo(g,h,i)perylene		<0.005	mg/L	0.005

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
2-Fluorophenol		25.50	mg/L	80	31	8 - 73
Nitrobenzene-d5		59.91	mg/L	80	74	44 - 109
2-Fluorobiphenyl		58.24	mg/L	80	72	45 - 109
2,4,6-Tribromophenol		57.84	mg/L	80	72	39 - 132
Terphenyl-d14		53.99	mg/L	80	67	46 - 121

Sample: Method Blank

QCBatch: QC03190

Param	Flag	Results	Units	Reporting Limit
CL		<0.5	mg/L	0.50
Fluoride		<0.2	mg/L	0.20
Nitrate-N		<0.2	mg/L	0.20
Sulfate		<0.5	mg/L	0.50

Sample: Method Blank

QCBatch: QC03193

Param	Flag	Results	Units	Reporting Limit
Total Dissolved Solids		10	mg/L	10

Sample: Method Blank

QCBatch: QC03195

Param	Flag	Results	Units	Reporting Limit
Bromochloromethane		<2.00	µg/L	2
Dichlorodifluoromethane		<2.00	µg/L	2
Chloromethane (methyl chloride)		<2.00	µg/L	2
Vinyl Chloride		<2.00	µg/L	2
Bromomethane (methyl bromide)		<5.00	µg/L	5
Chloroethane		<2.00	µg/L	2
Trichlorofluoromethane		<2.00	µg/L	2
Acetone		<10.00	µg/L	10
Iodomethane (methyl iodide)		<2.00	µg/L	2
Carbon Disulfide		<2.00	µg/L	2
Acrylonitrile		<2.00	µg/L	2
2-Butanone (MEK)		<2.00	µg/L	2
4-methyl-2-pentanone (MIBK)		<10.00	µg/L	10
2-hexanone		<2.00	µg/L	2
trans 1,4-Dichloro-2-butene		<10.00	µg/L	10
1,1-Dichloroethene		<2.00	µg/L	2
Methylene chloride		<5.00	µg/L	5
MTBE		<2.00	µg/L	2
trans-1,2-Dichloroethene		<2.00	µg/L	2
1,1-Dichloroethane		<2.00	µg/L	2
cis-1,2-dichloroethene		<2.00	µg/L	2
2,2-Dichloropropane		<2.00	µg/L	2
1,2-Dichloroethane (EDC)		<2.00	µg/L	2
Chloroform		<2.00	µg/L	2
1,1,1-Trichloroethane		<2.00	µg/L	2
1,1-Dichloropropene		<2.00	µg/L	2
Benzene		<2.00	µg/L	2
Carbon Tetrachloride		<2.00	µg/L	2
1,2-Dichloropropane		<2.00	µg/L	2
Trichloroethene (TCE)		<2.00	µg/L	2

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Param	Flag	Results	Units	Reporting Limit
Dibromomethane (methylene bromide)		<2.00	µg/L	2
Bromodichloromethane		<2.00	µg/L	2
2-Chloroethyl vinyl ether		<10.00	µg/L	10
cis-1,3-Dichloropropene		<2.00	µg/L	2
trans-1,3-Dichloropropene		<2.00	µg/L	2
Toluene		<2.00	µg/L	2
1,1,2-Trichloroethane		<2.00	µg/L	2
1,3-Dichloropropane		<2.00	µg/L	2
Dibromochloromethane		<2.00	µg/L	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	2
Tetrachloroethene (PCE)		<2.00	µg/L	2
Chlorobenzene		<2.00	µg/L	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	2
Ethylbenzene		<2.00	µg/L	2
m,p-Xylene		<2.00	µg/L	2
Bromoform		<2.00	µg/L	2
Styrene		<2.00	µg/L	2
o-Xylene		<2.00	µg/L	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	2
2-Chlorotoluene		<2.00	µg/L	2
1,2,3-Trichloropropane		<2.00	µg/L	2
Isopropylbenzene		<2.00	µg/L	2
Bromobenzene		<2.00	µg/L	2
n-Propylbenzene		<2.00	µg/L	2
1,3,5-Trimethylbenzene		<2.00	µg/L	2
tert-Butylbenzene		<2.00	µg/L	2
1,2,4-Trimethylbenzene		<2.00	µg/L	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	2
sec-Butylbenzene		<2.00	µg/L	2
1,3-Dichlorobenzene		<2.00	µg/L	2
p-Isopropyltoluene		<2.00	µg/L	2
4-Chlorotoluene		<2.00	µg/L	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	2
n-Butylbenzene		<2.00	µg/L	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5
1,2,3-Trichlorobenzene		<5.00	µg/L	5
1,2,4-Trichlorobenzene		<5.00	µg/L	5
Naphthalene		<2.00	µg/L	2
Hexachlorobutadiene		<5.00	µg/L	5

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
Dibromofluoromethane		51.65	µg/L	50	103	84 - 116
Toluene-d8		51.61	µg/L	50	103	92 - 108
4-Bromofluorobenzene		43.93	µg/L	50	87	80 - 110

Sample: Method Blank QCBatch: QC03240

Param	Flag	Results	Units	Reporting Limit
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1
Bicarbonate Alkalinity		<2.0	mg/L as CaCo3	1
Total Alkalinity		<2.0	mg/L as CaCo3	1

Sample: Method Blank QCBatch: QC03374

Param	Flag	Results	Units	Reporting Limit
Dissolved Calcium		<0.50	mg/L	0.50
Dissolved Magnesium		<0.50	mg/L	0.50
Dissolved Potassium		<0.50	mg/L	0.50
Dissolved Sodium		<0.50	mg/L	0.50

Sample: Method Blank QCBatch: QC03389

Param	Flag	Results	Units	Reporting Limit
Total Aluminum		<0.10	mg/L	0.10
Total Arsenic		<0.10	mg/L	0.10
Total Barium		<0.10	mg/L	0.10
Total Boron		<0.10	mg/L	0.10
Total Cadmium		<0.01	mg/L	0.01
Total Chromium		<0.05	mg/L	0.05
Total Cobalt		<0.05	mg/L	0.05
Total Copper		<0.10	mg/L	0.10
Total Iron		<0.10	mg/L	0.10
Total Lead		<0.05	mg/L	0.05
Total Manganese		<0.10	mg/L	0.10
Total Molybdenum		<0.10	mg/L	0.10
Total Nickel		<0.10	mg/L	0.10
Total Selenium		<0.05	mg/L	0.05
Total Silica		<0.50	mg/L	0.50
Total Silver		<0.05	mg/L	0.05
Total Zinc		<0.10	mg/L	0.10

Sample: Method Blank QCBatch: QC03390

Param	Flag	Results	Units	Reporting Limit
Total Mercury		<0.0002	mg/L	0.0002

Quality Control Report

Lab Control Spikes and Duplicate Spikes

Sample: LCS

QC Batch: QC03142

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Phenol		42.824	mg/L	1	80	<0.005	53		5 - 57	20
2-Chlorophenol		43.416	mg/L	1	80	<0.005	54		29 - 110	20
1,4-Dichlorobenzene		54.708	mg/L	1	80	<0.005	68		25 - 94	20
n-Nitrosodi-n-propylamine		58.916	mg/L	1	80	<0.005	73		36 - 119	20
1,2,4-Trichlorobenzene		56.070	mg/L	1	80	<0.005	70		28 - 110	20
4-Chloro-3-methylphenol		49.008	mg/L	1	80	<0.005	61		40 - 126	20
Acenaphthene		50.649	mg/L	1	80	<0.005	63		47 - 118	20
4-Nitrophenol		38.123	mg/L	1	80	<0.005	47		0 - 69	20
2,4-Dinitrotoluene		62.227	mg/L	1	80	<0.005	77		46 - 133	20
Pentachlorophenol		33.291	mg/L	1	80	<0.005	41		21 - 131	20
Pyrene		49.127	mg/L	1	80	<0.005	61		44 - 125	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
2-Fluorophenol		49.05	mg/L	1	80	61	8 - 73
Phenol-d5		53.54	mg/L	1	80	66	8 - 62
Nitrobenzene-d5		53.51	mg/L	1	80	66	44 - 109
2-Fluorobiphenyl		53.68	mg/L	1	80	67	45 - 109
2,4,6-Tribromophenol		51.74	mg/L	1	80	64	39 - 132
Terphenyl-d14		53.77	mg/L	1	80	67	46 - 121

Sample: LCSD

QC Batch: QC03142

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Phenol		45.977	mg/L	1	80	<0.005	57	7.10	5 - 57	20
2-Chlorophenol		46.473	mg/L	1	80	<0.005	58	6.80	29 - 110	20
1,4-Dichlorobenzene		56.488	mg/L	1	80	<0.005	70	3.20	25 - 94	20
n-Nitrosodi-n-propylamine		61.484	mg/L	1	80	<0.005	76	4.26	36 - 119	20
1,2,4-Trichlorobenzene		57.925	mg/L	1	80	<0.005	72	3.25	28 - 110	20
4-Chloro-3-methylphenol		54.881	mg/L	1	80	<0.005	68	11.30	40 - 126	20
Acenaphthene		53.894	mg/L	1	80	<0.005	67	6.20	47 - 118	20
4-Nitrophenol		43.909	mg/L	1	80	<0.005	54	14.10	0 - 69	20
2,4-Dinitrotoluene		68.147	mg/L	1	80	<0.005	85	9.08	46 - 133	20
Pentachlorophenol		38.058	mg/L	1	80	<0.005	47	13.36	21 - 131	20
Pyrene		45.151	mg/L	1	80	<0.005	56	8.43	44 - 125	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
2-Fluorophenol		51.82	mg/L	1	80	64	8 - 73

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Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Phenol-d5		56.70	mg/L	1	80	70	8 - 62
Nitrobenzene-d5		55.67	mg/L	1	80	69	44 - 109
2-Fluorobiphenyl		58.17	mg/L	1	80	72	45 - 109
2,4,6-Tribromophenol		54.87	mg/L	1	80	68	39 - 132
Terphenyl-d14		50.62	mg/L	1	80	63	46 - 121

Sample: LCS QC Batch: QC03195

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
1,1-Dichloroethene		100	µg/L	1	100	<2.00	100		73 - 154	20
Benzene		98	µg/L	1	100	<2.00	98		84 - 126	20
Trichloroethene (TCE)		98	µg/L	1	100	<2.00	98		82 - 123	20
Toluene		97	µg/L	1	100	<2.00	97		81 - 122	20
Chlorobenzene		103	µg/L	1	100	<2.00	103		86 - 121	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Dibromofluoromethane		50.92	µg/L	1	50	101	84 - 116
Toluene-d8		50.07	µg/L	1	50	100	92 - 108
4-Bromofluorobenzene		44.30	µg/L	1	50	88	80 - 110

Sample: LCSD QC Batch: QC03195

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
1,1-Dichloroethene		100	µg/L	1	100	<2.00	100	0.00	73 - 154	20
Benzene		99	µg/L	1	100	<2.00	99	1.01	84 - 126	20
Trichloroethene (TCE)		98	µg/L	1	100	<2.00	98	0.00	82 - 123	20
Toluene		99	µg/L	1	100	<2.00	99	2.04	81 - 122	20
Chlorobenzene		105	µg/L	1	100	<2.00	105	1.92	86 - 121	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Dibromofluoromethane		51.22	µg/L	1	50	102	84 - 116
Toluene-d8		49.81	µg/L	1	50	99	92 - 108
4-Bromofluorobenzene		45.19	µg/L	1	50	90	80 - 110

Sample: LCS QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1063	mg/L	1	1000	<0.50	106		75 - 125	20
Dissolved Magnesium		982	mg/L	1	1000	<0.50	98		75 - 125	20
Dissolved Potassium		968	mg/L	1	1000	<0.50	97		75 - 125	20
Dissolved Sodium		955	mg/L	1	1000	<0.50	96		75 - 125	20

Sample: LCSD QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1077	mg/L	1	1000	<0.50	108	1.30	75 - 125	20
Dissolved Magnesium		992	mg/L	1	1000	<0.50	99	1.01	75 - 125	20
Dissolved Potassium		951	mg/L	1	1000	<0.50	95	1.77	75 - 125	20
Dissolved Sodium		960	mg/L	1	1000	<0.50	96	0.52	75 - 125	20

Sample: LCS QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		1.95	mg/L	1	2	<0.10	97		75 - 125	20
Total Arsenic		1.89	mg/L	1	2	<0.10	94		75 - 125	20
Total Barium		2.07	mg/L	1	2	<0.10	103		75 - 125	20
Total Boron		1.90	mg/L	1	2	<0.10	95		75 - 125	20
Total Cadmium		2.02	mg/L	1	2	<0.01	101		75 - 125	20
Total Chromium		2.07	mg/L	1	2	<0.05	103		75 - 125	20
Total Cobalt		2.13	mg/L	1	2	<0.05	106		75 - 125	20
Total Copper		2.06	mg/L	1	2	<0.10	103		75 - 125	20
Total Iron		2.08	mg/L	1	2	<0.10	104		75 - 125	20
Total Lead		2.01	mg/L	1	2	<0.05	100		75 - 125	20
Total Manganese		2.09	mg/L	1	2	<0.10	104		75 - 125	20
Total Molybdenum		2.14	mg/L	1	2	<0.10	107		75 - 125	20
Total Nickel		2.01	mg/L	1	2	<0.10	101		75 - 125	20
Total Selenium		1.66	mg/L	1	2	<0.05	83		75 - 125	20
Total Silica		9.75	mg/L	1	10	<0.50	97		75 - 125	20
Total Silver		0.35	mg/L	1	0.40	<0.05	87		75 - 125	20
Total Zinc		2.10	mg/L	1	2	<0.10	105		75 - 125	20

Sample: LCSD QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		1.95	mg/L	1	2	<0.10	97	0.00	75 - 125	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Arsenic		1.90	mg/L	1	2	<0.10	95	0.52	75 - 125	20
Total Barium		2.08	mg/L	1	2	<0.10	104	0.48	75 - 125	20
Total Boron		1.91	mg/L	1	2	<0.10	95	0.52	75 - 125	20
Total Cadmium		2.03	mg/L	1	2	<0.01	101	0.49	75 - 125	20
Total Chromium		2.07	mg/L	1	2	<0.05	103	0.00	75 - 125	20
Total Cobalt		2.14	mg/L	1	2	<0.05	107	0.46	75 - 125	20
Total Copper		2.07	mg/L	1	2	<0.10	103	0.48	75 - 125	20
Total Iron		2.09	mg/L	1	2	<0.10	104	0.47	75 - 125	20
Total Lead		2.02	mg/L	1	2	<0.05	101	0.49	75 - 125	20
Total Manganese		2.10	mg/L	1	2	<0.10	105	0.47	75 - 125	20
Total Molybdenum		2.14	mg/L	1	2	<0.10	107	0.00	75 - 125	20
Total Nickel		2.03	mg/L	1	2	<0.10	102	0.99	75 - 125	20
Total Selenium		1.69	mg/L	1	2	<0.05	84	1.79	75 - 125	20
Total Silica		9.84	mg/L	1	10	<0.50	98	0.91	75 - 125	20
Total Silver		0.36	mg/L	1	0.40	<0.05	90	2.81	75 - 125	20
Total Zinc		2.10	mg/L	1	2	<0.10	105	0.00	75 - 125	20

Sample: LCS QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00103	mg/L	1	0.001	<0.0002	103		80 - 120	20

Sample: LCSD QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00111	mg/L	1	0.001	<0.0002	111	7.47	80 - 120	20

Quality Control Report
Matrix Spikes and Duplicate Spikes

Sample: MS QC Batch: QC03190

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Cl		117.23	mg/L	1	62.50	58	94		80 - 120	20
Fluoride		13.97	mg/L	1	12.50	2.3	93		80 - 120	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Nitrate-N		26.33	mg/L	1	25	3.3	92		80 - 120	20
Sulfate		129.52	mg/L	1	62.50	69	96		80 - 120	20

Sample: MSD QC Batch: QC03190

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
CL		117.28	mg/L	1	62.50	58	94	0.08	80 - 120	20
Fluoride		13.75	mg/L	1	12.50	2.3	91	1.90	80 - 120	20
Nitrate-N		25.86	mg/L	1	25	3.3	90	2.06	80 - 120	20
Sulfate		129.38	mg/L	1	62.50	69	96	0.23	80 - 120	20

Sample: MS QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1182	mg/L	1	1000	162	102		75 - 125	20
Dissolved Magnesium		1010	mg/L	1	1000	26	98		75 - 125	20
Dissolved Potassium		953	mg/L	1	1000	2.9	95		75 - 125	20
Dissolved Sodium		1001	mg/L	1	1000	66	93		75 - 125	20

Sample: MSD QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1157	mg/L	1	1000	162	99	2.48	75 - 125	20
Dissolved Magnesium		997	mg/L	1	1000	26	97	1.32	75 - 125	20
Dissolved Potassium		938	mg/L	1	1000	2.9	93	1.59	75 - 125	20
Dissolved Sodium		968	mg/L	1	1000	66	90	3.59	75 - 125	20

Sample: MS QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		2.12	mg/L	1	2	<0.10	106		75 - 125	20
Total Arsenic		1.92	mg/L	1	2	<0.10	96		75 - 125	20
Total Barium		2.11	mg/L	1	2	0.10	100		75 - 125	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Boron		2.08	mg/L	1	2	0.21	93		75 - 125	20
Total Cadmium		1.92	mg/L	1	2	<0.01	96		75 - 125	20
Total Chromium		1.99	mg/L	1	2	<0.05	99		75 - 125	20
Total Cobalt		2.00	mg/L	1	2	<0.05	100		75 - 125	20
Total Copper		1.99	mg/L	1	2	<0.10	99		75 - 125	20
Total Iron		2.04	mg/L	1	2	<0.10	102		75 - 125	20
Total Lead		1.92	mg/L	1	2	<0.05	96		75 - 125	20
Total Manganese		2.02	mg/L	1	2	<0.10	101		75 - 125	20
Total Molybdenum		2.08	mg/L	1	2	<0.10	104		75 - 125	20
Total Nickel		1.94	mg/L	1	2	<0.10	98		75 - 125	20
Total Selenium		1.67	mg/L	1	2	<0.05	83		75 - 125	20
Total Silica		119	mg/L	1	10	107	120		75 - 125	20
Total Silver		0.34	mg/L	1	0.40	<0.05	85		75 - 125	20
Total Zinc		2.00	mg/L	1	2	<0.10	100		75 - 125	20

Sample: MSD

QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		2.16	mg/L	1	2	<0.10	108	1.86	75 - 125	20
Total Arsenic		1.93	mg/L	1	2	<0.10	96	0.51	75 - 125	20
Total Barium		2.12	mg/L	1	2	0.10	101	0.49	75 - 125	20
Total Boron		2.10	mg/L	1	2	0.21	94	1.06	75 - 125	20
Total Cadmium		1.91	mg/L	1	2	<0.01	95	0.52	75 - 125	20
Total Chromium		1.99	mg/L	1	2	<0.05	99	0.00	75 - 125	20
Total Cobalt		2.00	mg/L	1	2	<0.05	100	0.00	75 - 125	20
Total Copper		2.01	mg/L	1	2	<0.10	100	0.99	75 - 125	20
Total Iron		2.05	mg/L	1	2	<0.10	102	0.48	75 - 125	20
Total Lead		1.92	mg/L	1	2	<0.05	96	0.00	75 - 125	20
Total Manganese		2.03	mg/L	1	2	<0.10	101	0.49	75 - 125	20
Total Molybdenum		2.08	mg/L	1	2	<0.10	104	0.00	75 - 125	20
Total Nickel		1.95	mg/L	1	2	<0.10	98	0.51	75 - 125	20
Total Selenium		1.69	mg/L	1	2	<0.05	84	1.19	75 - 125	20
Total Silica		118	mg/L	1	10	107	110	8.69	75 - 125	20
Total Silver		0.36	mg/L	1	0.40	<0.05	90	5.71	75 - 125	20
Total Zinc		1.99	mg/L	1	2	<0.10	99	0.50	75 - 125	20

Sample: MS

QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00112	mg/L	1	0.001	<0.0002	112		80 - 120	20

Sample: MSD QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00103	mg/L	1	0.001	<0.0002	103	8.37	80 - 120	20

Quality Control Report
Duplicate Samples

Sample: Duplicate QC Batch: QC03137

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Specific Conductance		943	940	uMHOS/cm	1	0.31	20

Sample: Duplicate QC Batch: QC03193

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids		2118	1900	mg/L	1	10.85	20

Sample: Duplicate QC Batch: QC03240

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Hydroxide Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0.00	20
Carbonate Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0.00	20
Bicarbonate Alkalinity		313	316	mg/L as CaCo3	1	0.95	20
Total Alkalinity		313	316	mg/L as CaCo3	1	0.95	20

Sample: Duplicate QC Batch: QC03271

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH		7.1	7.1	s.u.	1	0.00	20

Quality Control Report
Continuing Calibration Verification Standards

Sample: CCV (1) QC Batch: QC03137

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1413	1406	99	80 - 120	6/12/00

Sample: ICV (1) QC Batch: QC03137

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1413	1406	99	80 - 120	6/12/00

Sample: CCV (1) QC Batch: QC03142

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Phenol		mg/L	60	63.48	105	5 - 57	6/12/00
1,4-Dichlorobenzene		mg/L	60	58.75	97	25 - 94	6/12/00
2-Nitrophenol		mg/L	60	59.98	99	80 - 120	6/12/00
2,4-Dichlorophenol		mg/L	60	62.59	104	80 - 120	6/12/00
Hexachlorobutadiene		mg/L	60	55.74	92	80 - 120	6/12/00
4-Chloro-3-methylphenol		mg/L	60	62.67	104	40 - 126	6/12/00
2,4,6-Trichlorophenol		mg/L	60	57.22	95	80 - 120	6/12/00
Acenaphthene		mg/L	60	58.12	96	47 - 118	6/12/00
Diphenylamine		mg/L	60	58.17	96	80 - 120	6/12/00
Pentachlorophenol		mg/L	60	58.45	97	21 - 131	6/12/00
Fluoranthene		mg/L	60	59.51	99	80 - 120	6/12/00
Di-n-octylphthalate		mg/L	60	60.38	100	80 - 120	6/12/00
Benzo(a)pyrene		mg/L	60	55.79	92	80 - 120	6/12/00
2-Fluorophenol		mg/L	60	59.39	98	8 - 73	6/12/00
Phenol-d5		mg/L	60	63.57	105	8 - 62	6/12/00
Nitrobenzene-d5		mg/L	60	59.40	99	44 - 109	6/12/00
2-Fluorobiphenyl		mg/L	60	57.74	96	45 - 109	6/12/00
2,4,6-Tribromophenol		mg/L	60	54.22	90	39 - 132	6/12/00
Terphenyl-d14		mg/L	60	53.41	89	46 - 121	6/12/00

Sample: CCV (1) QC Batch: QC03190

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
CL		mg/L	12.50	11.80	94	80 - 120	6/10/00
Fluoride		mg/L	2.50	2.45	98	80 - 120	6/10/00
Nitrate-N		mg/L	5	4.79	95	80 - 120	6/10/00

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		mg/L	12.50	12.07	96	80 - 120	6/10/00

Sample: ICV (1) QC Batch: QC03190

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
CL		mg/L	12.50	11.57	92	80 - 120	6/10/00
Fluoride		mg/L	2.50	2.50	100	80 - 120	6/10/00
Nitrate-N		mg/L	5	4.81	96	80 - 120	6/10/00
Sulfate		mg/L	12.50	11.98	95	80 - 120	6/10/00

Sample: CCV (1) QC Batch: QC03193

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	1005	100	80 - 120	6/13/00

Sample: ICV (1) QC Batch: QC03193

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	991	99	80 - 120	6/13/00

Sample: CCV (1) QC Batch: QC03195

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Vinyl Chloride		µg/L	100	96	96	80 - 120	6/13/00
1,1-Dichloroethene		µg/L	100	99	99	73 - 154	6/13/00
Chloroform		µg/L	100	100	100	80 - 120	6/13/00
1,2-Dichloropropane		µg/L	100	101	101	80 - 120	6/13/00
Toluene		µg/L	100	100	100	81 - 122	6/13/00
Chlorobenzene		µg/L	100	102	102	86 - 121	6/13/00
Ethylbenzene		µg/L	100	106	106	80 - 120	6/13/00
Dibromofluoromethane		µg/L	50	50.44	100	80 - 120	6/13/00
Toluene-d8		µg/L	50	49.03	98	80 - 120	6/13/00
4-Bromofluorobenzene		µg/L	50	50.36	100	80 - 120	6/13/00

Sample: CCV (1) QC Batch: QC03240

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	80 - 120	6/16/00
Carbonate Alkalinity		mg/L as CaCo3	0	198	0	80 - 120	6/16/00
Bicarbonate Alkalinity		mg/L as CaCo3	0	36	0	80 - 120	6/16/00
Total Alkalinity		mg/L as CaCo3	250	234	93	80 - 120	6/16/00

Sample: ICV (1) QC Batch: QC03240

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	80 - 120	6/16/00
Carbonate Alkalinity		mg/L as CaCo3	0	230	0	80 - 120	6/16/00
Bicarbonate Alkalinity		mg/L as CaCo3	0	17	0	80 - 120	6/16/00
Total Alkalinity		mg/L as CaCo3	250	247	98	80 - 120	6/16/00

Sample: CCV (1) QC Batch: QC03271

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.0	100	80 - 120	6/12/00

Sample: ICV (1) QC Batch: QC03271

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.0	100	80 - 120	6/12/00

Sample: CCV (1) QC Batch: QC03374

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	20	21.6	108	75 - 125	6/20/00
Dissolved Magnesium		mg/L	20	21.2	106	75 - 125	6/20/00
Dissolved Potassium		mg/L	20	20.9	104	75 - 125	6/20/00
Dissolved Sodium		mg/L	20	19.5	97	75 - 125	6/20/00

Sample: ICV (1) QC Batch: QC03374

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	20	20.9	104	75 - 125	6/20/00
Dissolved Magnesium		mg/L	20	20.2	101	75 - 125	6/20/00
Dissolved Potassium		mg/L	20	20.3	101	75 - 125	6/20/00
Dissolved Sodium		mg/L	20	19.1	95	75 - 125	6/20/00

Sample: CCV (1) QC Batch: QC03389

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	5	5.28	105	75 - 125	6/17/00
Total Arsenic		mg/L	2.50	2.63	105	75 - 125	6/17/00
Total Barium		mg/L	5	5.28	105	75 - 125	6/17/00
Total Boron		mg/L	2.50	2.64	105	75 - 125	6/17/00
Total Cadmium		mg/L	0.50	0.52	104	75 - 125	6/17/00
Total Chromium		mg/L	1	1.05	105	75 - 125	6/17/00
Total Cobalt		mg/L	2.50	2.61	104	75 - 125	6/17/00
Total Copper		mg/L	1	1.06	106	75 - 125	6/17/00
Total Iron		mg/L	5	5.25	104	75 - 125	6/17/00
Total Lead		mg/L	2.50	2.64	104	75 - 125	6/17/00
Total Manganese		mg/L	0.50	0.53	106	75 - 125	6/17/00
Total Molybdenum		mg/L	2.50	2.63	104	75 - 125	6/17/00
Total Nickel		mg/L	2.50	2.64	104	75 - 125	6/17/00
Total Selenium		mg/L	2.50	2.66	104	75 - 125	6/17/00
Total Silica		mg/L	2.50	2.60	104	75 - 125	6/17/00
Total Silver		mg/L	0.50	0.52	104	75 - 125	6/17/00
Total Zinc		mg/L	0.50	0.53	106	75 - 125	6/17/00

Sample: ICV (1) QC Batch: QC03389

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	5	4.99	99	75 - 125	6/17/00
Total Arsenic		mg/L	2.50	2.48	99	75 - 125	6/17/00
Total Barium		mg/L	5	5.04	100	75 - 125	6/17/00
Total Boron		mg/L	2.50	2.57	102	75 - 125	6/17/00
Total Cadmium		mg/L	0.50	0.50	100	75 - 125	6/17/00
Total Chromium		mg/L	1	1.00	100	75 - 125	6/17/00
Total Cobalt		mg/L	2.50	2.50	100	75 - 125	6/17/00
Total Copper		mg/L	1	1.00	100	75 - 125	6/17/00
Total Iron		mg/L	5	5.03	101	75 - 125	6/17/00
Total Lead		mg/L	2.50	2.52	100	75 - 125	6/17/00
Total Manganese		mg/L	0.50	0.50	100	75 - 125	6/17/00

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Molybdenum		mg/L	2.50	2.50	100	75 - 125	6/17/00
Total Nickel		mg/L	2.50	2.51	100	75 - 125	6/17/00
Total Selenium		mg/L	2.50	2.50	100	75 - 125	6/17/00
Total Silica		mg/L	2.50	2.45	100	75 - 125	6/17/00
Total Silver		mg/L	0.50	0.50	100	75 - 125	6/17/00
Total Zinc		mg/L	0.50	0.51	100	75 - 125	6/17/00

Sample: CCV (1)

QC Batch: QC03390

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.001	0.00088	88	80 - 120	6/22/00

Sample: ICV (1)

QC Batch: QC03390

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.001	0.00092	92	80 - 120	6/22/00

147772

Page 1 of 1

6701 Aberdeen Avenue, Ste. 9
Lubbock, Texas 79424
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1 (800) 378-1296

TraceAnalysis, Inc.

4725 Ripley Dr., Ste A
El Paso, Texas 79922-1028
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # A0006081013

Company Name: NM OIL CONSERVATION DIV Phone #: 505-827-7154

Address: (Street, City, Zip) 2040 S. PACHECO SANTA FE NM 87505 Fax #: 505-827-8177

Contact Person: BILL OLSON

Invoice to: (If different from above)

Project #: Project Name: WINDMILL CIL

Project Location: Jerry Brown Sampler Signature: x Bill Olson

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	NaHSO4	H2SO4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
14772	0006081715 (Brown)	2	40ml	✓				✓					✓		6/8/00	1715
	0006081715 (Brown)	1	liter	✓									✓		6/8/00	1715
	0006081715 (Brown)	1	liter	✓									✓		6/8/00	1715
	0006081715 (Brown)	1	500ml	✓					✓				✓		6/8/00	1715

ANALYSIS REQUEST (Circle or Specify Method No.)

MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC-MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH					
										2							GEN CHEM OCD ITEM #24		
											1						OCD METALS ITEM #23		
																	1		

Turn Around Time if different from standard

Hold

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Bill Olson	6/9/00	1200			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by:	Date:	Time:
			Vicki Crowley	6-10-00	10:00

LAB USE ONLY

Intact Y / N

Headspace Y / N

Temp 2 °

Log-in Review

REMARKS:

Carrier # 902 421 373 7 BIB

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.

ORIGINAL COPY

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Jennifer A. Salisbury
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

September 7, 2000

Ms. Jody Powers
1916 Carr Lane
Hobbs, New Mexico 88240

RE: WATER WELL SAMPLE ANALYSES

Dear Ms. Powers:

Enclosed you will find a copy of the laboratory analytical results of the water samples that the New Mexico Oil Conservation Division (OCD) obtained from two of your private water wells on June 7, 2000. The sample analyses did not detect any oil or natural gas related contaminants in either of your wells. However, fluoride was found to be present at a concentration in excess of the New Mexico Water Quality Control Commission health standard of 1.6 mg/l for drinking water. Since this is not an oilfield-related constituent, I recommend that you contact Dennis McQuillan of the New Mexico Environment Department at (505) 827-2831 regarding the occurrence of fluoride in the area and possible effects of fluoride on human health.

The OCD is continuing to investigate oilfield ground water contamination in your area. If you have any questions regarding the laboratory analyses of your water or the OCD's investigations, please feel free to call me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrologist
Environmental Bureau

Enclosure

xc w/ enclosure: Chris Williams, OCD Hobbs District Supervisor
Dennis McQuillan, NMED Ground Water Quality Bureau

TRACEANALYSIS, INC.

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E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Bill Olson
OCD
2040 S. Pacheco
Santa Fe, NM 87505

Report Date: June 23, 2000

Order ID Number: A00060921

Project Number: Jody Powers
Project Name: Windmill Oil
Project Location: Jody Powers

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
147702	0006071645 Well #1	Water	6/7/00	16:45	6/9/00
147703	0006071700 Well #2	Water	6/7/00	16:45	6/9/00

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 29 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

RECEIVED
JUN 29 2000
ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Cation-Anion Balance Sheet

DATE: 6/26/00

Sample #	Calcium ppm	Magnesium ppm	Sodium ppm	Potassium ppm	Alkalinity ppm	Sulfate ppm	Chloride ppm	Nitrate ppm	Fluoride ppm	TDS ppm	EC µMHOs/cm
147702	116	19	45	2.4	185	110	83	4.7	1.8	0	0
147703	128	20	68	2.4	220	140	90	4.3	2	0	0

Sample #	Calcium in meq/L	Magnesium in meq/L	Sodium in meq/L	Potassium in meq/L	Alkalinity in meq/L	Sulfate in meq/L	Chloride in meq/L	Nitrate in meq/L	Fluoride in meq/L	Total Cations in meq/L	Total Anions in meq/L	Percentage Error
147702	5.79	1.56	1.96	0.06	3.70	2.29	2.34	0.335533	0.094752	9.37	8.76	6.715893707
147703	6.39	1.65	2.96	0.06	4.40	2.91	2.54	0.306977	0.10528	11.05	10.27	7.37801037

	EC/Cation	EC/Anion				
147702	937.0802	876.1915	range		to	0
147703	1105.2392	1026.5957	range	0	to	0

TDS/EC	TDS/Cat	TDS/Anion	
#DIV/0!	0.00	0.00	needs to be 0.55-0.77
#DIV/0!	0.00	0.00	needs to be 0.55-0.77

Analytical and Quality Control Report

Sample: 147702 - 0006071645 Well #1

Analysis:	8260	Analytical Method:	S 8260B	QC Batch:	QC03134	Date Analyzed:	6/11/00
Analyst:	JG	Preparation Method:	E 5030B	Prep Batch:	PB02694	Date Prepared:	6/11/00

Param	Flag	Result	Units	Dilution	RDL
Bromochloromethane		<2.00	µg/L	1	2
Dichlorodifluoromethane		<2.00	µg/L	1	2
Chloromethane (methyl chloride)		<2.00	µg/L	1	2
Vinyl Chloride		<2.00	µg/L	1	2
Bromomethane (methyl bromide)		<5.00	µg/L	1	5
Chloroethane		<2.00	µg/L	1	2
Trichlorofluoromethane		<2.00	µg/L	1	2
Acetone		<10.00	µg/L	1	10
Iodomethane (methyl iodide)		<2.00	µg/L	1	2
Carbon Disulfide		<2.00	µg/L	1	2
Acrylonitrile		<2.00	µg/L	1	2
2-Butanone (MEK)		<2.00	µg/L	1	2
4-methyl-2-pentanone (MIBK)		<10.00	µg/L	1	10
2-hexanone		<2.00	µg/L	1	2
trans 1,4-Dichloro-2-butene		<10.00	µg/L	1	10
1,1-Dichloroethene		<2.00	µg/L	1	2
Methylene chloride		<5.00	µg/L	1	5
MTBE		<2.00	µg/L	1	2
trans-1,2-Dichloroethene		<2.00	µg/L	1	2
1,1-Dichloroethane		<2.00	µg/L	1	2
cis-1,2-dichloroethene		<2.00	µg/L	1	2
2,2-Dichloropropane		<2.00	µg/L	1	2
1,2-Dichloroethane (EDC)		<2.00	µg/L	1	2
Chloroform		<2.00	µg/L	1	2
1,1,1-Trichloroethane		<2.00	µg/L	1	2
1,1-Dichloropropene		<2.00	µg/L	1	2
Benzene		<2.00	µg/L	1	2
Carbon Tetrachloride		<2.00	µg/L	1	2
1,2-Dichloropropane		<2.00	µg/L	1	2
Trichloroethene (TCE)		<2.00	µg/L	1	2
Dibromomethane (methylene bromide)		<2.00	µg/L	1	2
Bromodichloromethane		<2.00	µg/L	1	2
2-Chloroethyl vinyl ether		<10.00	µg/L	1	10
cis-1,3-Dichloropropene		<2.00	µg/L	1	2
trans-1,3-Dichloropropene		<2.00	µg/L	1	2
Toluene		<2.00	µg/L	1	2
1,1,2-Trichloroethane		<2.00	µg/L	1	2
1,3-Dichloropropane		<2.00	µg/L	1	2
Dibromochloromethane		<2.00	µg/L	1	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	1	2
Tetrachloroethene (PCE)		<2.00	µg/L	1	2
Chlorobenzene		<2.00	µg/L	1	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	1	2
Ethylbenzene		<2.00	µg/L	1	2
m,p-Xylene		<2.00	µg/L	1	2

Continued ...

... *Continued* Sample: 147702 Analysis: 8260

Param	Flag	Result	Units	Dilution	RDL
Bromoform		<2.00	µg/L	1	2
Styrene		<2.00	µg/L	1	2
o-Xylene		<2.00	µg/L	1	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	1	2
2-Chlorotoluene		<2.00	µg/L	1	2
1,2,3-Trichloropropane		<2.00	µg/L	1	2
Isopropylbenzene		<2.00	µg/L	1	2
Bromobenzene		<2.00	µg/L	1	2
n-Propylbenzene		<2.00	µg/L	1	2
1,3,5-Trimethylbenzene		<2.00	µg/L	1	2
tert-Butylbenzene		<2.00	µg/L	1	2
1,2,4-Trimethylbenzene		<2.00	µg/L	1	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	1	2
sec-Butylbenzene		<2.00	µg/L	1	2
1,3-Dichlorobenzene		<2.00	µg/L	1	2
p-Isopropyltoluene		<2.00	µg/L	1	2
4-Chlorotoluene		<2.00	µg/L	1	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	1	2
n-Butylbenzene		<2.00	µg/L	1	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5
Naphthalene		<2.00	µg/L	1	2
Hexachlorobutadiene		<5.00	µg/L	1	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		51.36	µg/L	1	50	102	84 - 116
Toluene-d8		52.49	µg/L	1	50	104	92 - 108
4-Bromofluorobenzene		43.55	µg/L	1	50	87	80 - 110

Sample: 147702 - 0006071645 Well #1

Analysis:	8270	Analytical Method:	S 8270C	QC Batch:	QC03142	Date Analyzed:	6/12/00
Analyst:	MA	Preparation Method:	E 3510C	Prep Batch:	PB02699	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Pyridine		<0.005	mg/L	1	0.005
n-Nitrosodimethylamine		<0.005	mg/L	1	0.005
2-Picoline		<0.005	mg/L	1	0.005
Methyl methanesulfonate		<0.005	mg/L	1	0.005
Ethyl methanesulfonate		<0.005	mg/L	1	0.005
Phenol		<0.005	mg/L	1	0.005
Aniline		<0.005	mg/L	1	0.005
bis (2-chloroethyl) ether		<0.005	mg/L	1	0.005
2-Chlorophenol		<0.005	mg/L	1	0.005
1,3-Dichlorobenzene		<0.005	mg/L	1	0.005
1,4-Dichlorobenzene		<0.005	mg/L	1	0.005
Benzyl alcohol		<0.005	mg/L	1	0.005

Continued ...

... *Continued* Sample: 147702 Analysis: 8270

Param	Flag	Result	Units	Dilution	RDL
1,2-Dichlorobenzene		<0.005	mg/L	1	0.005
2-Methylphenol		<0.005	mg/L	1	0.005
bis (2-chloroisopropyl) ether		<0.005	mg/L	1	0.005
4-Methylphenol/3-Methylphenol		<0.005	mg/L	1	0.005
Acetophenone		<0.005	mg/L	1	0.005
n-Nitrosodi-n-propylamine		<0.005	mg/L	1	0.005
Hexachloroethane		<0.005	mg/L	1	0.005
Nitrobenzene		<0.005	mg/L	1	0.005
n-Nitrosopiperidine		<0.005	mg/L	1	0.005
Isophorone		<0.005	mg/L	1	0.005
2-Nitrophenol		<0.005	mg/L	1	0.005
2,4-Dimethylphenol		<0.005	mg/L	1	0.005
bis (2-chloroethoxy) methane		<0.005	mg/L	1	0.005
Benzoic acid		<0.005	mg/L	1	0.005
2,4-Dichlorophenol		<0.005	mg/L	1	0.005
1,2,4-Trichlorobenzene		<0.005	mg/L	1	0.005
a,a-Dimethylphenethylamine		<0.005	mg/L	1	0.005
Naphthalene		<0.005	mg/L	1	0.005
4-Chloroaniline		<0.005	mg/L	1	0.005
2,6-Dichlorophenol		<0.005	mg/L	1	0.005
Hexachlorobutadiene		<0.005	mg/L	1	0.005
n-Nitroso-di-n-butylamine		<0.005	mg/L	1	0.005
4-Chloro-3-methylphenol		<0.005	mg/L	1	0.005
1-Methylnaphthalene		<0.005	mg/L	1	0.005
2-Methylnaphthalene		<0.005	mg/L	1	0.005
1,2,4,5-Tetrachlorobenzene		<0.005	mg/L	1	0.005
Hexachlorocyclopentadiene		<0.005	mg/L	1	0.005
2,4,6-Trichlorophenol		<0.005	mg/L	1	0.005
2,4,5-Trichlorophenol		<0.005	mg/L	1	0.005
2-Chloronaphthalene		<0.005	mg/L	1	0.005
1-Chloronaphthalene		<0.005	mg/L	1	0.005
2-Nitroaniline		<0.005	mg/L	1	0.005
Dimethylphthalate		<0.005	mg/L	1	0.005
Acenaphthylene		<0.005	mg/L	1	0.005
2,6-Dinitrotoluene		<0.005	mg/L	1	0.005
3-Nitroaniline		<0.005	mg/L	1	0.005
Acenaphthene		<0.005	mg/L	1	0.005
2,4-Dinitrophenol		<0.005	mg/L	1	0.005
Dibenzofuran		<0.005	mg/L	1	0.005
Pentachlorobenzene		<0.005	mg/L	1	0.005
4-Nitrophenol		<0.005	mg/L	1	0.005
1-Napthylamine		<0.005	mg/L	1	0.005
2,4-Dinitrotoluene		<0.005	mg/L	1	0.005
2-Napthylamine		<0.005	mg/L	1	0.005
2,3,4,6-Tetrachlorophenol		<0.005	mg/L	1	0.005
Fluorene		<0.005	mg/L	1	0.005
Diethylphthalate		<0.005	mg/L	1	0.005
4-Chlorophenyl-phenylether		<0.005	mg/L	1	0.005
4-Nitroaniline		<0.005	mg/L	1	0.005
4,6-Dinitro-2-methylphenol		<0.005	mg/L	1	0.005
Diphenylamine		<0.005	mg/L	1	0.005

Continued ...

... *Continued* Sample: 147702 Analysis: 8270

Param	Flag	Result	Units	Dilution	RDL
Diphenylhydrazine		<0.005	mg/L	1	0.005
4-Bromophenyl-phenylether		<0.005	mg/L	1	0.005
Phenacetin		<0.005	mg/L	1	0.005
Hexachlorobenzene		<0.005	mg/L	1	0.005
4-Aminobiphenyl		<0.005	mg/L	1	0.005
Pentachlorophenol		<0.005	mg/L	1	0.005
Pentachloronitrobenzene		<0.005	mg/L	1	0.005
Pronamide		<0.005	mg/L	1	0.005
Phenanthrene		<0.005	mg/L	1	0.005
Anthracene		<0.005	mg/L	1	0.005
Di-n-butylphthalate		<0.005	mg/L	1	0.005
Fluoranthene		<0.005	mg/L	1	0.005
Benzidine		<0.005	mg/L	1	0.005
Pyrene		<0.005	mg/L	1	0.005
p-Dimethylaminoazobenzene		<0.005	mg/L	1	0.005
Butylbenzylphthalate		<0.005	mg/L	1	0.005
Benzo(a)anthracene		<0.005	mg/L	1	0.005
3,3-Dichlorobenzidine		<0.005	mg/L	1	0.005
Chrysene		<0.005	mg/L	1	0.005
Bis (2-ethylhexyl) phthalate		<0.005	mg/L	1	0.005
Di-n-octylphthalate		<0.005	mg/L	1	0.005
Benzo(b)fluoranthene		<0.005	mg/L	1	0.005
7,12-Dimethylbenz(a)anthracene		<0.005	mg/L	1	0.005
Benzo(k)fluoranthene		<0.005	mg/L	1	0.005
Benzo(a)pyrene		<0.005	mg/L	1	0.005
3-Methylcholanthrene		<0.005	mg/L	1	0.005
Dibenzo(a,j)acridine		<0.005	mg/L	1	0.005
Indeno(1,2,3-cd)pyrene		<0.005	mg/L	1	0.005
Dibenzo(a,h)anthracene		<0.005	mg/L	1	0.005
Benzo(g,h,i)perylene		<0.005	mg/L	1	0.005

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		20.13	mg/L	1	80	25	8 - 73
Nitrobenzene-d5		53.77	mg/L	1	80	67	44 - 109
2-Fluorobiphenyl		53.59	mg/L	1	80	66	45 - 109
2,4,6-Tribromophenol		49.76	mg/L	1	80	62	39 - 132
Terphenyl-d14		53.54	mg/L	1	80	66	46 - 121

Sample: 147702 - 0006071645 Well #1

Analysis:	Alkalinity	Analytical Method:	E 310.1	QC Batch:	QC03238	Date Analyzed:	6/13/00
Analyst:	LD	Preparation Method:	N/A	Prep Batch:	PB02792	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		185	mg/L as CaCo3	1	1
Total Alkalinity		185	mg/L as CaCo3	1	1

Sample: 147702 - 0006071645 Well #1

Analysis:	Conductivity	Analytical Method:	SM 2510B	QC Batch:	QC03138	Date Analyzed:	6/12/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02696	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Specific Conductance		860	uMHOS/cm	1	

Sample: 147702 - 0006071645 Well #1

Analysis:	Dissolved Metals	Analytical Method:	E 200.7	QC Batch:	QC03374	Date Analyzed:	6/20/00
Analyst:	RR	Preparation Method:	E 3005A	Prep Batch:	PB02731	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		116	mg/L	1	0.50
Dissolved Magnesium		19	mg/L	1	0.50
Dissolved Potassium		2.4	mg/L	1	0.50
Dissolved Sodium		45	mg/L	1	0.50

Sample: 147702 - 0006071645 Well #1

Analysis:	Hg, Total	Analytical Method:	S 7470A	QC Batch:	QC03373	Date Analyzed:	6/22/00
Analyst:	JM	Preparation Method:	N/A	Prep Batch:	PB02908	Date Prepared:	6/19/00

Param	Flag	Result	Units	Dilution	RDL
Total Mercury		<0.0002	mg/L	1	0.0002

Sample: 147702 - 0006071645 Well #1

Analysis:	Ion Chromatography (IC)	Analytical Method:	E 300.0	QC Batch:	QC03102	Date Analyzed:	6/9/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02661	Date Prepared:	6/9/00

Param	Flag	Result	Units	Dilution	RDL
CL		83	mg/L	1	0.50
Fluoride		1.8	mg/L	1	0.20
Nitrate-N		4.7	mg/L	1	0.20
Sulfate		110	mg/L	1	0.50

Sample: 147702 - 0006071645 Well #1

Analysis:	TDS	Analytical Method:	E 160.1	QC Batch:	QC03180	Date Analyzed:	6/12/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02733	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Total Dissolved Solids		570	mg/L	1	10

Sample: 147702 - 0006071645 Well #1

Analysis:	Total Metals	Analytical Method:	S 6010B	QC Batch:	QC03370	Date Analyzed:	6/16/00
Analyst:	RR	Preparation Method:	E 3010A	Prep Batch:	PB02676	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Total Aluminum		<0.10	mg/L	1	0.10
Total Arsenic		<0.10	mg/L	1	0.10
Total Barium		<0.10	mg/L	1	0.10
Total Boron		<0.50	mg/L	1	0.50
Total Cadmium		<0.01	mg/L	1	0.01
Total Chromium		<0.05	mg/L	1	0.05
Total Cobalt		<0.05	mg/L	1	0.05
Total Copper		<0.10	mg/L	1	0.05
Total Iron		<0.10	mg/L	1	0.10
Total Lead		<0.05	mg/L	1	0.05
Total Manganese		<0.10	mg/L	1	0.10
Total Molybdenum		<0.10	mg/L	1	0.10
Total Nickel		<0.10	mg/L	1	0.10
Total Selenium		<0.05	mg/L	1	0.05
Total Silica		110	mg/L	1	0.50
Total Silver		<0.05	mg/L	1	0.05
Total Zinc		<0.10	mg/L	1	0.10

Sample: 147702 - 0006071645 Well #1

Analysis:	pH	Analytical Method:	E 150.1	QC Batch:	QC03169	Date Analyzed:	6/9/00
Analyst:	RS	Preparation Method:	N/A	Prep Batch:	PB02721	Date Prepared:	6/9/00

Param	Flag	Result	Units	Dilution	RDL
pH	[1]	7.3	s.u.	1	1

Sample: 147703 - 0006071700 Well #2

Analysis:	8260	Analytical Method:	S 8260B	QC Batch:	QC03195	Date Analyzed:	6/13/00
Analyst:	JG	Preparation Method:	E 5030B	Prep Batch:	PB02746	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Bromochloromethane		<2.00	µg/L	1	2
Dichlorodifluoromethane		<2.00	µg/L	1	2
Chloromethane (methyl chloride)		<2.00	µg/L	1	2
Vinyl Chloride		<2.00	µg/L	1	2
Bromomethane (methyl bromide)		<5.00	µg/L	1	5
Chloroethane		<2.00	µg/L	1	2
Trichlorofluoromethane		<2.00	µg/L	1	2
Acetone		<10.00	µg/L	1	10
Iodomethane (methyl iodide)		<2.00	µg/L	1	2
Carbon Disulfide		<2.00	µg/L	1	2
Acrylonitrile		<2.00	µg/L	1	2
2-Butanone (MEK)		<2.00	µg/L	1	2
4-methyl-2-pentanone (MIBK)		<10.00	µg/L	1	10
2-hexanone		<2.00	µg/L	1	2
trans 1,4-Dichloro-2-butene		<10.00	µg/L	1	10
1,1-Dichloroethene		<2.00	µg/L	1	2
Methylene chloride		<5.00	µg/L	1	5

Continued ...

[1] Out of holding time.

... *Continued* Sample: 147703 Analysis: 8260

Param	Flag	Result	Units	Dilution	RDL
MTBE		<2.00	µg/L	1	2
trans-1,2-Dichloroethene		<2.00	µg/L	1	2
1,1-Dichloroethane		<2.00	µg/L	1	2
cis-1,2-dichloroethene		<2.00	µg/L	1	2
2,2-Dichloropropane		<2.00	µg/L	1	2
1,2-Dichloroethane (EDC)		<2.00	µg/L	1	2
Chloroform		<2.00	µg/L	1	2
1,1,1-Trichloroethane		<2.00	µg/L	1	2
1,1-Dichloropropene		<2.00	µg/L	1	2
Benzene		<2.00	µg/L	1	2
Carbon Tetrachloride		<2.00	µg/L	1	2
1,2-Dichloropropane		<2.00	µg/L	1	2
Trichloroethene (TCE)		<2.00	µg/L	1	2
Dibromomethane (methylene bromide)		<2.00	µg/L	1	2
Bromodichloromethane		<2.00	µg/L	1	2
2-Chloroethyl vinyl ether		<10.00	µg/L	1	10
cis-1,3-Dichloropropene		<2.00	µg/L	1	2
trans-1,3-Dichloropropene		<2.00	µg/L	1	2
Toluene		<2.00	µg/L	1	2
1,1,2-Trichloroethane		<2.00	µg/L	1	2
1,3-Dichloropropane		<2.00	µg/L	1	2
Dibromochloromethane		<2.00	µg/L	1	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	1	2
Tetrachloroethene (PCE)		<2.00	µg/L	1	2
Chlorobenzene		<2.00	µg/L	1	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	1	2
Ethylbenzene		<2.00	µg/L	1	2
m,p-Xylene		<2.00	µg/L	1	2
Bromoform		<2.00	µg/L	1	2
Styrene		<2.00	µg/L	1	2
o-Xylene		<2.00	µg/L	1	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	1	2
2-Chlorotoluene		<2.00	µg/L	1	2
1,2,3-Trichloropropane		<2.00	µg/L	1	2
Isopropylbenzene		<2.00	µg/L	1	2
Bromobenzene		<2.00	µg/L	1	2
n-Propylbenzene		<2.00	µg/L	1	2
1,3,5-Trimethylbenzene		<2.00	µg/L	1	2
tert-Butylbenzene		<2.00	µg/L	1	2
1,2,4-Trimethylbenzene		<2.00	µg/L	1	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	1	2
sec-Butylbenzene		<2.00	µg/L	1	2
1,3-Dichlorobenzene		<2.00	µg/L	1	2
p-Isopropyltoluene		<2.00	µg/L	1	2
4-Chlorotoluene		<2.00	µg/L	1	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	1	2
n-Butylbenzene		<2.00	µg/L	1	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5
Naphthalene		<2.00	µg/L	1	2

Continued ...

... *Continued* Sample: 147703 Analysis: 8260

Param	Flag	Result	Units	Dilution	RDL
Hexachlorobutadiene		<5.00	µg/L	1	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		52.11	µg/L	1	50	104	84 - 116
Toluene-d8		51.54	µg/L	1	50	103	92 - 108
4-Bromofluorobenzene		43.68	µg/L	1	50	87	80 - 110

Sample: 147703 - 0006071700 Well #2

Analysis:	8270	Analytical Method:	S 8270C	QC Batch:	QC03142	Date Analyzed:	6/12/00
Analyst:	MA	Preparation Method:	E 3510C	Prep Batch:	PB02699	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Pyridine		<0.005	mg/L	1	0.005
n-Nitrosodimethylamine		<0.005	mg/L	1	0.005
2-Picoline		<0.005	mg/L	1	0.005
Methyl methanesulfonate		<0.005	mg/L	1	0.005
Ethyl methanesulfonate		<0.005	mg/L	1	0.005
Phenol		<0.005	mg/L	1	0.005
Aniline		<0.005	mg/L	1	0.005
bis (2-chloroethyl) ether		<0.005	mg/L	1	0.005
2-Chlorophenol		<0.005	mg/L	1	0.005
1,3-Dichlorobenzene		<0.005	mg/L	1	0.005
1,4-Dichlorobenzene		<0.005	mg/L	1	0.005
Benzyl alcohol		<0.005	mg/L	1	0.005
1,2-Dichlorobenzene		<0.005	mg/L	1	0.005
2-Methylphenol		<0.005	mg/L	1	0.005
bis (2-chloroisopropyl) ether		<0.005	mg/L	1	0.005
4-Methylphenol/3-Methylphenol		<0.005	mg/L	1	0.005
Acetophenone		<0.005	mg/L	1	0.005
n-Nitrosodi-n-propylamine		<0.005	mg/L	1	0.005
Hexachloroethane		<0.005	mg/L	1	0.005
Nitrobenzene		<0.005	mg/L	1	0.005
n-Nitrosopiperidine		<0.005	mg/L	1	0.005
Isophorone		<0.005	mg/L	1	0.005
2-Nitrophenol		<0.005	mg/L	1	0.005
2,4-Dimethylphenol		<0.005	mg/L	1	0.005
bis (2-chloroethoxy) methane		<0.005	mg/L	1	0.005
Benzoic acid		<0.005	mg/L	1	0.005
2,4-Dichlorophenol		<0.005	mg/L	1	0.005
1,2,4-Trichlorobenzene		<0.005	mg/L	1	0.005
a,a-Dimethylphenethylamine		<0.005	mg/L	1	0.005
Naphthalene		<0.005	mg/L	1	0.005
4-Chloroaniline		<0.005	mg/L	1	0.005
2,6-Dichlorophenol		<0.005	mg/L	1	0.005
Hexachlorobutadiene		<0.005	mg/L	1	0.005
n-Nitroso-di-n-butylamine		<0.005	mg/L	1	0.005
4-Chloro-3-methylphenol		<0.005	mg/L	1	0.005

Continued ...

... *Continued* Sample: 147703 Analysis: 8270

Param	Flag	Result	Units	Dilution	RDL
1-Methylnaphthalene		<0.005	mg/L	1	0.005
2-Methylnaphthalene		<0.005	mg/L	1	0.005
1,2,4,5-Tetrachlorobenzene		<0.005	mg/L	1	0.005
Hexachlorocyclopentadiene		<0.005	mg/L	1	0.005
2,4,6-Trichlorophenol		<0.005	mg/L	1	0.005
2,4,5-Trichlorophenol		<0.005	mg/L	1	0.005
2-Chloronaphthalene		<0.005	mg/L	1	0.005
1-Chloronaphthalene		<0.005	mg/L	1	0.005
2-Nitroaniline		<0.005	mg/L	1	0.005
Dimethylphthalate		<0.005	mg/L	1	0.005
Acenaphthylene		<0.005	mg/L	1	0.005
2,6-Dinitrotoluene		<0.005	mg/L	1	0.005
3-Nitroaniline		<0.005	mg/L	1	0.005
Acenaphthene		<0.005	mg/L	1	0.005
2,4-Dinitrophenol		<0.005	mg/L	1	0.005
Dibenzofuran		<0.005	mg/L	1	0.005
Pentachlorobenzene		<0.005	mg/L	1	0.005
4-Nitrophenol		<0.005	mg/L	1	0.005
1-Napthylamine		<0.005	mg/L	1	0.005
2,4-Dinitrotoluene		<0.005	mg/L	1	0.005
2-Napthylamine		<0.005	mg/L	1	0.005
2,3,4,6-Tetrachlorophenol		<0.005	mg/L	1	0.005
Fluorene		<0.005	mg/L	1	0.005
Diethylphthalate		<0.005	mg/L	1	0.005
4-Chlorophenyl-phenylether		<0.005	mg/L	1	0.005
4-Nitroaniline		<0.005	mg/L	1	0.005
4,6-Dinitro-2-methylphenol		<0.005	mg/L	1	0.005
Diphenylamine		<0.005	mg/L	1	0.005
Diphenylhydrazine		<0.005	mg/L	1	0.005
4-Bromophenyl-phenylether		<0.005	mg/L	1	0.005
Phenacetin		<0.005	mg/L	1	0.005
Hexachlorobenzene		<0.005	mg/L	1	0.005
4-Aminobiphenyl		<0.005	mg/L	1	0.005
Pentachlorophenol		<0.005	mg/L	1	0.005
Pentachloronitrobenzene		<0.005	mg/L	1	0.005
Pronamide		<0.005	mg/L	1	0.005
Phenanthrene		<0.005	mg/L	1	0.005
Anthracene		<0.005	mg/L	1	0.005
Di-n-butylphthalate		<0.005	mg/L	1	0.005
Fluoranthene		<0.005	mg/L	1	0.005
Benzidine		<0.005	mg/L	1	0.005
Pyrene		<0.005	mg/L	1	0.005
p-Dimethylaminoazobenzene		<0.005	mg/L	1	0.005
Butylbenzylphthalate		<0.005	mg/L	1	0.005
Benzo(a)anthracene		<0.005	mg/L	1	0.005
3,3-Dichlorobenzidine		<0.005	mg/L	1	0.005
Chrysene		<0.005	mg/L	1	0.005
Bis (2-ethylhexyl) phthalate		<0.005	mg/L	1	0.005
Di-n-octylphthalate		<0.005	mg/L	1	0.005
Benzo(b)fluoranthene		<0.005	mg/L	1	0.005
7,12-Dimethylbenz(a)anthracene		<0.005	mg/L	1	0.005

Continued ...

... *Continued* Sample: 147703 Analysis: 8270

Param	Flag	Result	Units	Dilution	RDL
Benzo(k)fluoranthene		<0.005	mg/L	1	0.005
Benzo(a)pyrene		<0.005	mg/L	1	0.005
3-Methylcholanthrene		<0.005	mg/L	1	0.005
Dibenzo(a,j)acridine		<0.005	mg/L	1	0.005
Indeno(1,2,3-cd)pyrene		<0.005	mg/L	1	0.005
Dibenzo(a,h)anthracene		<0.005	mg/L	1	0.005
Benzo(g,h,i)perylene		<0.005	mg/L	1	0.005

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		21.17	mg/L	1	80	26	8 - 73
Nitrobenzene-d5		51.89	mg/L	1	80	64	44 - 109
2-Fluorobiphenyl		50.68	mg/L	1	80	63	45 - 109
2,4,6-Tribromophenol		50.18	mg/L	1	80	62	39 - 132
Terphenyl-d14		50.92	mg/L	1	80	63	46 - 121

Sample: 147703 - 0006071700 Well #2

Analysis:	Alkalinity	Analytical Method:	E 310.1	QC Batch:	QC03238	Date Analyzed:	6/13/00
Analyst:	LD	Preparation Method:	N/A	Prep Batch:	PB02792	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		220	mg/L as CaCo3	1	1
Total Alkalinity		220	mg/L as CaCo3	1	1

Sample: 147703 - 0006071700 Well #2

Analysis:	Conductivity	Analytical Method:	SM 2510B	QC Batch:	QC03138	Date Analyzed:	6/12/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02696	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Specific Conductance		1000	uMHOS/cm	1	

Sample: 147703 - 0006071700 Well #2

Analysis:	Dissolved Metals	Analytical Method:	E 200.7	QC Batch:	QC03374	Date Analyzed:	6/20/00
Analyst:	RR	Preparation Method:	E 3005A	Prep Batch:	PB02731	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		128	mg/L	1	0.50
Dissolved Magnesium		20	mg/L	1	0.50
Dissolved Potassium		2.4	mg/L	1	0.50
Dissolved Sodium		68	mg/L	1	0.50

Sample: 147703 - 0006071700 Well #2

Analysis:	Hg, Total	Analytical Method:	S 7470A	QC Batch:	QC03373	Date Analyzed:	6/22/00
Analyst:	JM	Preparation Method:	N/A	Prep Batch:	PB02908	Date Prepared:	6/19/00

Param	Flag	Result	Units	Dilution	RDL
Total Mercury		<0.0002	mg/L	1	0.0002

Sample: 147703 - 0006071700 Well #2

Analysis:	Ion Chromatography (IC)	Analytical Method:	E 300.0	QC Batch:	QC03102	Date Analyzed:	6/9/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02661	Date Prepared:	6/9/00

Param	Flag	Result	Units	Dilution	RDL
CL		90	mg/L	1	0.50
Fluoride		2.0	mg/L	1	0.20
Nitrate-N		4.3	mg/L	1	0.20
Sulfate		140	mg/L	1	0.50

Sample: 147703 - 0006071700 Well #2

Analysis:	TDS	Analytical Method:	E 160.1	QC Batch:	QC03180	Date Analyzed:	6/12/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02733	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Total Dissolved Solids		690	mg/L	1	10

Sample: 147703 - 0006071700 Well #2

Analysis:	Total Metals	Analytical Method:	S 6010B	QC Batch:	QC03370	Date Analyzed:	6/16/00
Analyst:	RR	Preparation Method:	E 3010A	Prep Batch:	PB02676	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Total Aluminum		<0.10	mg/L	1	0.10
Total Arsenic		<0.10	mg/L	1	0.10
Total Barium		<0.10	mg/L	1	0.10
Total Boron		<0.50	mg/L	1	0.50
Total Cadmium		<0.01	mg/L	1	0.01
Total Chromium		<0.05	mg/L	1	0.05
Total Cobalt		<0.05	mg/L	1	0.05
Total Copper		<0.10	mg/L	1	0.05
Total Iron		<0.10	mg/L	1	0.10
Total Lead		<0.05	mg/L	1	0.05
Total Manganese		<0.10	mg/L	1	0.10
Total Molybdenum		<0.10	mg/L	1	0.10
Total Nickel		<0.10	mg/L	1	0.10
Total Selenium		<0.05	mg/L	1	0.05
Total Silica		130	mg/L	1	0.50
Total Silver		<0.05	mg/L	1	0.05
Total Zinc		<0.10	mg/L	1	0.10

Sample: 147703 - 0006071700 Well #2

Analysis:	pH	Analytical Method:	E 150.1	QC Batch:	QC03169	Date Analyzed:	6/9/00
Analyst:	RS	Preparation Method:	N/A	Prep Batch:	PB02721	Date Prepared:	6/9/00

Param	Flag	Result	Units	Dilution	RDL
pH	[2]	7.2	s.u.	1	1

Quality Control Report
Method Blank

Sample: Method Blank QCBatch: QC03102

Param	Flag	Results	Units	Reporting Limit
CL		<0.5	mg/L	0.50
Fluoride		<0.2	mg/L	0.20
Nitrate-N		<0.2	mg/L	0.20
Sulfate		<0.5	mg/L	0.50

Sample: Method Blank QCBatch: QC03134

Param	Flag	Results	Units	Reporting Limit
Hexachlorobutadiene		<5.00	µg/L	5

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
Toluene-d8		53.67	µg/L	50	107	92 - 108
4-Bromofluorobenzene		42.34	µg/L	50	84	80 - 110

Sample: Method Blank QCBatch: QC03138

Param	Flag	Results	Units	Reporting Limit
Specific Conductance		2.8	uMHOS/cm	

Sample: Method Blank QCBatch: QC03142

[2]Out of holding time.

Param	Flag	Results	Units	Reporting Limit
Pyridine		<0.005	mg/L	0.005
n-Nitrosodimethylamine		<0.005	mg/L	0.005
2-Picoline		<0.005	mg/L	0.005
Methyl methanesulfonate		<0.005	mg/L	0.005
Ethyl methanesulfonate		<0.005	mg/L	0.005
Phenol		<0.005	mg/L	0.005
Aniline		<0.005	mg/L	0.005
bis (2-chloroethyl) ether		<0.005	mg/L	0.005
2-Chlorophenol		<0.005	mg/L	0.005
1,3-Dichlorobenzene		<0.005	mg/L	0.005
1,4-Dichlorobenzene		<0.005	mg/L	0.005
Benzyl alcohol		<0.005	mg/L	0.005
1,2-Dichlorobenzene		<0.005	mg/L	0.005
2-Methylphenol		<0.005	mg/L	0.005
bis (2-chloroisopropyl) ether		<0.005	mg/L	0.005
4-Methylphenol/3-Methylphenol		<0.005	mg/L	0.005
Acetophenone		<0.005	mg/L	0.005
n-Nitrosodi-n-propylamine		<0.005	mg/L	0.005
Hexachloroethane		<0.005	mg/L	0.005
Nitrobenzene		<0.005	mg/L	0.005
n-Nitrosopiperidine		<0.005	mg/L	0.005
Isophorone		<0.005	mg/L	0.005
2-Nitrophenol		<0.005	mg/L	0.005
2,4-Dimethylphenol		<0.005	mg/L	0.005
bis (2-chloroethoxy) methane		<0.005	mg/L	0.005
Benzoic acid		<0.005	mg/L	0.005
2,4-Dichlorophenol		<0.005	mg/L	0.005
1,2,4-Trichlorobenzene		<0.005	mg/L	0.005
a,a-Dimethylphenethylamine		<0.005	mg/L	0.005
Naphthalene		<0.005	mg/L	0.005
4-Chloroaniline		<0.005	mg/L	0.005
2,6-Dichlorophenol		<0.005	mg/L	0.005
Hexachlorobutadiene		<0.005	mg/L	0.005
n-Nitroso-di-n-butylamine		<0.005	mg/L	0.005
4-Chloro-3-methylphenol		<0.005	mg/L	0.005
1-Methylnaphthalene		<0.005	mg/L	0.005
2-Methylnaphthalene		<0.005	mg/L	0.005
1,2,4,5-Tetrachlorobenzene		<0.005	mg/L	0.005
Hexachlorocyclopentadiene		<0.005	mg/L	0.005
2,4,6-Trichlorophenol		<0.005	mg/L	0.005
2,4,5-Trichlorophenol		<0.005	mg/L	0.005
2-Chloronaphthalene		<0.005	mg/L	0.005
1-Chloronaphthalene		<0.005	mg/L	0.005
2-Nitroaniline		<0.005	mg/L	0.005
Dimethylphthalate		<0.005	mg/L	0.005
Acenaphthylene		<0.005	mg/L	0.005
2,6-Dinitrotoluene		<0.005	mg/L	0.005
3-Nitroaniline		<0.005	mg/L	0.005
Acenaphthene		<0.005	mg/L	0.005
2,4-Dinitrophenol		<0.005	mg/L	0.005
Dibenzofuran		<0.005	mg/L	0.005

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Param	Flag	Results	Units	Reporting Limit
Pentachlorobenzene		<0.005	mg/L	0.005
4-Nitrophenol		<0.005	mg/L	0.005
1-Napthylamine		<0.005	mg/L	0.005
2,4-Dinitrotoluene		<0.005	mg/L	0.005
2-Napthylamine		<0.005	mg/L	0.005
2,3,4,6-Tetrachlorophenol		<0.005	mg/L	0.005
Fluorene		<0.005	mg/L	0.005
Diethylphthalate		<0.005	mg/L	0.005
4-Chlorophenyl-phenylether		<0.005	mg/L	0.005
4-Nitroaniline		<0.005	mg/L	0.005
4,6-Dinitro-2-methylphenol		<0.005	mg/L	0.005
Diphenylamine		<0.005	mg/L	0.005
Diphenylhydrazine		<0.005	mg/L	0.005
4-Bromophenyl-phenylether		<0.005	mg/L	0.005
Phenacetin		<0.005	mg/L	0.005
Hexachlorobenzene		<0.005	mg/L	0.005
4-Aminobiphenyl		<0.005	mg/L	0.005
Pentachlorophenol		<0.005	mg/L	0.005
Pentachloronitrobenzene		<0.005	mg/L	0.005
Pronamide		<0.005	mg/L	0.005
Phenanthrene		<0.005	mg/L	0.005
Anthracene		<0.005	mg/L	0.005
Di-n-butylphthalate		<0.005	mg/L	0.005
Fluoranthene		<0.005	mg/L	0.005
Benzidine		<0.005	mg/L	0.005
Pyrene		<0.005	mg/L	0.005
p-Dimethylaminoazobenzene		<0.005	mg/L	0.005
Butylbenzylphthalate		<0.005	mg/L	0.005
Benzo(a)anthracene		<0.005	mg/L	0.005
3,3-Dichlorobenzidine		<0.005	mg/L	0.005
Chrysene		<0.005	mg/L	0.005
Bis (2-ethylhexyl) phthalate		<0.005	mg/L	0.005
Di-n-octylphthalate		<0.005	mg/L	0.005
Benzo(b)fluoranthene		<0.005	mg/L	0.005
7,12-Dimethylbenz(a)anthracene		<0.005	mg/L	0.005
Benzo(k)fluoranthene		<0.005	mg/L	0.005
Benzo(a)pyrene		<0.005	mg/L	0.005
3-Methylcholanthrene		<0.005	mg/L	0.005
Dibenzo(a,j)acridine		<0.005	mg/L	0.005
Indeno(1,2,3-cd)pyrene		<0.005	mg/L	0.005
Dibenzo(a,h)anthracene		<0.005	mg/L	0.005
Benzo(g,h,i)perylene		<0.005	mg/L	0.005

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
2-Fluorophenol		25.50	mg/L	80	31	8 - 73
Nitrobenzene-d5		59.91	mg/L	80	74	44 - 109
2-Fluorobiphenyl		58.24	mg/L	80	72	45 - 109
2,4,6-Tribromophenol		57.84	mg/L	80	72	39 - 132
Terphenyl-d14		53.99	mg/L	80	67	46 - 121

Sample: Method Blank QCBatch: QC03180

Param	Flag	Results	Units	Reporting Limit
Total Dissolved Solids		<10	mg/L	10

Sample: Method Blank QCBatch: QC03195

Param	Flag	Results	Units	Reporting Limit
Hexachlorobutadiene		<5.00	µg/L	5

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
4-Bromofluorobenzene		43.93	µg/L	50	87	80 - 110
Toluene-d8		51.61	µg/L	50	103	92 - 108

Sample: Method Blank QCBatch: QC03238

Param	Flag	Results	Units	Reporting Limit
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1
Bicarbonate Alkalinity		<4.0	mg/L as CaCo3	1
Total Alkalinity		<4.0	mg/L as CaCo3	1

Sample: Method Blank QCBatch: QC03370

Param	Flag	Results	Units	Reporting Limit
Total Aluminum		<0.10	mg/L	0.10
Total Arsenic		<0.10	mg/L	0.10
Total Barium		<0.10	mg/L	0.10
Total Boron		<0.50	mg/L	0.50
Total Cadmium		<0.01	mg/L	0.01
Total Chromium		<0.05	mg/L	0.05
Total Cobalt		<0.05	mg/L	0.05
Total Copper		<0.10	mg/L	0.05
Total Iron		<0.10	mg/L	0.10
Total Lead		<0.05	mg/L	0.05
Total Manganese		<0.10	mg/L	0.10
Total Molybdenum		<0.10	mg/L	0.10
Total Nickel		<0.10	mg/L	0.10
Total Selenium		<0.05	mg/L	0.05
Total Silica		<0.50	mg/L	0.50
Total Silver		<0.05	mg/L	0.05

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Param	Flag	Results	Units	Reporting Limit
Total Zinc		<0.10	mg/L	0.10

Sample: Method Blank QCBatch: QC03373

Param	Flag	Results	Units	Reporting Limit
Total Mercury		<0.0002	mg/L	0.0002

Sample: Method Blank QCBatch: QC03374

Param	Flag	Results	Units	Reporting Limit
Dissolved Calcium		<0.50	mg/L	0.50
Dissolved Magnesium		<0.50	mg/L	0.50
Dissolved Potassium		<0.50	mg/L	0.50
Dissolved Sodium		<0.50	mg/L	0.50

Quality Control Report
Lab Control Spikes and Duplicate Spikes

Sample: LCS QC Batch: QC03102

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
CL		11.62	mg/L	1	12.50	<0.5	92		80 - 120	20
Fluoride		2.48	mg/L	1	2.50	<0.2	99		80 - 120	20
Nitrate-N	[3]	4.80	mg/L	1	5	<0.2	96		80 - 120	20
Sulfate		12.02	mg/L	1	12.50	<0.5	96		80 - 120	20

Sample: LCSD QC Batch: QC03102

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
CL		11.59	mg/L	1	12.50	<0.5	92	0.25	80 - 120	20
Fluoride		2.56	mg/L	1	2.50	<0.2	102	3.17	80 - 120	20
Nitrate-N	[4]	4.76	mg/L	1	5	<0.2	95	0.83	80 - 120	20

Continued ...

[3]Blank spikes used because the electricity went off during the duplicate spike.
[4]Blank spikes used because the electricity went off during the duplicate spike.

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Sulfate		12.04	mg/L	1	12.50	<0.5	96	0.16	80 - 120	20

Sample: LCS QC Batch: QC03134

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Chlorobenzene		104	µg/L	1	100	<2.00	104		86 - 121	20
Benzene		95	µg/L	1	100	<2.00	95		84 - 126	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Toluene-d8		51.04	µg/L	1	50	102	92 - 108
4-Bromofluorobenzene		43.22	µg/L	1	50	86	80 - 110

Sample: LCSD QC Batch: QC03134

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Chlorobenzene		105	µg/L	1	100	<2.00	105	0.95	86 - 121	20
Benzene		97	µg/L	1	100	<2.00	97	2.08	84 - 126	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Toluene-d8		51.40	µg/L	1	50	102	92 - 108
4-Bromofluorobenzene		43.29	µg/L	1	50	86	80 - 110

Sample: LCS QC Batch: QC03142

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Phenol		42.824	mg/L	1	80	<0.005	53		5 - 57	20
2-Chlorophenol		43.416	mg/L	1	80	<0.005	54		29 - 110	20
1,4-Dichlorobenzene		54.708	mg/L	1	80	<0.005	68		25 - 94	20
n-Nitrosodi-n-propylamine		58.916	mg/L	1	80	<0.005	73		36 - 119	20
1,2,4-Trichlorobenzene		56.070	mg/L	1	80	<0.005	70		28 - 110	20
4-Chloro-3-methylphenol		49.008	mg/L	1	80	<0.005	61		40 - 126	20
Acenaphthene		50.649	mg/L	1	80	<0.005	63		47 - 118	20
4-Nitrophenol		38.123	mg/L	1	80	<0.005	47		0 - 69	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
2,4-Dinitrotoluene		62.227	mg/L	1	80	<0.005	77		46 - 133	20
Pentachlorophenol		33.291	mg/L	1	80	<0.005	41		21 - 131	20
Pyrene		49.127	mg/L	1	80	<0.005	61		44 - 125	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
2-Fluorophenol		49.05	mg/L	1	80	61	8 - 73
Phenol-d5		53.54	mg/L	1	80	66	8 - 62
Nitrobenzene-d5		53.51	mg/L	1	80	66	44 - 109
2-Fluorobiphenyl		53.68	mg/L	1	80	67	45 - 109
2,4,6-Tribromophenol		51.74	mg/L	1	80	64	39 - 132
Terphenyl-d14		53.77	mg/L	1	80	67	46 - 121

Sample: LCSD

QC Batch: QC03142

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Phenol		45.977	mg/L	1	80	<0.005	57	7.10	5 - 57	20
2-Chlorophenol		46.473	mg/L	1	80	<0.005	58	6.80	29 - 110	20
1,4-Dichlorobenzene		56.488	mg/L	1	80	<0.005	70	3.20	25 - 94	20
n-Nitrosodi-n-propylamine		61.484	mg/L	1	80	<0.005	76	4.26	36 - 119	20
1,2,4-Trichlorobenzene		57.925	mg/L	1	80	<0.005	72	3.25	28 - 110	20
4-Chloro-3-methylphenol		54.881	mg/L	1	80	<0.005	68	11.30	40 - 126	20
Acenaphthene		53.894	mg/L	1	80	<0.005	67	6.20	47 - 118	20
4-Nitrophenol		43.909	mg/L	1	80	<0.005	54	14.10	0 - 69	20
2,4-Dinitrotoluene		68.147	mg/L	1	80	<0.005	85	9.08	46 - 133	20
Pentachlorophenol		38.058	mg/L	1	80	<0.005	47	13.36	21 - 131	20
Pyrene		45.151	mg/L	1	80	<0.005	56	8.43	44 - 125	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
2-Fluorophenol		51.82	mg/L	1	80	64	8 - 73
Phenol-d5		56.70	mg/L	1	80	70	8 - 62
Nitrobenzene-d5		55.67	mg/L	1	80	69	44 - 109
2-Fluorobiphenyl		58.17	mg/L	1	80	72	45 - 109
2,4,6-Tribromophenol		54.87	mg/L	1	80	68	39 - 132
Terphenyl-d14		50.62	mg/L	1	80	63	46 - 121

Sample: LCS

QC Batch: QC03195

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Toluene		97	µg/L	1	100	<2.00	97		81 - 122	20
Chlorobenzene		103	µg/L	1	100	<2.00	103		86 - 121	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
4-Bromofluorobenzene		44.30	µg/L	1	50	88	80 - 110
Toluene-d8		50.07	µg/L	1	50	100	92 - 108

Sample: LCSD

QC Batch: QC03195

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Chlorobenzene		105	µg/L	1	100	<2.00	105	1.92	86 - 121	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
4-Bromofluorobenzene		45.19	µg/L	1	50	90	80 - 110
Toluene-d8		49.81	µg/L	1	50	99	92 - 108

Sample: LCS

QC Batch: QC03370

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		1.93	mg/L	1	2	<0.10	96		75 - 125	20
Total Arsenic		1.85	mg/L	1	2	<0.10	92		75 - 125	20
Total Barium		2.01	mg/L	1	2	<0.10	100		75 - 125	20
Total Boron		1.87	mg/L	1	2	<0.50	93		75 - 125	20
Total Cadmium		1.97	mg/L	1	2	<0.01	98		75 - 125	20
Total Chromium		2.02	mg/L	1	2	<0.05	101		75 - 125	20
Total Cobalt		2.09	mg/L	1	2	<0.05	104		75 - 125	20
Total Copper		2.04	mg/L	1	2	<0.10	102		75 - 125	20
Total Iron		2.02	mg/L	1	2	<0.10	101		75 - 125	20
Total Lead		1.96	mg/L	1	2	<0.05	98		75 - 125	20
Total Manganese		2.05	mg/L	1	2	<0.10	102		75 - 125	20
Total Molybdenum		2.08	mg/L	1	2	<0.10	104		75 - 125	20
Total Nickel		1.98	mg/L	1	2	<0.10	99		75 - 125	20
Total Selenium		1.64	mg/L	1	2	<0.05	82		75 - 125	20
Total Silica		10.4	mg/L	1	10	<0.50	104		75 - 125	20
Total Silver		0.36	mg/L	1	0.40	<0.05	90		75 - 125	20
Total Zinc		2.01	mg/L	1	2	<0.10	100		75 - 125	20

Sample: LCSD QC Batch: QC03370

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		1.94	mg/L	1	2	<0.10	97	0.51	75 - 125	20
Total Arsenic		1.88	mg/L	1	2	<0.10	94	1.60	75 - 125	20
Total Barium		2.03	mg/L	1	2	<0.10	101	0.99	75 - 125	20
Total Boron		1.88	mg/L	1	2	<0.50	94	0.53	75 - 125	20
Total Cadmium		2.00	mg/L	1	2	<0.01	100	1.51	75 - 125	20
Total Chromium		2.04	mg/L	1	2	<0.05	102	0.98	75 - 125	20
Total Cobalt		2.11	mg/L	1	2	<0.05	105	0.95	75 - 125	20
Total Copper		2.05	mg/L	1	2	<0.10	102	0.48	75 - 125	20
Total Iron		2.04	mg/L	1	2	<0.10	102	0.98	75 - 125	20
Total Lead		1.99	mg/L	1	2	<0.05	99	1.51	75 - 125	20
Total Manganese		2.07	mg/L	1	2	<0.10	103	0.97	75 - 125	20
Total Molybdenum		2.09	mg/L	1	2	<0.10	104	0.47	75 - 125	20
Total Nickel		2.01	mg/L	1	2	<0.10	100	1.50	75 - 125	20
Total Selenium		1.68	mg/L	1	2	<0.05	84	2.40	75 - 125	20
Total Silica		10.6	mg/L	1	10	<0.50	106	1.90	75 - 125	20
Total Silver		0.36	mg/L	1	0.40	<0.05	98	0.00	75 - 125	20
Total Zinc		2.03	mg/L	1	2	<0.10	101	0.99	75 - 125	20

Sample: LCS QC Batch: QC03373

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00103	mg/L	1	0.001	<0.0002	103		80 - 120	20

Sample: LCSD QC Batch: QC03373

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00111	mg/L	1	0.001	<0.0002	111	7.47	80 - 120	20

Sample: LCS QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1063	mg/L	1	1000	<0.50	106		75 - 125	20
Dissolved Magnesium		982	mg/L	1	1000	<0.50	98		75 - 125	20
Dissolved Potassium		968	mg/L	1	1000	<0.50	97		75 - 125	20
Dissolved Sodium		955	mg/L	1	1000	<0.50	96		75 - 125	20

Sample: LCSD QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1077	mg/L	1	1000	<0.50	108	1.30	75 - 125	20
Dissolved Magnesium		992	mg/L	1	1000	<0.50	99	1.01	75 - 125	20
Dissolved Potassium		951	mg/L	1	1000	<0.50	95	1.77	75 - 125	20
Dissolved Sodium		960	mg/L	1	1000	<0.50	96	0.52	75 - 125	20

Quality Control Report
Matrix Spikes and Duplicate Spikes

Sample: MS QC Batch: QC03370

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		2.11	mg/L	1	2	<0.10	105		75 - 125	20
Total Arsenic		1.91	mg/L	1	2	<0.10	95		75 - 125	20
Total Barium		2.05	mg/L	1	2	0.10	97		75 - 125	20
Total Boron		2.14	mg/L	1	2	<0.50	107		75 - 125	20
Total Cadmium		1.87	mg/L	1	2	<0.01	93		75 - 125	20
Total Chromium		1.92	mg/L	1	2	<0.05	96		75 - 125	20
Total Cobalt		1.97	mg/L	1	2	<0.05	98		75 - 125	20
Total Copper		1.96	mg/L	1	2	<0.10	98		75 - 125	20
Total Iron		2.62	mg/L	1	2	0.70	96		75 - 125	20
Total Lead		1.88	mg/L	1	2	<0.05	94		75 - 125	20
Total Manganese		1.98	mg/L	1	2	<0.10	99		75 - 125	20
Total Molybdenum		2.02	mg/L	1	2	<0.10	101		75 - 125	20
Total Nickel		1.91	mg/L	1	2	<0.10	96		75 - 125	20
Total Selenium		1.68	mg/L	1	2	<0.05	84		75 - 125	20
Total Silica		136	mg/L	1	10	125	110		75 - 125	20
Total Silver		0.35	mg/L	1	0.40	<0.05	88		75 - 125	20
Total Zinc		1.91	mg/L	1	2	<0.10	95		75 - 125	20

Sample: MSD QC Batch: QC03370

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		2.14	mg/L	1	2	<0.10	107	1.41	75 - 125	20
Total Arsenic		1.88	mg/L	1	2	<0.10	94	1.58	75 - 125	20
Total Barium		2.04	mg/L	1	2	0.10	97	0.51	75 - 125	20
Total Boron		2.15	mg/L	1	2	<0.50	107	0.46	75 - 125	20
Total Cadmium		1.84	mg/L	1	2	<0.01	92	1.61	75 - 125	20
Total Chromium		1.90	mg/L	1	2	<0.05	95	1.04	75 - 125	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Cobalt		1.94	mg/L	1	2	<0.05	97	1.53	75 - 125	20
Total Copper		1.98	mg/L	1	2	<0.10	99	1.01	75 - 125	20
Total Iron		2.60	mg/L	1	2	0.70	95	1.04	75 - 125	20
Total Lead		1.85	mg/L	1	2	<0.05	92	1.60	75 - 125	20
Total Manganese		1.97	mg/L	1	2	<0.10	98	0.50	75 - 125	20
Total Molybdenum		1.99	mg/L	1	2	<0.10	99	1.49	75 - 125	20
Total Nickel		1.89	mg/L	1	2	<0.10	96	1.05	75 - 125	20
Total Selenium		1.66	mg/L	1	2	<0.05	83	1.19	75 - 125	20
Total Silica		136	mg/L	1	10	125	110	0.00	75 - 125	20
Total Silver		0.33	mg/L	1	0.40	<0.05	83	5.88	75 - 125	20
Total Zinc		1.87	mg/L	1	2	<0.10	93	2.11	75 - 125	20

Sample: MS QC Batch: QC03373

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00111	mg/L	1	0.001	<0.0002	111		80 - 120	20

Sample: MSD QC Batch: QC03373

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00117	mg/L	1	0.001	<0.0002	117	5.26	80 - 120	20

Sample: MS QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1275	mg/L	1	1000	162	111		75 - 125	20
Dissolved Magnesium		1032	mg/L	1	1000	26	101		75 - 125	20
Dissolved Potassium		934	mg/L	1	1000	2.9	93		75 - 125	20
Dissolved Sodium		1000	mg/L	1	1000	66	93		75 - 125	20

Sample: MSD QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1272	mg/L	1	1000	162	111	0.26	75 - 125	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Magnesium		1059	mg/L	1	1000	26	103	2.64	75 - 125	20
Dissolved Potassium		976	mg/L	1	1000	2.9	97	4.41	75 - 125	20
Dissolved Sodium		1032	mg/L	1	1000	66	97	3.36	75 - 125	20

Quality Control Report
Duplicate Samples

Sample: Duplicate QC Batch: QC03138

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Specific Conductance		1222	1200	uMHOS/cm	1	1.81	20

Sample: Duplicate QC Batch: QC03169

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH		8.7	8.7	s.u.	1	0.00	20

Sample: Duplicate QC Batch: QC03180

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids		1648	1600	mg/L	1	2.95	20

Sample: Duplicate QC Batch: QC03238

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Hydroxide Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0.00	20
Carbonate Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0.00	20
Bicarbonate Alkalinity		180	172	mg/L as CaCo3	1	4.54	20
Total Alkalinity		180	172	mg/L as CaCo3	1	4.54	20

Quality Control Report
Continuing Calibration Verification Standards

Sample: CCV (1) QC Batch: QC03102

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
CL		mg/L	12.50	11.60	92	80 - 120	6/9/00
Fluoride		mg/L	2.50	2.48	99	80 - 120	6/9/00
Nitrate-N		mg/L	5	4.79	95	80 - 120	6/9/00
Sulfate		mg/L	12.50	12.03	96	80 - 120	6/9/00

Sample: ICV (1) QC Batch: QC03102

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
CL		mg/L	12.50	11.40	91	80 - 120	6/9/00
Fluoride		mg/L	2.50	2.56	102	80 - 120	6/9/00
Nitrate-N		mg/L	5	4.72	94	80 - 120	6/9/00
Sulfate		mg/L	12.50	11.84	94	80 - 120	6/9/00

Sample: CCV (1) QC Batch: QC03134

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Toluene-d8		µg/L	50	49.65	99	80 - 120	6/11/00
4-Bromofluorobenzene		µg/L	50	49.00	98	80 - 120	6/11/00

Sample: CCV (1) QC Batch: QC03138

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1413	1419	100	80 - 120	6/12/00

Sample: ICV (1) QC Batch: QC03138

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1413	1406	99	80 - 120	6/12/00

Sample: CCV (1) QC Batch: QC03142

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Phenol		mg/L	60	63.48	105	5 - 57	6/12/00
1,4-Dichlorobenzene		mg/L	60	58.75	97	25 - 94	6/12/00
2-Nitrophenol		mg/L	60	59.98	99	80 - 120	6/12/00
2,4-Dichlorophenol		mg/L	60	62.59	104	80 - 120	6/12/00
Hexachlorobutadiene		mg/L	60	55.74	92	80 - 120	6/12/00
4-Chloro-3-methylphenol		mg/L	60	62.67	104	40 - 126	6/12/00
2,4,6-Trichlorophenol		mg/L	60	57.22	95	80 - 120	6/12/00
Acenaphthene		mg/L	60	58.12	96	47 - 118	6/12/00
Diphenylamine		mg/L	60	58.17	96	80 - 120	6/12/00
Pentachlorophenol		mg/L	60	58.45	97	21 - 131	6/12/00
Fluoranthene		mg/L	60	59.51	99	80 - 120	6/12/00
Di-n-octylphthalate		mg/L	60	60.38	100	80 - 120	6/12/00
Benzo(a)pyrene		mg/L	60	55.79	92	80 - 120	6/12/00
2-Fluorophenol		mg/L	60	59.39	98	8 - 73	6/12/00
Phenol-d5		mg/L	60	63.57	105	8 - 62	6/12/00
Nitrobenzene-d5		mg/L	60	59.40	99	44 - 109	6/12/00
2-Fluorobiphenyl		mg/L	60	57.74	96	45 - 109	6/12/00
2,4,6-Tribromophenol		mg/L	60	54.22	90	39 - 132	6/12/00
Terphenyl-d14		mg/L	60	53.41	89	46 - 121	6/12/00

Sample: CCV (1)

QC Batch: QC03169

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.0	100	80 - 120	6/9/00

Sample: ICV (1)

QC Batch: QC03169

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.0	100	80 - 120	6/9/00

Sample: CCV (1)

QC Batch: QC03180

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	991	99	80 - 120	6/12/00

Sample: ICV (1)

QC Batch: QC03180

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	987	98	80 - 120	6/12/00

Sample: CCV (1) QC Batch: QC03195

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
4-Bromofluorobenzene		µg/L	50	50.36	100	80 - 120	6/13/00
Toluene-d8		µg/L	50	49.03	98	80 - 120	6/13/00

Sample: CCV (1) QC Batch: QC03238

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	80 - 120	6/13/00
Carbonate Alkalinity		mg/L as CaCo3	0	204	0	80 - 120	6/13/00
Bicarbonate Alkalinity		mg/L as CaCo3	0	32	0	80 - 120	6/13/00
Total Alkalinity		mg/L as CaCo3	250	236	94	80 - 120	6/13/00

Sample: ICV (1) QC Batch: QC03238

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	80 - 120	6/13/00
Carbonate Alkalinity		mg/L as CaCo3	0	220	0	80 - 120	6/13/00
Bicarbonate Alkalinity		mg/L as CaCo3	0	31	0	80 - 120	6/13/00
Total Alkalinity		mg/L as CaCo3	250	251	100	80 - 120	6/13/00

Sample: CCV (1) QC Batch: QC03370

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	5	5.33	106	75 - 125	6/16/00
Total Arsenic		mg/L	2.50	2.62	104	75 - 125	6/16/00
Total Barium		mg/L	5	5.31	106	75 - 125	6/16/00
Total Boron		mg/L	2.50	2.66	106	75 - 125	6/16/00
Total Cadmium		mg/L	0.50	0.52	104	75 - 125	6/16/00
Total Chromium		mg/L	1	1.05	105	75 - 125	6/16/00
Total Cobalt		mg/L	2.50	2.64	105	75 - 125	6/16/00

Continued ...

... Continued

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Copper		mg/L	1	1.07	107	75 - 125	6/16/00
Total Iron		mg/L	5	5.26	105	75 - 125	6/16/00
Total Lead		mg/L	2.50	2.64	105	75 - 125	6/16/00
Total Manganese		mg/L	0.50	0.53	106	75 - 125	6/16/00
Total Molybdenum		mg/L	2.50	2.60	104	75 - 125	6/16/00
Total Nickel		mg/L	2.50	2.60	104	75 - 125	6/16/00
Total Selenium		mg/L	2.50	2.60	104	75 - 125	6/16/00
Total Silica		mg/L	2.50	2.70	108	75 - 125	6/16/00
Total Silver		mg/L	0.50	0.53	106	75 - 125	6/16/00
Total Zinc		mg/L	0.50	0.52	104	75 - 125	6/16/00

Sample: ICV (1) QC Batch: QC03370

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	5	4.99	99	75 - 125	6/16/00
Total Arsenic		mg/L	2.50	2.53	101	75 - 125	6/16/00
Total Barium		mg/L	5	5.11	102	75 - 125	6/16/00
Total Boron		mg/L	2.50	2.54	101	75 - 125	6/16/00
Total Cadmium		mg/L	0.50	0.52	104	75 - 125	6/16/00
Total Chromium		mg/L	1	1.02	102	75 - 125	6/16/00
Total Cobalt		mg/L	2.50	2.56	102	75 - 125	6/16/00
Total Copper		mg/L	1	1.00	100	75 - 125	6/16/00
Total Iron		mg/L	5	5.2	104	75 - 125	6/16/00
Total Lead		mg/L	2.50	2.56	102	75 - 125	6/16/00
Total Manganese		mg/L	0.50	0.51	102	75 - 125	6/16/00
Total Molybdenum		mg/L	2.50	2.55	102	75 - 125	6/16/00
Total Nickel		mg/L	2.50	2.54	101	75 - 125	6/16/00
Total Selenium		mg/L	2.50	2.53	101	75 - 125	6/16/00
Total Silica		mg/L	2.50	2.43	97	75 - 125	6/16/00
Total Silver		mg/L	0.50	0.55	110	75 - 125	6/16/00
Total Zinc		mg/L	0.50	0.52	104	75 - 125	6/16/00

Sample: CCV (1) QC Batch: QC03373

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.001	0.00105	100	80 - 120	6/22/00

Sample: ICV (1) QC Batch: QC03373

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.001	0.00092	92	80 - 120	6/22/00

Sample: CCV (1)

QC Batch: QC03374

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	20	20.8	104	75 - 125	6/20/00
Dissolved Magnesium		mg/L	20	20.2	101	75 - 125	6/20/00
Dissolved Potassium		mg/L	20	19.6	98	75 - 125	6/20/00
Dissolved Sodium		mg/L	20	18.5	93	75 - 125	6/20/00

Sample: ICV (1)

QC Batch: QC03374

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	20	21.6	108	75 - 125	6/20/00
Dissolved Magnesium		mg/L	20	21.2	106	75 - 125	6/20/00
Dissolved Potassium		mg/L	20	20.9	105	75 - 125	6/20/00
Dissolved Sodium		mg/L	20	19.5	98	75 - 125	6/20/00

147702-03

Page_____of_____

6701 Aberdeen Avenue, Ste. 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

TraceAnalysis, Inc.

4725 Ripley Dr., Ste A
El Paso, Texas 79922-1028
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # A0006092 1

Company Name: NM Oil Conservation Division — Phone #: (505) 827-7154

Address: (Street, City, Zip) 2040 S. Pacheco, Santa Fe, NM 87505 — Fax #: (505) 827-8177

Contact Person: Bill Olson

Invoice to: (If different from above)

Project #: — Project Name: Windmill Oil

Project Location: Jody Powers — Sampler Signature: Bill Olson

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	NaHSO4	H2SO4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
147702	0006071645 (Well #1)	2	40 ml	✓				✓					✓		6/7/00	1645
	0006071645 (Well #1)	1	1 liter	✓									✓		6/7/00	1645
	0006071645 (Well #1)	1	liter	✓									✓		6/7/00	1645
	0006071645 (Well #1)	1	500 ml	✓					✓				✓		6/7/00	1645
147703	0006071700 (Well #2)	2	40 ml	✓				✓					✓		6/7/00	1700
	0006071700 (Well #2)	1	liter	✓									✓		6/7/00	1700
	0006071700 (Well #2)	1	liter	✓									✓		6/7/00	1700
	0006071700 (Well #2)	1	500 ml	✓					✓				✓		6/7/00	1700

ANALYSIS REQUEST
(Circle or Specify Method No.)

MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC-MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	Gen. Chem (OCD contract item #24)	OCD metals (OCD Contract Item #23)			Turn Around Time if different from standard	Hold
										2						1				
											1									
														1						
																1				
										2										
										●	1									
														1						
																1				

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Bill Olson	6/8/00	1020			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by: Vicki Hensley	Date: 6.9.00	Time: 10:00

LAB USE ONLY
Intact Y / N
Headspace Y / N
Temp #1 °
Log-in Review

REMARKS:

Carrier # FAMEX 902-421-359-4

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.

ORIGINAL COPY

Att Bill Olson

THIS IS AN OLD
GW SITE IN
SOUTH HOBBS.
MAY SHOW AT SOME
THAT WAS PLOTTED
WK

NEW MEXICO
HEALTH AND ENVIRONMENT
DEPARTMENT

1190 St. Francis Drive
Santa Fe, New Mexico 87503

OIL CONSERVATION DIVISION
RECEIVED
'89 NOV 6 AM 9 11

GARREY CARRUTHERS
Governor

DENNIS BOYD
Secretary

MICHAEL J. BURKHART
Deputy Secretary

ENVIRONMENTAL IMPROVEMENT DIVISION
James Murray State Office Building
2120 N. Alto Drive
Hobbs, NM 88240
(505) 397-5250

November 2, 1989

Mr. B.K. Townsend
803 Dondell
Channelview, TX 77503

Dear Mr. Townsend:

Thank you for your letter of October 23, 1989. Your trailer park, K.T. Bar Trailer Park, is no longer considered a public water supply by our office.

In regards to the oil pit near your property, in New Mexico most petroleum industrial activity is regulated by the Oil Conservation Division. Since your concern may involve this industry, I am referring it to the local and central OCD offices.

If there are any other questions concerning this matter, please feel free to contact our office.

Sincerely,

Roelf Ruffner
Environmental Supervisor

RR/pdh

cc: Jerry Sexton, OCD, 1000 W. Broadway, Hobbs 88240
David Boyer, P.O. Box 2088, Santa Fe 87501
Dennis McQuillan, EID Ground Water Bureau, Santa Fe 87503
Garrison McCaslin, HPM II, Roswell
Tom Burt, HPM I, Carlsbad/Hobbs
EID Hobbs File - KTBAR.OCD

EQUAL OPPORTUNITY EMPLOYER

PR

B.K. Townsend
803 Dondell
Channelview, Texas 77530
(713) 452-3010

October 23, 1989

New Mexico
Health & Environment
Environment Improvement Div.
2120 N. Alto
Hobbs, New Mexico 88240

Dear Mr. Ruffner:

This is in response to your request for a written statement stating to the fact, there is only ten (10) spaces at K.T.Bar Trailer Park and there are not twenty-five (25) persons living there. In fact there are less than fifteen (15) persons at the Park since its' opening.

Since the New Mexico State Laws state that testing each month is not required unless at lest Twenty-Five person are residing, I request that the monthly testing stop.

The reason that this come about in the first place, is that my manager was trying to get some results from the New Mexico State Government to do something about that open oil pit, which is in direct line with the water well system which feeds the park. This oil pit is in violation of New Mexico and most likely United States law which prohibits open oil pits which soak into the ground.

I am asking of you the names and addresses of the complete chain of command, which can do something about this problem. I am requesting that this pit be dug up, until fresh dirt can be found then refilled with clean soil. This should eliminate all contamination found in the well from time to time.

This department should be able to take care of this problem since this is an environmental hazard.

I will appreciate all help you can afford.

Sincerely,

B.K. Townsend

B.K. Townsend
Owner & Operator of the
K.T.Bar Trailer Park in
Hobbs, New Mexico

STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

HOBBS DISTRICT OFFICE

GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88241-1980
(505) 393-6161

MEMORANDUM TO: Mr. Jerry Sexton, Supervisor
FROM: Eddie W. Seay, Field Rep. II
DATE: May 31, 1989
SUBJECT: Water Well Contamination

On or about May 23rd, Jerry Sexton received a call from Mrs. Vicki Wilmerth, a resident and caretaker of Townsend Trailer Park south of Hobbs. She stated that an odor and oily film was in the water which is supplied to the tenants of the trailer park.

On May 25th, I investigated the problem, met with Mrs. Wilmerth to check out the complaint. Upon collecting water samples from the well, there was no visible sign of oil or an odor from the water collected; results of water analysis are attached.

During the investigation, an odor was noted coming from a crude oil loading station located approximately 200 yards to the northwest of the water well. This facility is connected to the Shell Pipeline storage facility which is located west of the water well.

Mrs. Wilmerth stated that the EID had collected samples on the 24th and will send them off to be tested. Considering the location of the well to the oil storage tanks, further testing by our environmental staff may be necessary to resolve the problem.

This same water well was tested previously and the problem was believed to be gas in the well. No further testing was done due to economics and lack of experience in this field; I believe we now need our environmental staff to check this out.

ES:jm

Eddie

ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
HOBBS, NEW MEXICO

WATER ANALYSIS REPORT FORM

WELL OWNERSHIP: Townsend WELL #: _____

LAND STATUS: STATE _____ FEDERAL _____ FEE XX

WELL LOCATION: Unit Letter _____ Section _____ Township _____ Range _____

QUARTER/QUARTER - FOOTAGE LOCATION: 3 Mi. South & 1 Mi. West of Hobbs - Townsend Trlr. Park

WELL TYPE: Sub. DEPTH _____ feet

WELL USE: Domestic, for Trailer Park

SAMPLE NUMBER: _____ TAKEN BY: Eddie Seay

DATE: 5/25/89

Specific Conductance:	500	mh
Total dissolved solids:	350	PPM
Chlorides:	85.2	PPM
Sulfates:		PPM

Ortho-phosphates: Very Low _____ Low _____ Med _____ Hi _____

Sulfides: None _____ Low _____ Med _____ Hi _____

OTHER:

DATE ANALYZED: 5/26/89 BY: _____

OIL CONSERVATION DIVISION
Eddie W. Seay

REMARKS: 25 ml sample 142 X .6 Titration = 85.2 ppm Cl

SP - was metered.

TDS - was calculated.

No odor or any visible objects in water. Will retest when OCD Environmental Staff comes.

Water appears to be good for what was tested.

87-1290-C 753 } wpa
87-1291-C 754

SCIENTIFIC LABORATORY DIVISION

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

STATE OF NEW MEXICO
ENVIRONMENT

REPORT TO: Dennis McQuillan
EID Groundwater
Santa Fe
(Please also send a copy to EID 26 hbs)

S.L.D. No. OR- 1290 - 1291
DATE REC. 7-30-87
PRIORITY Two

PHONE(S):
USER CODE: 519010
SUBMITTER: R. Ruffner
CODE:

SAMPLE COLLECTION CODE: (YYMMDDHHMMIII) KTBARINORTH

SAMPLE TYPE: WATER ☑, SOIL ☐, FOOD ☐, OTHER:

COUNTY: Lea ; CITY: Hobbs

LOCATION CODE: (Township-Range-Section-Tracts) 19S+38E+15+ (10N08E24342)

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

OCT 15 1987
GROUND WATER/HAZARDOUS BUREAU

Remarks:

RECEIVED
OCT 23 1987
HOBBS OFFICE

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.)

possible petroleum contamination
Trailer park - North well

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

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 _____ to _____

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

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

Signatures _____ _____

ANALYSES PERFORMED

LAB. No.: OR- 1290/1291

THIS PAGE FOR LABORATORY RESULTS ONLY

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

PURGEABLE SCREENS

- [x] (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

ANALYTICAL RESULTS

COMPOUND(S) DETECTED	CONC.	COMPOUND(S) DETECTED	CONC. [PPB]
Head Space		halogenated purgeables +	N.D.
Methane MDL = 5ppm	812 ppm	aromatic purgeables +	N.D.
Ethane MDL = 5ppm	5.6		
* DETECTION LIMIT * *		+ 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: Calculations and Graphs in 1324-1330

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes [ ] No [ ]. Seal(s) broken by: MOSEDALE 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: 8/4/87 9/4/87 Analyst's signature: C.S. Bussey, Gary C. Glen

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. Meyenberg

87-1292-C 753 } wp4
87-1293-C 754 }

SCIENTIFIC LABORATORY DIVISION

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

STATE OF NEW MEXICO
ENVIRONMENT

REPORT TO: DENNIS McQUILLAN
EID - Groundwater
SANTA FE
(Please also send a copy to EID Hobbs)

S.L.D. No. OR- 6292 - 1293
DATE REC. 7-30-87
PRIORITY Two

PHONE(S):
USER CODE: 5 9 6 0 0
SUBMITTER: R. Ruffner
CODE:
SAMPLE COLLECTION CODE: (YYMMDDHHMMHH) K T B A R I - A
SAMPLE TYPE: WATER ☑, SOIL ☐, FOOD ☐, OTHER:
COUNTY: LEA ; CITY: Hobbs
LOCATION CODE: (Township-Range-Section-Tracts) 1 9 S 3 8 E 1 5 (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

RECEIVED OCT 15 1987 GROUND WATER/HAZARDOUS WASTE BUREAU

Remarks:

RECEIVED OCT 23 1987 HOBBS OFFICE

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.)

possible petroleum contamination. Trailer park. Mixed sample from pressure tanks.

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

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 _____ to _____

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

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

Signatures _____ _____

ANALYSES PERFORMED

LAB. No.: OR- 1292

THIS PAGE FOR LABORATORY RESULTS ONLY

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

PURGEABLE SCREENS

- [x] (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]
HEAD SPACE		aromatic purgeables +	N.D.
METHANE MDL = 5 ppm	211 ppm	halogenated purgeables +	N.D.
ETHANE MDL = 5 ppm	1.5 ppm		
* DETECTION LIMIT * ✳		+ 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: CALCULATIONS AND STANDARDS chromatographs in big - 1324 - 1330

CERTIFICATE OF ANALYTICAL PERSONNEL

Seal(s) Intact: Yes [ ] No [ ]. Seal(s) broken by: NO SEALS 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: 8/11/87 9/11/87 Analyst's signature: AS Burnay ; Mary C. Ellen

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 Meyerhen

RECEIVED

JUL 21 1989

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	8 / 1 / 87	LAB NO.	107-545
USER	OIL CONSERVATION DIV. SANTA FE	CODE	☐ 59300 ☒ 59600 ☐ OTHER:
Collection DATE	7 / 27 / 87	SITE INFORM-ATION	Sample location: K.T. BAR-A
Collection TIME	2:45 PM		Collection site description: TRAILER PARK - Hobbs
Collected by — Person/Agency	DENNIS GARDNER EID		

T19S, R38E, Sec 15

RECEIVED
OCT 23 1987
HOBBS OFFICE

SEND FINAL REPORT TO:
GROUND WATER & HAZARDOUS WASTE BUREAU
NM ENVIRONMENT IMPROVEMENT DIVISION/HED
Crown Building, PO Box 968
Santa Fe, NM 87504-0968
Attn: DENNIS McQUILLAN
(Please also send a copy to EID Hobbs)

Station/well code: HOBBS OFFICE
Owner:

SAMPLING CONDITIONS

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

Field comments: collected from pressure tank. Possible petroleum / brine contamination.

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted:
☒ 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: HNO_3 ICAP SCAN

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:			☐ Sodium (00930)	mg/l	
☐ Other:			☐ 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: ICAPSCAN		

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: 8 / 19 / 87 | Reviewed by: Jim Ashley

Laboratory remarks:

SLD 726 (12/84) DISTRIBUTION: WHITE — EID, GW&HW Bureau CANARY — WS System PINK — EID Local Office GOLDENROD — SLD

ICAP SCAN

SLD Lab No. DCP 545 Reviewed by: Jim Ashby

Analyst JB Date Reported: 8/19/87

Date Analyzed 8/18/87

ELEMENT	ICAP VALUE(mg/l)	AA VALUE(mg/l)
Aluminum	<0.1	
Barium	<0.1	
Beryllium	<0.1	
Boron	0.1	
Cadmium	<0.1	
Calcium	100.	
Chromium	<0.1	
Cobalt	<0.05	
Copper	<0.1	
Iron	<0.1	
Lead	<0.1	
Magnesium	18.	
Manganese	<0.05	
Molybdenum	<0.1	
Nickel	<0.1	
Silicon	26.	
Silver	<0.1	
Strontium	0.9	
Tin	<0.1	
Vanadium	<0.1	
Zinc	<0.1	
Arsenic		
Selenium		
Mercury		

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	8 / 4 / 87	LAB NO.	WC-3416
Collection DATE	7/27/87	USER CODE	☐ 59300 ☒ 59600 ☐ OTHER:
Collection TIME	2:45 PM	SITE INFORMATION	Sample location: K.T. BAR - A
Collected by — Person/Agency	ERVIN - EID		Collection site description: TRAILER PARK - HOBBS

T19S, R38E, Sec 15

SEND FINAL REPORT TO ►
GROUND WATER & HAZARDOUS WASTE BUREAU
NM ENVIRONMENT IMPROVEMENT DIVISION/HED
Crown Building, PO Box 968
Santa Fe, NM 87504-0968
Attn: DENNIS McQUILLAN
(Please Also send a copy to EID Hobbs)

Station/ well code:
Owner: KEN TOWNSEND

SAMPLING CONDITIONS

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

Field comments: collected from pressure tank. Possible petroleum/brine contamination.

SAMPLE FIELD TREATMENT — *Check proper boxes*

No. of samples submitted

☒ 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:*

RECEIVED
SEP 22 1987
HOBBS OFFICE

ANALYTICAL RESULTS from SAMPLES

NF, NA	Units	Date analyzed	F, NA	Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	μmho		☒ Calcium (00915)	96 mg/l	9/1
☐ Total non-filterable residue (suspended) (00530)	mg/l		☒ Magnesium (00925)	15 mg/l	9/1
☐ Other:			☒ Sodium (00930)	46 mg/l	8/25
☐ Other:			☒ Potassium (00935)	1.56 mg/l	"
☐ Other:			☒ Bicarbonate (00440)	226 mg/l	8/19
			☒ Chloride (00940)	154 mg/l	8/25
			☒ Sulfate (00945)	62.4 mg/l	8/25
			☒ Total filterable residue (dissolved) (70300)	622 mg/l	8/25
			☐ 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	Reviewed by
	9 / 1 / 87	

Laboratory remarks:

SLD 726 (12/84) *DISTRIBUTION:* **WHITE** — EID, GW&HW Bureau **CANARY** — WS System **PINK** — EID Local Office **GOLDENROD** — SLD

754 wpll

SCIENTIFIC LABORATORY DIVISION
ORGANIC ANALYSIS REQUEST FORM
Organic Section - Phone: 841-2570

OR89-0911-C

REPORT TO: DAVID BOYER
N.M. OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, NM 87504-2088

S.L.D. No. OR-
DATE REC. 6-27-89
PRIORITY 3
PHONE(S): 827-5812

COLLECTION CITY: Hobbs ; COUNTY: Lea

COLLECTION DATE/TIME CODE: (Year-Month-Day-Hour-Minute) 8 9 0 6 2 2 1 0 8 4 0

LOCATION CODE: (Township-Range-Section-Tracts) L 1 9 1 5 + 3 1 8 E + 1 5 + 4 1 3 - (10N06E24342)

USER CODE: 8 2 2 3 5 SUBMITTER: David Boyer CODE: 2 1 6 0

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-AA Sample Preserved with Ascorbic Acid to remove chlorine residual.
- [X] P-HCl Sample Preserved with Hydrochloric Acid (2 drops/40 ml)

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 Headspace (1-5 Carbons)
- [X] (754) Aromatic & Halogenated Purgeables
- [ ] (765) Mass Spectrometer Purgeables
- [ ] (766) Trihalomethanes
- [ ] (774) SDWA VOC's I (8 Regulated +)
- [ ] (775) SDWA VOC's II (EDB & DBCP)

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: _____

FIELD DATA:

pH= 7 ; Conductivity= 625 umho/cm at 26 °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.)
K.T. Townsen & Trailer Park - South Well - Slight to moderate hydrocarbon odor

I certify that the results in this block accurately reflect the results of my field analyses, observations and activities.(signature collector): A.T. Kouffy Method of Shipment to the Lab: State Car

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 [ ] OR Seals Intact: Yes [ ] No [ ]

Signatures _____ _____

For OCD use: Date owner notified: _____ Phone or Letter? Initials _____

ANALYSES PERFORMED

LAB. No.: OR-_____

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
- ☐ (774) SDWA VOC's I (8 Regulated +)
- ☐ (775) SDWA VOC's II (EDB & DBCP)

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]
* DETECTION LIMIT * ✱		+ 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: _____ 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: _____. 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: _____

STATE OF NEW MEXICO HEALTH AND ENVIRONMENT DEPARTMENT
SCIENTIFIC LABORATORY DIVISION
700 Camino de Salud, NE
Albuquerque, NM 87106 [505]-841-2500
ORGANIC CHEMISTRY SECTION [505]-841-2570

July 25, 1989

ANALYTICAL REPORT
SLD Accession No. OR-89-0911

Distribution
(■) Submitter
(▩) SLD Files

To: NM Oil Consv. Div.
State Land Office Bldg.
P. O. Box 2088
Santa Fe, NM 87504-2088

From: Organic Chemistry Section
Scientific Laboratory Div.
700 Camino de Salud, NE
Albuquerque, NM 87106

Re: **A purgeable water sample submitted to this laboratory on June 27, 1989**

User:
OIL CONSERVATION DIV
State Land Office Bldg.
P. O. Box 2088
Santa Fe, NM 87504-2088

DEMOGRAPHIC DATA

COLLECTION

On: 22-Jun-89 *By:* Boy . . .
At: 8:40 hrs. *In/Near:* Hobbs

LOCATION

ANALYTICAL RESULTS: Aromatic & Halogenated Purgeable Screen

Parameter	Value	Note	MDL	Units
Aromatic Purgeables (6)	0.00	N	1.00	ppb
Halogenated Purgeables (33)	0.00	N	0.50	ppb

See Laboratory Remarks for Additional Information

Notations & Comments:

MDL = Minimal Detectable Level.

A = Approximate Value; N = None Detected above Detection Limit; P = Compound Present, but not quantified;
T = Trace (<Detection Limit); U = Compound Identity Not Confirmed.

Evidentiary Seals: Not Sealed [X]; Intact: No [ ], Yes [ ] & Broken By: _____ Date: _____

Laboratory Remarks: KT Townsend Trailer Park
Five unidentified unsaturated compounds at trace to 5ppb were detected.

Analyst: _____ 7-12-89
Michael J. Owen — Analyst, Organic Chemistry
Analysis Date

Reviewed By: _____
Richard F. Meyerhein 07/25/89
Supervisor, Organic Chemistry Section

RECEIVED
JUL 31 1989
OIL CONSERVATION DIV.
SANTA FE

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

854
WNM

GE. RAL WATER CHEMISTRY and NITROGEN ANALYSIS

DATE RECEIVED 06 27 89 | LAB NO WC 2376 | USER CODE ☐ 59300 ☐ 59600 ☒ OTHER: 82235

Collection DATE 06-26-89
Collection TIME 0840
Collected by — Person/Agency Boyd/Hall Cooper/OCD

SITE INFORMATION ►
Sample location: K. T. Townsend Trailer Park
Collection site description: South wall (of pump by storage shed)

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: 19S-38E-15.43
Owner:

SAMPLING CONDITIONS

☐ Bailed ☐ Dipped ☐ Pump ☒ Tap	Water level: —	Discharge: —	Sample type: Grab
pH (00400): 7	Conductivity (Uncorrected): 600 µmho	Water Temp. (00010): 20 °C	Conductivity at 25°C (00094): µmho

Field comments: Slight to moderate H/C 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

NA		Units	Date analyzed
☒ Conductivity (Corrected) 25°C (00095)	878	µmho	7-6
☐ Total non-filterable residue (suspended) (00530)		mg/l	
☒ Other: Lab pH	7.98		7/10
☐ Other:			
☐ Other:			

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:			

From 1/5, NA Sample:

			Date Analyzed
☒ Calcium	50	mg/l	8/04
☒ Potassium	3	mg/l	7/10
☒ Magnesium	36.4	mg/l	8/04
☒ Sodium	49	mg/l	7/10
☒ Bicarbonate	316	mg/l	7/10
☒ Chloride	66	mg/l	7/10
☒ Sulfate	40.2	mg/l	7/26
☒ Total Solids	458	mg/l	7/19
☒ CO_3	0		7/10
☒ R_2	<0.20		7/11
☒ Cation/Anion Balance			

Analyst | Date Reported: 8 7 89 | Reviewed by

Laboratory remarks:

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

CATIONS				ANIONS			
ANALYTE	MEQ.	PPM	DET. LIMIT	ANALYTE	MEQ.	PPM	DET. LIMIT
Ca	2.50	50.00	<3.0	HC03	5.18	316.00	<1.0
Mg	2.99	36.40	<0.3	SO4	0.84	40.20	<10.0
Na	2.13	49.00	<10.0	CL	1.86	66.00	<5.0
K	0.08	3.00	<0.3				
Mn	0.00	0.00		NO3	0.00	0.00	< 0.
Fe	0.00	0.00		C03	0.00	0.00	< 1.
				NH3	0.00	0.00	< 0.
				PO4	0.00	0.00	< 0.
SUMS	7.69	138.40			7.88	422.20	

Total Dissolved Solids= 458
Ion Balance = 97.65%

WC No. = 8902376
Date out/By 2/7/89

New Mexico Health and Environment Department
SCIENTIFIC LABORATORY D SION
700 Camino de Salud NE
Albuquerque, NM 87106

HEAVY I ETAL ANALYSIS FORM

Telephone: (505)841-2553

Date Received	06 27 89	Lab No	ICAP 368	User Code	☒ 82235 ☐ Other:

COLLECTION DATE & TIME: yy 89 mm 06 dd 27 hh 08 mm 40

COLLECTED BY: Boyd Anderson OCD

COLLECTION SITE DESCRIPTION: E. T. Townsend Tr. 1, North - South well

TO:

OWNER:

ENVIRONMENTAL BUREAU
NM OIL CONSERVATION DIVISION
State Land Office Bldg., PO Box 2088
SANTA FE, NM 87504-2088

ATTN: D. Boyd
TELEPHONE: 827-5812

SITE LOCATION:
County: Lea

Township, Range, Section, Tract: (10N06E24342)
1 0 N 0 6 E 2 4 3 4 2

STATION/ WELL CODE:

LATITUDE, LONGITUDE: -

SAMPLING CONDITIONS:

☐ Bailed ☐ Pump ☐ Dipped ☒ Tap | Water Level: | Discharge: | Sample Type: Grab

pH(00400)	Conductivity(Uncorr.)	Water Temp.(00010)	Conductivity at 25°C (00094)
7	625 µmho	20 °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	0.2		Silicon	23.	
Barium	<0.1		Silver	<0.1	☐
Beryllium	<0.1		Strontium	0.7	
Boron	0.2		Tin	<0.1	
Cadmium	<0.1	☒ <0.001	Vanadium	<0.1	
Calcium	90.		Zinc	<0.1	
Chromium	<0.1	☒ 0.006	Arsenic		☒ 0.010
Cobalt	<0.05		Selenium		☐
Copper	<0.1		Mercury		☐
Iron	0.3				☐
Lead	<0.1	☒ <0.005			☐
Magnesium	15.				☐
Manganese	0.09				☐
Molybdenum	<0.1				☐
Nickel	<0.1				☐

RECEIVED
OCT 10 1989
OIL CONSERVATION DIV.
SANTA FE

LAB COMMENTS: DIGESTED.

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

ICAP Analyst JTT Date Analyzed 7/31/89

Reviewer Jim Ashley Date Received 10/2/89

cc: J SEXTON
R ANDERSON

NEW MEXICO OIL CONSERVATION COMMISSION
FIELD TRIP REPORT

INSPECTION	CLASSIFICATION	FACILITY	HOURS	QUARTER HOURS

≈ 1:30 PM

Name WAYNE PRICE Date 3/26/97 Miles _____ District I

Time of Departure 7 AM Time of Return 4 PM Car No. G 047

In the space below indicate the purpose of the trip and the duties performed, listing wells or leases visited and any action taken.

Signature [signature]

KRESS JONES
3729 W SANGER
HOBBS N.M.
393-0703

RECEIVED
MAR 31 1997
Environmental Bureau
Oil Conservation Division

SAMPLED WATER WELL FOR HOUSE, PURGED ≈ 5 MIN
WATER IS CLEAR, NO ODOR, TAKEN AT WELL SPIGOT
TDS ≈ 627 uMHOS
SEE COC ATTACHED (BTEX FOR LAB)

SAMPLED WATER WELL ON BACK LOT OWNED
BY MR. JONES UNIT B 31-18-38 citgo WATER WELL
TDS ≈ 1000 uMHOS, SLIGHT TURBID, NO ODOR
NOTE: SIGN ON WATER WELL "NOT FOR HUMAN CONSUMPTION"

Mileage		Per Diem		Hours	
UIC		UIC		UIC	
RFA		RFA		RFA	
Other		Other		Other	

TYPE INSPECTION PERFORMED

N = Housekeeping
P = Plugging
C = Plugging Cleanup
T = Well Test
R = Repair/Workover
F = Waterflow
M = Mishap or Spill
W = Water Contamination
O = Other

INSPECTION CLASSIFICATION

U = Underground Injection Control - Any inspection of or related to injection project, facility, or well or resulting from injection into any well. (SWD, Indry injection and production wells, water flows or pressure tests, surface injection equipment, plugging, etc.)
R = Inspections relating to Reclamation Fund Activity
O = Other - Inspections not related to injection or The Reclamation Fund
E = Indicates some form of enforcement action taken in the field (show immediately below the letter U, R or O)

NATURE OF SPECIFIC WELL OR FACILITY INSPECTED

D = Drilling
P = Production
I = Injection
C = Combined prod. inj. operations
S = SWD
U = Underground Storage
G = General Operation
F = Facility or location
H = Hearing
O = Other

American Environmental Network (NM), Inc.
Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 3/26/97 PAGE: 1 OF 1

AEN LAB I.D.

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: WAYNE PRICE

COMPANY: JONES WATER WELL
ADDRESS: x3729 W SANGER HOBBS NM
505-393-0703
PHONE: 505-393-6161
FAX: 505-393-0720

BILL TO: NMOCD - SANTA FE
COMPANY:
ADDRESS: 2040 MCHECO
SANTA FE NM 87505

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	(M8015) Gas/Purge & Trap	Gasoline/BTEX & MTBE (M8015/8020)	BTXE/MTBE (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	504 EDB ☐ / DBCP ☐	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	General Chemistry:	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:	NUMBER OF CONTAINERS
9703260126	3/26/97	1:26PM	WATER						X																	3
BLANK																										1

PROJECT INFORMATION

PROJ. NO.:
PROJ. NAME: JONES WATER WELL
P.O. NO.:
SHIPPED VIA:

SAMPLE RECEIPT

NO. CONTAINERS	
CUSTODY SEALS	Y / N / NA
RECEIVED INTACT	
BLUE ICE/ICE	

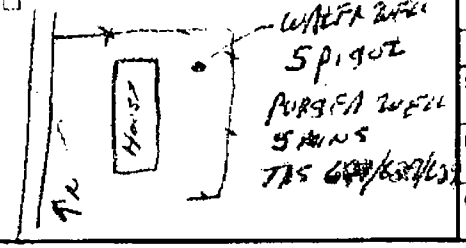
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒

CERTIFICATION REQUIRED: ☒ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐



RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Time: 3:00 PM 1:26PM	Signature: Time:
Printed Name: WAYNE PRICE Date: 3/26/97	Printed Name: Date:
Company: NMOCD	Company:
RECEIVED BY: 1.	**RECEIVED BY: (LAB) 2.**
Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:
Company:	American Enviromental Network (NM), Inc.

American Environmental Network - 2709 D Pan American Frwy NE, Albuquerque, NM 87107. (505) 344-3777

Client: OCD-HOBBS
Phone: 505 393 6161
Address: 1000 W BROADWAY
HOBBS, NM 88240
Attention: WAYNE PRICE

Date Needed: Fri Time: ____ am/pm
☐ Pick up by Client
☐ Deliver to client
Kit Prepared by: ☐ John
☐ Other _____

2 nd day

SAMPLE KIT

	PARAMETER	HOLDING TIME	BOTTLE DESCRIPTION			
			WATER - PRESERVATIVE		SOIL - PRESERVATIVE	
VOLATILES	624 (8240) 601/602 8010/8020 _____ 504	14 DAYS	___ 3X40ML VOA ___ 3X40ML VOA ___ 3X40ML VOA ___ 3X40ML VOA ___ 3X40ML VOA	HCL/$HgCl_2$ HCL/$HgCl_2$ HCL/$HgCl_2$ HCL/$HgCl_2$ $Na_2S_2O_3$	___ 1 X 4 oz Jar ___ 1 X 4 oz Jar ___ 1 X 4 oz Jar ___ 1 X 4 oz Jar ___ NA	4^{oc} 4^{oc} 4^{oc} 4^{oc} NA
FUELS	8015 (TPH) ~~8015~~/8020 418.1	14 DAYS 14 DAYS 28 DAYS	___ 3X40ML VOA 1 3X40ML VOA ___ 2X500ML AMB.	HCL/$HgCl_2$ ~~HCL~~/$HgCl_2$ H_2SO_4	___ ___ 1 X 4 oz Jar ___	4^{oc}
ORGANICS	625 (8270) 608 (8080) 615 (8150) 610(8310) _____	7 DAYS _____	___ ___ ___ ___ 2 X 1L AMBER ___	4^{oc}	___ ___ ___ ___ 1 X 4 oz Jar ___	4^{oc}
	TOC TOX	28 DAYS 7 DAYS	___ 1X250ML AMB. ___ 1X250ML AMB.	H_2SO_4 H_2SO_4	___ 1 X 4 oz Jar ___	4^{oc}
METALS	_____ _____ _____	6 MONTHS	___ 1X___ML PL. ___ 1X___ML PL. ___ 1X___ML PL.	HNO_3	___ ___ 1 X 4 oz Jar ___	4^{oc}
GEN. CHEM.	_____ _____ _____	14 DAYS	___ 1X___ML PL. ___ 1X___ML PL. ___ 1X___ML PL.	4^{oc}	___ ___ 1 X 4 oz Jar ___	4^{oc}
			___		___	
			___		___	
			___		___	
			___		___	
			___		___	
X	TRIP BLANK	14 DAYS	1 1X40ML VOA	~~HCL~~/$HgCl_2$	NA	NA
	AIR: _____	3 DAYS	___ 1 X 1L. TEDLAR AIR BAG VALVE: STAINLESS STEEL/POLYPROPYLENE			
METH.	METHANOL PRESERVED		___ 2 X 60ML Amber Preweight, 2 X 10ML Methanol Vials; 1 X 2oz jar (4oz jar for diesel)			

☒ COC
☒ BLUE ICE
☒ LABELS
☒ SEALS
☒ PENS/GLOVES

_____
_____
_____
_____
_____

PINNACLE LABORATORIES

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

Pinnacle Lab ID number **905012**
June 16, 1999

NMOCD
2040 S. PACHECO
SANTA FE, NM 87505

Project Name KRESS JONES WELL
Project Number (none)

Attention: BILL OLSON

On 5/6/99 Pinnacle Laboratories, Inc. Inc., (ADHS License No. AZ0592), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

EPA method 150.1 and 8021 were performed by Pinnacle Laboratories, Inc., Albuquerque, NM.

Silicon was analyzed by ATEL, Marion, OH.

All other parameters were performed by ESL (OR) Inc., Portland, OR.

If you have any questions or comments, please do not hesitate to contact us at (505)344-3777.

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph. D.
General Manager

MR: mt

Enclosure

PINNACLE LABORATORIES

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CLIENT	: NMOCD	PINNACLE ID	: 905012
PROJECT #	: (none)	DATE RECEIVED	: 5/6/99
PROJECT NAME	: KRESS JONES WELL	REPORT DATE	: 6/16/99

PIN ID. #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	9905050840 (JONES WELL)	AQUEOUS	5/5/99
02	TRIP BLANK	AQUEOUS	4/23/99

PINNACLE LABORATORIES

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Phone (505) 344-3777
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GENERAL CHEMISTRY RESULTS

CLIENT	: NMOCD	PINNACLE I.D.	: 905012
PROJECT #	: (none)	DATE RECEIVED	: 5/6/99
PROJECT NAME	: KRESS JONES WELL		

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE ANALYZED
01	9905050840 (JONES WELL)	AQUEOUS	5/5/99	5/5/99

PARAMETER	UNITS	9905050840 (JONES WELL)
PH (150.1)	UNITS	7.57

CHEMIST NOTES:
N/A

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GENERAL CHEMISTRY - QUALITY CONTROL

CLIENT	: NMOCD	PINNACLE I.D.	: 905012
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: KRESS JONES WELL		

PARAMETER	UNITS	PINNACLE I.D.	SAMPLE RESULT	DUP. RESULT	% RPD
PH	UNITS	905012-01	7.57	7.61	0.53

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

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GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021
CLIENT : NMOCD
PROJECT # : (none)
PROJECT NAME : KRESS JONES WELL

PINNACLE I.D.: 905012

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	9905050840 (JONES WELL)	AQUEOUS	5/5/99	NA	5/6/99	1
02	TRIP BLANK	AQUEOUS	4/23/99	NA	5/6/99	1

PARAMETER	DET. LIMIT	UNITS	9905050840 (JONES WELL)	TRIP BLANK
BENZENE	0.5	UG/L	< 0.5	< 0.5
BROMODICHLOROMETHANE	0.2	UG/L	< 0.2	< 0.2
BROMOFORM	0.5	UG/L	< 0.5	< 0.5
BROMOMETHANE	1.0	UG/L	< 1.0	< 1.0
CARBON TETRACHLORIDE	0.2	UG/L	< 0.2	< 0.2
CHLOROBENZENE	0.5	UG/L	< 0.5	< 0.5
CHLOROETHANE	0.5	UG/L	< 0.5	< 0.5
CHLOROFORM	0.5	UG/L	< 0.5	< 0.5
CHLOROMETHANE	1.0	UG/L	< 1.0	< 1.0
DIBROMOCHLOROMETHANE	0.2	UG/L	< 0.2	< 0.2
1,2-DIBROMOETHANE (EDB)	0.2	UG/L	< 0.2	< 0.2
1,2-DICHLOROBENZENE	0.5	UG/L	< 0.5	< 0.5
1,3-DICHLOROBENZENE	0.5	UG/L	< 0.5	< 0.5
1,4-DICHLOROBENZENE	0.5	UG/L	< 0.5	< 0.5
1,1-DICHLOROETHANE	0.3	UG/L	< 0.3	< 0.3
1,2-DICHLOROETHANE (EDC)	0.5	UG/L	< 0.5	< 0.5
1,1-DICHLOROETHENE	0.2	UG/L	< 0.2	< 0.2
cis-1,2-DICHLOROETHENE	0.2	UG/L	< 0.2	< 0.2
trans-1,2-DICHLOROETHENE	1.0	UG/L	< 1.0	< 1.0
1,2-DICHLOROPROPANE	0.2	UG/L	< 0.2	< 0.2
cis-1,3-DICHLOROPROPENE	0.2	UG/L	< 0.2	< 0.2
trans-1,3-DICHLOROPROPENE	0.2	UG/L	< 0.2	< 0.2
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5
METHYL-t-BUTYL ETHER	2.5	UG/L	< 2.5	< 2.5
METHYLENE CHLORIDE	2.0	UG/L	< 2.0	< 2.0
1,1,2,2-TETRACHLOROETHANE	0.5	UG/L	< 0.5	< 0.5
TETRACHLOROETHENE	0.5	UG/L	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5
1,1,1-TRICHLOROETHANE	1.0	UG/L	< 1.0	< 1.0
1,1,2-TRICHLOROETHANE	0.2	UG/L	< 0.2	< 0.2
TRICHLOROETHENE	0.3	UG/L	< 0.3	< 0.3
TRICHLOROFLUOROMETHANE	0.2	UG/L	< 0.2	< 0.2
VINYL CHLORIDE	0.5	UG/L	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	< 0.5
SURROGATE:				
BROMOCHLOROMETHANE (%)			97	100
SURROGATE LIMITS	(73 - 117)			
TRIFLUOROTOLUENE (%)			104	106
SURROGATE LIMITS	(69 - 117)			

CHEMIST NOTES:
N/A

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GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021		
BLANK I.D.	: 050699	PINNACLE I.D.	: 905012
CLIENT	: NMOCD	DATE EXTRACTED	: NA
PROJECT #	: (none)	DATE ANALYZED	: 5/6/99
PROJECT NAME	: KRESS JONES WELL	SAMPLE MATRIX	: AQUEOUS

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
BROMODICHLOROMETHANE	UG/L	<0.2
BROMOFORM	UG/L	<0.5
BROMOMETHANE	UG/L	<1.0
CARBON TETRACHLORIDE	UG/L	<0.2
CHLOROBENZENE	UG/L	<0.5
CHLOROETHANE	UG/L	<0.5
CHLOROFORM	UG/L	<0.5
CHLOROMETHANE	UG/L	<1.0
DIBROMOCHLOROMETHANE	UG/L	<0.2
1,2-DIBROMOETHANE (EDB)	UG/L	<0.2
1,2-DICHLOROBENZENE	UG/L	<0.5
1,3-DICHLOROBENZENE	UG/L	<0.5
1,4-DICHLOROBENZENE	UG/L	<0.5
1,1-DICHLOROETHANE	UG/L	<0.3
1,2-DICHLOROETHANE (EDC)	UG/L	<0.5
1,1-DICHLOROETHENE	UG/L	<0.2
cis-1,2-DICHLOROETHENE	UG/L	<0.2
trans-1,2-DICHLOROETHENE	UG/L	<1.0
1,2-DICHLOROPROPANE	UG/L	<0.2
cis-1,3-DICHLOROPROPENE	UG/L	<0.2
trans-1,3-DICHLOROPROPENE	UG/L	<0.2
ETHYLBENZENE	UG/L	<0.5
METHYL -t-BUTYL ETHER	UG/L	<2.5
METHYLENE CHLORIDE	UG/L	<2.0
1,1,2,2-TETRACHLOROETHANE	UG/L	<0.5
TETRACHLOROETHENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
1,1,1-TRICHLOROETHANE	UG/L	<1.0
1,1,2-TRICHLOROETHANE	UG/L	<0.2
TRICHLOROETHENE	UG/L	<0.3
TRICHLOROFLUOROMETHANE	UG/L	<0.2
VINYL CHLORIDE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5

SURROGATE:		
BROMOCHLOROMETHANE (%)		94
SURROGATE LIMITS	(73 - 117)	
TRIFLUOROTOLUENE (%)		104
SURROGATE LIMITS	(69 - 117)	

CHEMIST NOTES:
N/A

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Fax (505) 344-4413

GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

TEST	: EPA 8021		
MSMSD #	: 905012-01	PINNACLE I.D.	: 905012
CLIENT	: NMOCD	DATE EXTRACTED	: NA
PROJECT #	: (none)	DATE ANALYZED	: 5/6/99
PROJECT NAME	: KRESS JONES WELL	SAMPLE MATRIX	: AQUEOUS
		UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	10.0	10.2	102	9.8	98	4	(82 -128)	20
TOLUENE	<0.5	10.0	10.3	103	10.0	100	3	(87 -128)	20
1,1-DICHLOROETHENE	<0.2	10.0	8.7	87	8.9	89	2	(80 - 120)	20
TRICHLOROETHENE	<0.3	10.0	10.2	102	9.8	98	4	(89 - 127)	20
CHLOROBENZENE	<0.5	10.0	9.6	96	9.6	96	0	(87 - 124)	20

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

ATEL

Aqua Tech Environmental Laboratories, Inc.

- CERTIFICATE OF ANALYSIS -

Client #: 12523
Pinnacle Laboratories, Inc.
2709 - D Pan American Freeway, NE
Albuquerque, NM 87107-

Report Date: *19-May-99*

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

Attn: Kimberly Mcneill

Our Lab #: MAR99-10990 **Your Sample ID:** 905012-01
Date Logged-In: 5/10/99 **Sample Source:** Other/Undefined
Matrix: Water **Client Project #:** **PO#:**
Project #: **Date Submitted to Lab:** 5/7/99

- COLLECTION INFORMATION -

Date/Time/By: 5/5/99 8:51 AM

Test Group	EPA Method	Test	Result	Units	Analysis Date	Analyst	WS#
SI-MS	200.8	Silicon, Si	17.1	MG/L	5/17/99	KRG	14878

End of Report

Report Approved By: Deborah K. Johnson

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RECEIVED
MAY 24 1999
By

1776 MARION-WALDO RD. • P.O. BOX 436 • MARION, OH 43301-0436
PHONE 740-389-5991 • 1-800-873-2835 • FAX 740-389-1481

Pinnacle Laboratories, Inc. **Interlab Chain of Custody** Date: 5/6 Page: 1 of 1

Network Project Manager: Kimberly D. McNeill

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

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Metals (8) RCRA	RCRA TCLP METALS	Metals-13 PP List	Metals-TAL	Silica	TOX	TOC	Gen Chemistry		Oil and Grease	Volatile Organics GC/MS (8260)	BOD	COD	PESTICIDES/PCB (608/8080)	8270 BY GC/MS	PNA (8310)	8240 (TCLP 1311) ZHE	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	URANIUM	RADIUM 226+228	Gross Alpha/Beta	TO-14	NUMBER OF CONTAINERS
905012-01	5/5	0851	AQ	10990					X																			

PROJECT INFORMATION	SAMPLE RECEIPT	SAMPLES SENT TO:	RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
PROJECT #: 905012	Total Number of Containers	PENSACOLA - STL-FL	Signature: Francine Torino Time: 1700	Signature: Time:
PROJ. NAME: NMOCD	Chain of Custody Seals	PORTLAND - ESL-OR	Printed Name: Francine Torino Date: 5/6/99	Printed Name: Date:
QC LEVEL: (STD) IV	Received Intact?	STL - CT	Pinnacle Laboratories, Inc.	Company
QC REQUIRED: (MS) MSD BLANK	Received Good Cond./Cold	STL- NEW JERSEY	RECEIVED BY: 1.	RECEIVED BY: 2
TAT: (STANDARD) RUSH!!	LAB NUMBER:	N. CREEK	Signature: Time:	Signature: Time: 1500
DUE DATE: 5/20	COMMENTS:	BARRINGER	Printed Name: Date:	Printed Name: JCellar Date: 5/7/99
RUSH SURCHARGE: —		SEQUOIA	Company	Company Atel
CLIENT DISCOUNT: —		Atel-Marion X		
SPECIAL CERTIFICATION REQUIRED: YES (NO)				

Environmental Services Laboratory, Inc. E S L

17400 SW Upper Boones Ferry Road • Suite 270 • Portland, OR 97224 • (503) 670-8520

June 10, 1999

Kim McNeill
Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107
TEL: 505-344-3777
FAX (505) 344-4413

RE: 905012/NMOCD/Kress Jones Well Order No.: 9905030

Dear Kim McNeill,

Environmental Services Laboratory received 1 sample on 05/07/99 for the analyses presented in the following report.

The Samples were analyzed for the following tests:

- Alkalinity (Alkalinity)
- CHLORIDE (Chloride)
- CONDUCTANCE (E120.1)
- Fluoride (fluoride)
- ICP Metals (ICPMET)
- MERCURY (Mercury)
- Sulfate (Sulfate)
- TOTAL DISSOLVED SOLIDS (E160.1)

There were no problems with the analyses and all data for associated QC met EPA or laboratory specifications except where noted in the Case Narrative. Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety, without the written approval from the Laboratory.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Kimberly Hill
Project Manager
New Line

K.E. Hunter
Technical Review

ANALYTICAL SERVICES FOR THE ENVIRONMENT

Environmental Services Laboratory

Date: *10-Jun-99*

CLIENT:	Pinnacle Laboratories	**Client Sample ID:**	905012-01
Lab Order:	9905030	**Tag Number:**	
Project:	905012/NMOCD/Kress Jones Well	**Collection Date:**	05/05/99
Lab ID:	9905030-01A	**Matrix:**	AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ALKALINITY		**EPA 310.0**				Analyst: **kfl**
Alkalinity, Bicarbonate (As CaCO3)	170	5		mg/L CaCO3	1	05/11/99
Alkalinity, Carbonate (As CaCO3)	ND	5		mg/L CaCO3	1	05/11/99
Alkalinity, Total (As CaCO3)	170	5		mg/L CaCO3	1	05/11/99
CHLORIDE		**EPA 325.3**				Analyst: **kfl**
Chloride	130	5		mg/L	10	05/17/99
CONDUCTANCE		**EPA 120.1**				Analyst: **sld**
Specific Conductance	490	1		µmhos/cm	1	05/10/99
FLUORIDE		**EPA 340.2**				Analyst: **sld**
Fluoride	0.67	0.2		mg/L	1	05/11/99
SULFATE		**EPA 375.4**				Analyst: **sld**
Sulfate	39	12		mg/L	2.5	05/12/99
TOTAL DISSOLVED SOLIDS		**EPA 160.1**				Analyst: **sld**
Total Dissolved Solids (Residue, Filterable)	410	10		mg/L	1	05/11/99
MERCURY		**SW 7470 / EPA 245.**				Analyst: **btn**
Mercury	ND	0.0002		mg/L	1	05/14/99
ICP METALS		**SW 6010 / EPA 200.**				Analyst: **btn**
Sodium	53	4		mg/L	20	05/25/99

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Environmental Services Laboratory

Date: *10-Jun-99*

CLIENT:	Pinnacle Laboratories	**Client Sample ID:**	905012-01
Lab Order:	9905030	**Tag Number:**	
Project:	905012/NMOCD/Kress Jones Well	**Collection Date:**	05/05/99
Lab ID:	9905030-01A	**Matrix:**	AQUEOUS

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
ICP METALS		**SW 6010 / EPA 200.**				Analyst: **meb**
Aluminum	ND	0.05		mg/L	1	05/21/99
Antimony	ND	0.005		mg/L	1	05/21/99
Arsenic	0.0067	0.005		mg/L	1	05/21/99
Barium	0.081	0.005		mg/L	1	05/21/99
Beryllium	ND	0.002		mg/L	1	05/21/99
Boron	0.079	0.01		mg/L	1	05/21/99
Cadmium	ND	0.002		mg/L	1	05/21/99
Calcium	74	0.05		mg/L	1	05/21/99
Chromium	ND	0.005		mg/L	1	05/21/99
Cobalt	ND	0.005		mg/L	1	05/21/99
Copper	ND	0.005		mg/L	1	05/21/99
Iron	0.027	0.01		mg/L	1	05/21/99
Lead	ND	0.005		mg/L	1	05/21/99
Magnesium	12	0.05		mg/L	1	05/21/99
Manganese	ND	0.005		mg/L	1	05/21/99
Molybdenum	ND	0.005		mg/L	1	05/21/99
Nickel	ND	0.005		mg/L	1	05/21/99
Potassium	2.6	0.2		mg/L	1	05/21/99
Selenium	ND	0.005		mg/L	1	05/21/99
Silver	ND	0.005		mg/L	1	05/21/99
Thallium	ND	0.01		mg/L	1	05/21/99
Vanadium	0.029	0.005		mg/L	1	05/21/99
Zinc	0.0096	0.005		mg/L	1	05/21/99

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Method Blank

Sample ID: **MBlank** Batch ID: **01 ALK A-6/1/** Test Code: **Alkalinity** Units: **mg/L CaCO3** Analysis Date **04/19/99** Prep Date:
Client ID: **9905030** Run ID: **NO INST_990419A** SeqNo: **9643**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5									
Alkalinity, Carbonate (As CaCO3)	ND	5									
Alkalinity, Total (As CaCO3)	ND	5									

Sample ID: **MBlank** Batch ID: **01 ALK A-6/1/** Test Code: **Alkalinity** Units: **mg/L CaCO3** Analysis Date **05/25/99** Prep Date:
Client ID: **9905030** Run ID: **NO INST_990525A** SeqNo: **9907**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5									
Alkalinity, Carbonate (As CaCO3)	ND	5									
Alkalinity, Total (As CaCO3)	ND	5									

Sample ID: **MBlank** Batch ID: **01 ALK A-6/1/** Test Code: **Alkalinity** Units: **mg/L CaCO3** Analysis Date **05/03/99** Prep Date:
Client ID: **9905030** Run ID: **NO INST_990503B** SeqNo: **11150**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5									
Alkalinity, Carbonate (As CaCO3)	ND	5									
Alkalinity, Total (As CaCO3)	ND	5									

Sample ID: **MBlank** Batch ID: **01 ALK A-6/1/** Test Code: **Alkalinity** Units: **mg/L CaCO3** Analysis Date **05/10/99** Prep Date:
Client ID: **9905030** Run ID: **NO INST_990510C** SeqNo: **11173**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5									
Alkalinity, Carbonate (As CaCO3)	ND	5									
Alkalinity, Total (As CaCO3)	ND	5									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Method Blank

Sample ID: MBlank	Batch ID: 01 ALK A-6/1/	Test Code: Alkalinity	Units: mg/L CaCO3	Analysis Date 05/11/99	Prep Date:
Client ID:	9905030	Run ID: NO INST_990511C		SeqNo: 11182	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5									
Alkalinity, Carbonate (As CaCO3)	ND	5									
Alkalinity, Total (As CaCO3)	ND	5									

Sample ID: MBlank	Batch ID: 01 ALK A-6/1/	Test Code: Alkalinity	Units: mg/L CaCO3	Analysis Date 05/14/99	Prep Date:
Client ID:	9905030	Run ID: NO INST_990514B		SeqNo: 11226	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	ND	5									
Alkalinity, Carbonate (As CaCO3)	ND	5									
Alkalinity, Total (As CaCO3)	ND	5									

Sample ID: MBlank	Batch ID: 01 CL A-6/1/9	Test Code: Chloride	Units: mg/L	Analysis Date 05/26/99	Prep Date:
Client ID:	9905030	Run ID: NO INST_990526A		SeqNo: 9937	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.5									

Sample ID: MBlank	Batch ID: 01 CL A-6/1/9	Test Code: Chloride	Units: mg/L	Analysis Date 05/07/99	Prep Date:
Client ID:	9905030	Run ID: NO INST_990507B		SeqNo: 11086	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.5									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Method Blank

Sample ID: MBlank	Batch ID: 01 CL A-6/1/9	Test Code: Chloride	Units: mg/L	Analysis Date 05/17/99	Prep Date:
Client ID:	9905030	Run ID: NO INST_990517C		SeqNo: 11134	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.5									

Sample ID: MBlank	Batch ID: 01 COND-06/	Test Code: E120.1	Units: µmhos/cm	Analysis Date 04/21/99	Prep Date:
Client ID:	9905030	Run ID: NO INST_990421A		SeqNo: 10312	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	ND	1									

Sample ID: MBlank	Batch ID: 01 COND-06/	Test Code: E120.1	Units: µmhos/cm	Analysis Date 05/10/99	Prep Date:
Client ID:	9905030	Run ID: NO INST_990510A		SeqNo: 10347	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	ND	1									

Sample ID: MBlank	Batch ID: 01 COND-06/	Test Code: E120.1	Units: µmhos/cm	Analysis Date 05/20/99	Prep Date:
Client ID:	9905030	Run ID: NO INST_990520A		SeqNo: 10364	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	ND	1									

Sample ID: MBlank	Batch ID: 01 COND-06/	Test Code: E120.1	Units: µmhos/cm	Analysis Date 05/25/99	Prep Date:
Client ID:	9905030	Run ID: NO INST_990525E		SeqNo: 10384	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	ND	1									

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Method Blank

Sample ID: MBlank | Batch ID: 01 FL A-06/0 | Test Code: fluoride | Units: mg/L | Analysis Date 04/28/99 | Prep Date:
Client ID: 9905030 | Run ID: NO INST_990428A | SeqNo: 10089

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.2									

Sample ID: MBlank | Batch ID: 01 FL A-06/0 | Test Code: fluoride | Units: mg/L | Analysis Date 05/11/99 | Prep Date:
Client ID: 9905030 | Run ID: NO INST_990511A | SeqNo: 10160

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.2									

Sample ID: MBlank | Batch ID: 01 FL A-06/0 | Test Code: fluoride | Units: mg/L | Analysis Date 05/19/99 | Prep Date:
Client ID: 9905030 | Run ID: NO INST_990519A | SeqNo: 10252

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.2									

Sample ID: MBlank | Batch ID: 01 SULFATE | Test Code: Sulfate | Units: mg/L | Analysis Date 05/21/99 | Prep Date:
Client ID: 9905030 | Run ID: HIT MAN_990521B | SeqNo: 9661

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	5									

Sample ID: MBlank | Batch ID: 01 SULFATE | Test Code: Sulfate | Units: mg/L | Analysis Date 05/27/99 | Prep Date:
Client ID: 9905030 | Run ID: HIT MAN_990527A | SeqNo: 9765

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	5									

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Method Blank

Sample ID: MBlank	Batch ID: 01 SULFATE	Test Code: Sulfate	Units: mg/L	Analysis Date 04/29/99	Prep Date:
Client ID: 9905030	Run ID: HIT MAN_990429A			SeqNo: 10621	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	5									

Sample ID: MBlank	Batch ID: 01 SULFATE	Test Code: Sulfate	Units: mg/L	Analysis Date 05/12/99	Prep Date:
Client ID: 9905030	Run ID: HIT MAN_990512B			SeqNo: 10869	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	5									

Sample ID: MBlank	Batch ID: 01 SULFATE	Test Code: Sulfate	Units: mg/L	Analysis Date 05/20/99	Prep Date:
Client ID: 9905030	Run ID: HIT MAN_990520A			SeqNo: 10997	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	5									

Sample ID: MBlank	Batch ID: 01 TDS-6/1/99	Test Code: E160.1	Units: mg/L	Analysis Date 05/25/99	Prep Date:
Client ID: 9905030	Run ID: NO INST_990525C			SeqNo: 10233	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	ND	10									

Sample ID: MBlank	Batch ID: 01 TDS-6/1/99	Test Code: E160.1	Units: mg/L	Analysis Date 05/26/99	Prep Date:
Client ID: 9905030	Run ID: NO INST_990526C			SeqNo: 10284	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	ND	10									

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Method Blank

Sample ID: MBlank	Batch ID: 01 TDS-6/1/99	Test Code: E160.1	Units: mg/L	Analysis Date 04/28/99	Prep Date:
Client ID:	9905030	Run ID: NO INST_990428C		SeqNo: 11254	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	ND	10									

Sample ID: MBlank	Batch ID: 01 TDS-6/1/99	Test Code: E160.1	Units: mg/L	Analysis Date 05/05/99	Prep Date:
Client ID:	9905030	Run ID: NO INST_990505B		SeqNo: 11272	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	ND	10									

Sample ID: MBlank	Batch ID: 01 TDS-6/1/99	Test Code: E160.1	Units: mg/L	Analysis Date 05/11/99	Prep Date:
Client ID:	9905030	Run ID: NO INST_990511D		SeqNo: 11287	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	ND	10									

Sample ID: MBlank	Batch ID: 01 TDS-6/1/99	Test Code: E160.1	Units: mg/L	Analysis Date 05/18/99	Prep Date:
Client ID:	9905030	Run ID: NO INST_990518B		SeqNo: 11307	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	ND	10									

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Method Blank

Sample ID: MB-447 Batch ID: 447 Test Code: Mercury Units: mg/L Analysis Date 05/14/99 Prep Date: 05/13/99
Client ID: 9905030 Run ID: MERC_990514A SeqNo: 13303

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.0002									
Mercury, 200 Series	ND	0.0002									
Mercury, 200 Series Diss	ND	0.0002									
Mercury, Diss	ND	0.0002									
Mercury, TCLP	ND	0.0002									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Method Blank

Sample ID: **MB-449** Batch ID: **449** Test Code: **ICPMET** Units: **mg/L** Analysis Date **05/21/99** Prep Date: **05/13/99**
Client ID: **9905030** Run ID: **ICP_990520A** SeqNo: **11376**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.05									
Antimony	ND	0.005									
Arsenic, 200.7	ND	0.005									
Barium	ND	0.005									
Beryllium	ND	0.002									
Boron	ND	0.01									
Cadmium, 200.7	ND	0.002									
Calcium	ND	0.05									
Chromium, 200.7	ND	0.005									
Cobalt	ND	0.005									
Copper, 200.7	ND	0.005									
Hardness	ND	0.33									
Iron	ND	0.01									
Lead, 200.7	ND	0.005									
Magnesium	ND	0.05									
Manganese	ND	0.005									
Molybdenum	ND	0.005									
Nickel, 200.7	ND	0.005									
Potassium	ND	0.2									
Selenium	ND	0.005									
Silver	ND	0.005									
Sodium	ND	0.2									
Thallium	ND	0.01									
Vanadium	ND	0.005									
Zinc, 200.7	ND	0.005									

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT

Sample Duplicate

Sample ID: **9904055-08A DUP** Batch ID: **01 ALK A-6/1/** Test Code: **Alkalinity** Units: **mg/L CaCO3** Analysis Date **04/19/99** Prep Date:
Client ID: **9905030** Run ID: **NO INST_990419A** SeqNo: **9656**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	150	5	0	0	0.0%	0	0	150	0.0%	20	
Alkalinity, Carbonate (As CaCO3)	ND	5	0	0	0.0%	0	0	0	0.0%	20	
Alkalinity, Total (As CaCO3)	150	5	0	0	0.0%	0	0	150	0.0%	20	

Sample ID: **9904114-04A DUP** Batch ID: **01 ALK A-6/1/** Test Code: **Alkalinity** Units: **mg/L CaCO3** Analysis Date **05/03/99** Prep Date:
Client ID: **9905030** Run ID: **NO INST_990503B** SeqNo: **11153**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	100	5	0	0	0.0%	0	0	95	5.1%	20	
Alkalinity, Carbonate (As CaCO3)	ND	5	0	0	0.0%	0	0	0	0.0%	20	
Alkalinity, Total (As CaCO3)	100	5	0	0	0.0%	0	0	95	5.1%	20	

Sample ID: **9905011-03A DUP** Batch ID: **01 ALK A-6/1/** Test Code: **Alkalinity** Units: **mg/L CaCO3** Analysis Date **05/10/99** Prep Date:
Client ID: **9905030** Run ID: **NO INST_990510C** SeqNo: **11179**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	200	5	0	0	0.0%	0	0	210	4.9%	20	
Alkalinity, Carbonate (As CaCO3)	ND	5	0	0	0.0%	0	0	0	0.0%	20	
Alkalinity, Total (As CaCO3)	200	5	0	0	0.0%	0	0	210	4.9%	20	

Sample ID: **9905029-01A DUP** Batch ID: **01 ALK A-6/1/** Test Code: **Alkalinity** Units: **mg/L CaCO3** Analysis Date **05/11/99** Prep Date:
Client ID: **9905030** Run ID: **NO INST_990511C** SeqNo: **11187**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	170	5	0	0	0.0%	0	0	170	0.0%	20	
Alkalinity, Carbonate (As CaCO3)	ND	5	0	0	0.0%	0	0	0	0.0%	20	
Alkalinity, Total (As CaCO3)	170	5	0	0	0.0%	0	0	170	0.0%	20	

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Sample Duplicate

Sample ID: 9905053-02A DUP Batch ID: 01 ALK A-6/1/ Test Code: Alkalinity Units: mg/L CaCO3 Analysis Date 05/14/99 Prep Date:
Client ID: 9905030 Run ID: NO INST_990514B SeqNo: 11231

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	130	5	0	0	0.0%	0	0	120	8.0%	20	
Alkalinity, Carbonate (As CaCO3)	ND	5	0	0	0.0%	0	0	0	0.0%	20	
Alkalinity, Total (As CaCO3)	130	5	0	0	0.0%	0	0	120	8.0%	20	

Sample ID: 9905087-01A DUP Batch ID: 01 ALK A-6/1/ Test Code: Alkalinity Units: mg/L CaCO3 Analysis Date 05/25/99 Prep Date:
Client ID: 9905030 Run ID: NO INST_990525A SeqNo: 9910

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	410	5	0	0	0.0%	0	0	450	9.3%	20	

Sample ID: 9905120-01A DUP Batch ID: 01 ALK A-6/1/ Test Code: Alkalinity Units: mg/L CaCO3 Analysis Date 05/25/99 Prep Date:
Client ID: 9905030 Run ID: NO INST_990525A SeqNo: 9928

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	220	5	0	0	0.0%	0	0	210	4.7%	20	
Alkalinity, Carbonate (As CaCO3)	ND	5	0	0	0.0%	0	0	0	0.0%	20	
Alkalinity, Total (As CaCO3)	220	5	0	0	0.0%	0	0	210	4.7%	20	

Sample ID: 9904166-01A DUP Batch ID: 01 CL A-6/1/9 Test Code: Chloride Units: mg/L Analysis Date 05/07/99 Prep Date:
Client ID: 9905030 Run ID: NO INST_990507B SeqNo: 11108

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	38	5	0	0	0.0%	0	0	40	5.1%	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Sample Duplicate

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sample ID: 9904166-02A DUP Batch ID: **01 CL A-6/1/9** Test Code: **Chloride** Units: **mg/L** Analysis Date **05/07/99** Prep Date:											
Client ID: **9905030** Run ID: **NO INST_990507B** SeqNo: **11112**											
Chloride	32	5	0	0	0.0%	0	0	35	9.0%	20	
Sample ID: 9905030-01A DUP Batch ID: **01 CL A-6/1/9** Test Code: **Chloride** Units: **mg/L** Analysis Date **05/17/99** Prep Date:											
Client ID: **905012-01** **9905030** Run ID: **NO INST_990517C** SeqNo: **11137**											
Chloride	140	5	0	0	0.0%	0	0	130	7.4%	20	
Sample ID: 9905097-02A DUP Batch ID: **01 CL A-6/1/9** Test Code: **Chloride** Units: **mg/L** Analysis Date **05/26/99** Prep Date:											
Client ID: **9905030** Run ID: **NO INST_990526A** SeqNo: **9944**											
Chloride, Diss	5	0.5	0	0	0.0%	0	0	5.25	4.9%	20	
Sample ID: 9905133-05A DUP Batch ID: **01 CL A-6/1/9** Test Code: **Chloride** Units: **mg/L** Analysis Date **05/26/99** Prep Date:											
Client ID: **9905030** Run ID: **NO INST_990526A** SeqNo: **9959**											
Chloride, Diss	17.5	5	0	0	0.0%	0	0	17.5	0.0%	20	
Sample ID: 9904085-01A DUP Batch ID: **01 COND-06/** Test Code: **E120.1** Units: **µmhos/cm** Analysis Date **04/21/99** Prep Date:											
Client ID: **9905030** Run ID: **NO INST_990421A** SeqNo: **10315**											
Specific Conductance	2280	1	0	0	0.0%	0	0	2340	2.6%	20	

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Sample Duplicate

Sample ID: **9904146-01A DUP** Batch ID: **01 COND-06/** Test Code: **E120.1** Units: **µmhos/cm** Analysis Date **05/10/99** Prep Date:
Client ID: **9905030** Run ID: **NO INST_990510A** SeqNo: **10350**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	512	1	0	0	0.0%	0	0	517	1.0%	20	

Sample ID: **9905047-01A DUP** Batch ID: **01 COND-06/** Test Code: **E120.1** Units: **µmhos/cm** Analysis Date **05/20/99** Prep Date:
Client ID: **9905030** Run ID: **NO INST_990520A** SeqNo: **10370**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	170	1	0	0	0.0%	0	0	171	0.6%	20	

Sample ID: **9905101-01A DUP** Batch ID: **01 COND-06/** Test Code: **E120.1** Units: **µmhos/cm** Analysis Date **05/25/99** Prep Date:
Client ID: **9905030** Run ID: **NO INST_990525E** SeqNo: **10395**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	860	1	0	0	0.0%	0	0	830	3.6%	20	

Sample ID: **9904093-02A DUP** Batch ID: **01 FL A-06/0** Test Code: **fluoride** Units: **mg/L** Analysis Date **04/28/99** Prep Date:
Client ID: **9905030** Run ID: **NO INST_990428A** SeqNo: **10101**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	.32	0.2	0	0	0.0%	0	0	0.35	9.0%	20	

Sample ID: **9904140-04A DUP** Batch ID: **01 FL A-06/0** Test Code: **fluoride** Units: **mg/L** Analysis Date **04/28/99** Prep Date:
Client ID: **9905030** Run ID: **NO INST_990428A** SeqNo: **10096**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	.24	0.2	0	0	0.0%	0	0	0.25	4.1%	20	

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Sample Duplicate

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sample ID: 9905026-01A DUP Batch ID: 01 FL A-06/0 Test Code: fluoride Units: mg/L Analysis Date 05/11/99 Prep Date:											
Client ID: 9905030 Run ID: NO INST_990511A SeqNo: 10167											
Fluoride	ND	0.2	0	0	0.0%	0	0	0	0.0%	20	
Sample ID: 9905053-02A DUP Batch ID: 01 FL A-06/0 Test Code: fluoride Units: mg/L Analysis Date 05/19/99 Prep Date:											
Client ID: 9905030 Run ID: NO INST_990519A SeqNo: 10255											
Fluoride	.96	0.2	0	0	0.0%	0	0	0.96	0.0%	20	
Sample ID: 9904111-01A DUP Batch ID: 01 SULFATE Test Code: Sulfate Units: mg/L Analysis Date 04/29/99 Prep Date:											
Client ID: 9905030 Run ID: HIT MAN_990429A SeqNo: 10624											
Sulfate	59.02	12	0	0	0.0%	80	120	56.18	4.9%	20	
Sample ID: 9904157-03A DUP Batch ID: 01 SULFATE Test Code: Sulfate Units: mg/L Analysis Date 04/29/99 Prep Date:											
Client ID: 9905030 Run ID: HIT MAN_990429A SeqNo: 10662											
Sulfate	233.1	62	0	0	0.0%	80	120	203.9	13.4%	20	
Sulfate, Diss	ND	62	0	0	0.0%	80	120	0	0.0%	20	
Sample ID: 9904166-01A DUP Batch ID: 01 SULFATE Test Code: Sulfate Units: mg/L Analysis Date 05/12/99 Prep Date:											
Client ID: 9905030 Run ID: HIT MAN_990512B SeqNo: 10872											
Sulfate	126.9	62	0	0	0.0%	80	120	130.2	2.6%	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Sample Duplicate

Sample ID: **9905045-01A DUP** Batch ID: **01 SULFATE** Test Code: **Sulfate** Units: **mg/L** Analysis Date **05/20/99** Prep Date:
Client ID: **9905030** Run ID: **HIT MAN_990520A** SeqNo: **11008**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	134.4	25	0	0	0.0%	80	120	121	10.5%	20	

Sample ID: **9905078-01A DUP** Batch ID: **01 SULFATE** Test Code: **Sulfate** Units: **mg/L** Analysis Date **05/21/99** Prep Date:
Client ID: **9905030** Run ID: **HIT MAN_990521B** SeqNo: **9668**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	574.8	120	0	0	0.0%	80	120	494	15.1%	20	

Sample ID: **9905097-02A DUP** Batch ID: **01 SULFATE** Test Code: **Sulfate** Units: **mg/L** Analysis Date **05/27/99** Prep Date:
Client ID: **9905030** Run ID: **HIT MAN_990527A** SeqNo: **9769**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate, Diss	13	5	0	0	0.0%	80	120	13	0.0%	20	

Sample ID: **9904140-04A DUP** Batch ID: **01 TDS-6/1/99** Test Code: **E160.1** Units: **mg/L** Analysis Date **04/28/99** Prep Date:
Client ID: **9905030** Run ID: **NO INST_990428C** SeqNo: **11267**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	510	10	0	0	0.0%	0	0	480	6.1%	20	

Sample ID: **9905011-03A DUP** Batch ID: **01 TDS-6/1/99** Test Code: **E160.1** Units: **mg/L** Analysis Date **05/05/99** Prep Date:
Client ID: **9905030** Run ID: **NO INST_990505B** SeqNo: **11286**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	470	10	0	0	0.0%	0	0	470	0.0%	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Sample Duplicate

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sample ID: 9905026-01A DUP Batch ID: 01 TDS-6/1/99 Test Code: E160.1 Units: mg/L Analysis Date 05/11/99 Prep Date:											
Client ID: 9905030 Run ID: NO INST_990511D SeqNo: 11290											
Total Dissolved Solids (Residue, Filtera	430	10	0	0	0.0%	0	0	420	2.4%	20	
Sample ID: 9905053-01A DUP Batch ID: 01 TDS-6/1/99 Test Code: E160.1 Units: mg/L Analysis Date 05/18/99 Prep Date:											
Client ID: 9905030 Run ID: NO INST_990518B SeqNo: 11310											
Total Dissolved Solids (Residue, Filtera	440	10	0	0	0.0%	0	0	420	4.7%	20	
Sample ID: 9905098-01A DUP Batch ID: 01 TDS-6/1/99 Test Code: E160.1 Units: mg/L Analysis Date 05/25/99 Prep Date:											
Client ID: 9905030 Run ID: NO INST_990525C SeqNo: 10238											
Total Dissolved Solids (Residue, Filtera	15	10	0	0	0.0%	0	0	34	77.6%	20	R,T
Sample ID: 9905133-03A DUP Batch ID: 01 TDS-6/1/99 Test Code: E160.1 Units: mg/L Analysis Date 05/26/99 Prep Date:											
Client ID: 9905030 Run ID: NO INST_990526C SeqNo: 10287											
Total Dissolved Solids (Residue, Filtera	110	10	0	0	0.0%	0	0	130	16.7%	20	

Qualifiers: ND - Not Detected at the Reporting Limit
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Sample Duplicate

Sample ID: **9905035-01A DUP** Batch ID: **447** Test Code: **Mercury** Units: **mg/L** Analysis Date **05/14/99** Prep Date: **05/13/99**
Client ID: **9905030** Run ID: **MERC_990514A** SeqNo: **13306**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.0002	0	0	0.0%	0	0	0	0.0%	20	
Mercury, 200 Series	ND	0.0002	0	0	0.0%	0	0	0	0.0%	20	
Mercury, 200 Series Diss	ND	0.0002	0	0	0.0%	0	0	0	0.0%	20	
Mercury, Diss	ND	0.0002	0	0	0.0%	0	0	0	0.0%	20	
Mercury, TCLP	ND	0.0002	0	0	0.0%	0	0	0	0.0%	20	

Qualifiers: ND - Not Detected at the Reporting Limit
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R - RPD outside accepted recovery limits
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CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Sample Duplicate

Sample ID: **9905026-01B DUP** Batch ID: **449** Test Code: **ICPMET** Units: mg/L Analysis Date **05/21/99** Prep Date: **05/13/99**
Client ID: **9905030** Run ID: **ICP_990520A** SeqNo: **11336**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.05	0	0	0.0%	0	0	0	0.0%	20	
Antimony	ND	0.005	0	0	0.0%	0	0	0	0.0%	20	
Arsenic, 200.7	ND	0.005	0	0	0.0%	0	0	0	0.0%	20	
Barium	.1034	0.005	0	0	0.0%	0	0	0.1037	0.3%	20	
Beryllium	ND	0.002	0	0	0.0%	0	0	0	0.0%	20	
Boron	.1068	0.01	0	0	0.0%	0	0	0.1071	0.3%	20	
Cadmium, 200.7	ND	0.002	0	0	0.0%	0	0	0	0.0%	20	
Calcium	77.61	0.05	0	0	0.0%	0	0	77.94	0.4%	20	
Chromium, 200.7	ND	0.005	0	0	0.0%	0	0	0	0.0%	20	
Cobalt	ND	0.005	0	0	0.0%	0	0	0	0.0%	20	
Copper, 200.7	.00668	0.005	0	0	0.0%	0	0	0.006827	2.2%	20	
Hardness	252.5	0.33	0	0	0.0%	0	0	253.5	0.4%	20	
Iron	.02216	0.01	0	0	0.0%	0	0	0.02331	5.1%	20	
Lead, 200.7	ND	0.005	0	0	0.0%	0	0	0	0.0%	20	
Magnesium	14.26	0.05	0	0	0.0%	0	0	14.3	0.3%	20	
Manganese	ND	0.005	0	0	0.0%	0	0	0	0.0%	20	
Molybdenum	ND	0.005	0	0	0.0%	0	0	0	0.0%	20	
Nickel, 200.7	.01049	0.005	0	0	0.0%	0	0	0.01029	1.9%	20	
Potassium	9.197	0.2	0	0	0.0%	0	0	9.156	0.4%	20	
Selenium	ND	0.005	0	0	0.0%	0	0	0	0.0%	20	
Silver	ND	0.005	0	0	0.0%	0	0	0	0.0%	20	
Sodium	22.48	0.2	0	0	0.0%	0	0	22.53	0.2%	20	
Thallium	ND	0.01	0	0	0.0%	0	0	0	0.0%	20	
Vanadium	.006524	0.005	0	0	0.0%	0	0	0.006696	2.6%	20	
Zinc, 200.7	ND	0.005	0	0	0.0%	0	0	0.006567	0.0%	20	

Qualifiers: ND - Not Detected at the Reporting Limit
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT

Sample Matrix Spike

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sample ID: 9904166-01A MS Batch ID: **01 CL A-6/1/9** Test Code: **Chloride** Units: **mg/L** Analysis Date **05/07/99** Prep Date:											
Client ID: **9905030** Run ID: **NO INST_990507B** SeqNo: **11109**											
Chloride	82	5	50	40	84.0%	75	125	0			
Sample ID: 9904166-01A MSD Batch ID: **01 CL A-6/1/9** Test Code: **Chloride** Units: **mg/L** Analysis Date **05/07/99** Prep Date:											
Client ID: **9905030** Run ID: **NO INST_990507B** SeqNo: **11110**											
Chloride	85	5	50	40	90.0%	75	125	82	3.6%	20	
Sample ID: 9904166-02A MS Batch ID: **01 CL A-6/1/9** Test Code: **Chloride** Units: **mg/L** Analysis Date **05/07/99** Prep Date:											
Client ID: **9905030** Run ID: **NO INST_990507B** SeqNo: **11113**											
Chloride	90	5	50	35	110.0%	75	125	0			
Sample ID: 9904166-02A MSD Batch ID: **01 CL A-6/1/9** Test Code: **Chloride** Units: **mg/L** Analysis Date **05/07/99** Prep Date:											
Client ID: **9905030** Run ID: **NO INST_990507B** SeqNo: **11114**											
Chloride	80	5	50	35	90.0%	75	125	90	11.8%	20	
Sample ID: 9905030-01A MS Batch ID: **01 CL A-6/1/9** Test Code: **Chloride** Units: **mg/L** Analysis Date **05/17/99** Prep Date:											
Client ID: **905012-01** Run ID: **9905030** **NO INST_990517C** SeqNo: **11138**											
Chloride	240	5	100	130	110.0%	75	125	0			

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Sample Matrix Spike Duplicate

Sample ID: **9905030-01A MSD** Batch ID: **01 CL A-6/1/9** Test Code: **Chloride** Units: **mg/L** Analysis Date **05/17/99** Prep Date:
Client ID: **905012-01** **9905030** Run ID: **NO INST_990517C** SeqNo: **11139**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	230	5	100	130	100.0%	75	125	240	4.3%	20	

Sample ID: **9905097-02A MS** Batch ID: **01 CL A-6/1/9** Test Code: **Chloride** Units: **mg/L** Analysis Date **05/26/99** Prep Date:
Client ID: **9905030** Run ID: **NO INST_990526A** SeqNo: **9945**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride, Diss	16	0.5	10	5.25	107.5%	75	125	0			

Sample ID: **9905097-02A MSD** Batch ID: **01 CL A-6/1/9** Test Code: **Chloride** Units: **mg/L** Analysis Date **05/26/99** Prep Date:
Client ID: **9905030** Run ID: **NO INST_990526A** SeqNo: **9946**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride, Diss	15	0.5	10	5.25	97.5%	75	125	16	6.5%	20	

Sample ID: **9905133-05A MS** Batch ID: **01 CL A-6/1/9** Test Code: **Chloride** Units: **mg/L** Analysis Date **05/26/99** Prep Date:
Client ID: **9905030** Run ID: **NO INST_990526A** SeqNo: **9960**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride, Diss	122.5	5	100	17.5	105.0%	75	125	0			

Sample ID: **9905133-05A MSD** Batch ID: **01 CL A-6/1/9** Test Code: **Chloride** Units: **mg/L** Analysis Date **05/26/99** Prep Date:
Client ID: **9905030** Run ID: **NO INST_990526A** SeqNo: **9961**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride, Diss	117.5	5	100	17.5	100.0%	75	125	122.5	4.2%	20	

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Sample Matrix Spike

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sample ID: 9904093-02A MS Batch ID: **01 FL A-06/0** Test Code: **fluoride** Units: **mg/L** Analysis Date **04/28/99** Prep Date:											
Client ID: **9905030** Run ID: **NO INST_990428A** SeqNo: **10102**											
Fluoride	6.5	0.2	6	0.35	102.5%	75	125	0			
Sample ID: 9904093-02A MSD Batch ID: **01 FL A-06/0** Test Code: **fluoride** Units: **mg/L** Analysis Date **04/28/99** Prep Date:											
Client ID: **9905030** Run ID: **NO INST_990428A** SeqNo: **10103**											
Fluoride	6.3	0.2	6	0.35	99.2%	75	125	6.5	3.1%	20	
Sample ID: 9904140-04A MS Batch ID: **01 FL A-06/0** Test Code: **fluoride** Units: **mg/L** Analysis Date **04/28/99** Prep Date:											
Client ID: **9905030** Run ID: **NO INST_990428A** SeqNo: **10097**											
Fluoride	5.9	0.2	6	0.25	94.2%	75	125	0			
Sample ID: 9904140-04A MSD Batch ID: **01 FL A-06/0** Test Code: **fluoride** Units: **mg/L** Analysis Date **04/28/99** Prep Date:											
Client ID: **9905030** Run ID: **NO INST_990428A** SeqNo: **10098**											
Fluoride	6.1	0.2	6	0.25	97.5%	75	125	5.9	3.3%	20	
Sample ID: 9905026-01A MS Batch ID: **01 FL A-06/0** Test Code: **fluoride** Units: **mg/L** Analysis Date **05/11/99** Prep Date:											
Client ID: **9905030** Run ID: **NO INST_990511A** SeqNo: **10168**											
Fluoride	6.5	0.2	7	0	92.9%	75	125	0			

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Sample Matrix Spike Duplicate

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sample ID: 9905026-01A MSD Batch ID: **01 FL A-06/0** Test Code: **fluoride** Units: **mg/L** Analysis Date **05/11/99** Prep Date:											
Client ID: **9905030** Run ID: **NO INST_990511A** SeqNo: **10169**											
Fluoride	6.6	0.2	7	0	94.3%	75	125	6.5	1.5%	20	
Sample ID: 9905053-02A MS Batch ID: **01 FL A-06/0** Test Code: **fluoride** Units: **mg/L** Analysis Date **05/19/99** Prep Date:											
Client ID: **9905030** Run ID: **NO INST_990519A** SeqNo: **10256**											
Fluoride	9.3	0.2	8	0.96	104.3%	75	125	0			
Sample ID: 9905053-02A MSD Batch ID: **01 FL A-06/0** Test Code: **fluoride** Units: **mg/L** Analysis Date **05/19/99** Prep Date:											
Client ID: **9905030** Run ID: **NO INST_990519A** SeqNo: **10257**											
Fluoride	9.3	0.2	8	0.96	104.3%	75	125	9.3	0.0%	20	
Sample ID: 9904111-01A MS Batch ID: **01 SULFATE** Test Code: **Sulfate** Units: **mg/L** Analysis Date **04/29/99** Prep Date:											
Client ID: **9905030** Run ID: **HIT MAN_990429A** SeqNo: **10625**											
Sulfate	96.15	25	50	56.18	80.0%	75	125	0			
Sample ID: 9904111-01A MSD Batch ID: **01 SULFATE** Test Code: **Sulfate** Units: **mg/L** Analysis Date **04/29/99** Prep Date:											
Client ID: **9905030** Run ID: **HIT MAN_990429A** SeqNo: **10626**											
Sulfate	96.15	25	50	56.18	80.0%	75	125	96.15	0.0%	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: 9904157-03A MS	Batch ID: 01 SULFATE	Test Code: Sulfate	Units: mg/L	Analysis Date 04/29/99	Prep Date:
Client ID:	9905030	Run ID: HIT MAN_990429A		SeqNo: 10663	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: 9904157-03A MSD	Batch ID: 01 SULFATE	Test Code: Sulfate	Units: mg/L	Analysis Date 04/29/99	Prep Date:
Client ID:	9905030	Run ID: HIT MAN_990429A		SeqNo: 10664	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: 9904166-01A MS	Batch ID: 01 SULFATE	Test Code: Sulfate	Units: mg/L	Analysis Date 05/12/99	Prep Date:
Client ID:	9905030	Run ID: HIT MAN_990512B		SeqNo: 10873	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1064	500	800	130.2	116.7%	75	125	0			

Sample ID: 9904166-01A MSD	Batch ID: 01 SULFATE	Test Code: Sulfate	Units: mg/L	Analysis Date 05/12/99	Prep Date:
Client ID:	9905030	Run ID: HIT MAN_990512B		SeqNo: 10874	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1063	500	800	130.2	116.6%	75	125	1064	0.1%	20	

Sample ID: 9905045-01A MS	Batch ID: 01 SULFATE	Test Code: Sulfate	Units: mg/L	Analysis Date 05/20/99	Prep Date:
Client ID:	9905030	Run ID: HIT MAN_990520A		SeqNo: 11010	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	98.85	42	66	121	-33.6%	75	125	0			S,H

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Sample Matrix Spike Duplicate

Sample ID: **9905045-01A MSD** Batch ID: **01 SULFATE** Test Code: **Sulfate** Units: **mg/L** Analysis Date **05/20/99** Prep Date:
Client ID: **9905030** Run ID: **HIT MAN_990520A** SeqNo: **11012**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	99.02	42	66	121	-33.3%	75	125	98.85	0.2%	20	S,H

Sample ID: **9905078-01A MS** Batch ID: **01 SULFATE** Test Code: **Sulfate** Units: **mg/L** Analysis Date **05/21/99** Prep Date:
Client ID: **9905030** Run ID: **HIT MAN_990521B** SeqNo: **9669**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	839.8	120	300	494	115.3%	75	125	0			

Sample ID: **9905078-01A MSD** Batch ID: **01 SULFATE** Test Code: **Sulfate** Units: **mg/L** Analysis Date **05/21/99** Prep Date:
Client ID: **9905030** Run ID: **HIT MAN_990521B** SeqNo: **9670**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	803	120	300	494	103.0%	75	125	839.8	4.5%	20	

Sample ID: **9905097-02A MS** Batch ID: **01 SULFATE** Test Code: **Sulfate** Units: **mg/L** Analysis Date **05/27/99** Prep Date:
Client ID: **9905030** Run ID: **HIT MAN_990527A** SeqNo: **9770**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate, Diss	20.2	5	8	13	90.0%	75	125	0			

Sample ID: **9905097-02A MSD** Batch ID: **01 SULFATE** Test Code: **Sulfate** Units: **mg/L** Analysis Date **05/27/99** Prep Date:
Client ID: **9905030** Run ID: **HIT MAN_990527A** SeqNo: **9771**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate, Diss	20.3	5	8	13	91.3%	75	125	20.2	0.5%	20	

Qualifiers:
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **9905035-01A MS** Batch ID: **447** Test Code: **Mercury** Units: **mg/L** Analysis Date **05/14/99** Prep Date: **05/13/99**
Client ID: **9905030** Run ID: **MERC_990514A** SeqNo: **13307**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	.00181	0.0002	0.002	0	90.5%	75	125	0			
Mercury, 200 Series	ND	0.0002	0.002	0	0.0%	75	125	0			S
Mercury, 200 Series Diss	ND	0.0002	0.002	0	0.0%	75	125	0			S
Mercury, Diss	ND	0.0002	0.002	0	0.0%	75	125	0			S
Mercury, TCLP	ND	0.0002	0.002	0	0.0%	75	125	0			S

Sample ID: **9905035-01A MSD** Batch ID: **447** Test Code: **Mercury** Units: **mg/L** Analysis Date **05/14/99** Prep Date: **05/13/99**
Client ID: **9905030** Run ID: **MERC_990514A** SeqNo: **13308**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	.00173	0.0002	0.002	0	86.5%	75	125	0.00181	4.5%	20	
Mercury, 200 Series	ND	0.0002	0.002	0	0.0%	75	125	0	0.0%	20	S
Mercury, 200 Series Diss	ND	0.0002	0.002	0	0.0%	75	125	0	0.0%	20	S
Mercury, Diss	ND	0.0002	0.002	0	0.0%	75	125	0	0.0%	20	S
Mercury, TCLP	ND	0.0002	0.002	0	0.0%	75	125	0	0.0%	20	S

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Sample Matrix Spike

Sample ID: **9905026-01B MS** Batch ID: **449** Test Code: **ICPMET** Units: **mg/L** Analysis Date **05/21/99** Prep Date: **05/13/99**
Client ID: **9905030** Run ID: **ICP_990520A** SeqNo: **11337**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.862	0.05	5	0	97.2%	80	120	0			
Antimony	.5369	0.005	0.5	0	107.4%	80	120	0			
Arsenic, 200.7	.5151	0.005	0.5	0	103.0%	90	110	0			
Barium	.571	0.005	0.5	0.1037	93.5%	80	120	0			
Beryllium	.5262	0.002	0.5	0	105.2%	80	120	0			
Boron	.5873	0.01	0.5	0.1071	96.0%	80	120	0			
Cadmium, 200.7	.4864	0.002	0.5	0	97.3%	90	110	0			
Calcium	83.52	0.05	5	77.94	111.7%	80	120	0			
Chromium, 200.7	.4965	0.005	0.5	0	99.3%	90	110	0			
Cobalt	.4669	0.005	0.5	0	93.4%	80	120	0			
Copper, 200.7	.4941	0.005	0.5	0.006827	97.5%	90	110	0			
Hardness	288.2	0.33	33.1	253.5	104.7%	80	120	0			
Iron	5.04	0.01	5	0.02331	100.3%	80	120	0			
Lead, 200.7	.4952	0.005	0.5	0	99.0%	90	110	0			
Magnesium	19.34	0.05	5	14.3	100.7%	80	120	0			
Manganese	.5122	0.005	0.5	0	102.4%	80	120	0			
Molybdenum	.4994	0.005	0.5	0	99.9%	80	120	0			
Nickel, 200.7	.591	0.005	0.6	0.01029	96.8%	90	110	0			
Potassium	14.52	0.2	5	9.156	107.2%	80	120	0			
Selenium	.4972	0.005	0.5	0	99.4%	80	120	0			
Silver	.5137	0.005	0.5	0	102.7%	80	120	0			
Sodium	26.74	0.2	5	22.53	84.2%	80	120	0			
Thallium	.5129	0.01	0.5	0	102.6%	80	120	0			
Vanadium	.5098	0.005	0.5	0.006696	100.6%	80	120	0			
Zinc, 200.7	.4897	0.005	0.5	0.006567	96.6%	90	110	0			

Qualifiers: ND - Not Detected at the Reporting Limit
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Sample Matrix Spike Duplicate

Sample ID: **9905026-01B MSD** Batch ID: **449** Test Code: **ICPMET** Units: **mg/L** Analysis Date **05/21/99** Prep Date: **05/13/99**
Client ID: **9905030** Run ID: **ICP_990520A** SeqNo: **11338**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.841	0.05	5	0	96.8%	80	120	4.862	0.4%	20	
Antimony	.5329	0.005	0.5	0	106.6%	80	120	0.5369	0.7%	20	
Arsenic, 200.7	.5108	0.005	0.5	0	102.2%	90	110	0.5151	0.8%	20	
Barium	.5696	0.005	0.5	0.1037	93.2%	80	120	0.571	0.2%	20	
Beryllium	.5232	0.002	0.5	0	104.6%	80	120	0.5262	0.6%	20	
Boron	.5865	0.01	0.5	0.1071	95.9%	80	120	0.5873	0.1%	20	
Cadmium, 200.7	.4828	0.002	0.5	0	96.6%	90	110	0.4864	0.7%	20	
Calcium	83.3	0.05	5	77.94	107.2%	80	120	83.52	0.3%	20	
Chromium, 200.7	.4934	0.005	0.5	0	98.7%	90	110	0.4965	0.6%	20	
Cobalt	.4645	0.005	0.5	0	92.9%	80	120	0.4669	0.5%	20	
Copper, 200.7	.4938	0.005	0.5	0.006827	97.4%	90	110	0.4941	0.1%	20	
Hardness	287.3	0.33	33.1	253.5	102.2%	80	120	288.2	0.3%	20	
Iron	5.002	0.01	5	0.02331	99.6%	80	120	5.04	0.7%	20	
Lead, 200.7	.4918	0.005	0.5	0	98.4%	90	110	0.4952	0.7%	20	
Magnesium	19.27	0.05	5	14.3	99.4%	80	120	19.34	0.3%	20	
Manganese	.5095	0.005	0.5	0	101.9%	80	120	0.5122	0.5%	20	
Molybdenum	.4978	0.005	0.5	0	99.6%	80	120	0.4994	0.3%	20	
Nickel, 200.7	.5872	0.005	0.6	0.01029	96.1%	90	110	0.591	0.6%	20	
Potassium	14.63	0.2	5	9.156	109.4%	80	120	14.52	0.7%	20	
Selenium	.4941	0.005	0.5	0	98.8%	80	120	0.4972	0.6%	20	
Silver	.5122	0.005	0.5	0	102.4%	80	120	0.5137	0.3%	20	
Sodium	26.74	0.2	5	22.53	84.2%	80	120	26.74	0.0%	20	
Thallium	.5113	0.01	0.5	0	102.3%	80	120	0.5129	0.3%	20	
Vanadium	.5078	0.005	0.5	0.006696	100.2%	80	120	0.5098	0.4%	20	
Zinc, 200.7	.4846	0.005	0.5	0.006567	95.6%	90	110	0.4897	1.0%	20	

Qualifiers:
ND - Not Detected at the Reporting Limit
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT

Laboratory Control Spike - generic

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sample ID: LCS Batch ID: 01 ALK A-6/1/ Test Code: Alkalinity Units: mg/L CaCO3 Analysis Date 4/19/99 Prep Date:											
Client ID: 9905030 Run ID: NO INST_990419A SeqNo: 9644											
Alkalinity, Total (As CaCO3)	130	5	126	0	103.2%	85	115	0			
Sample ID: LCS Batch ID: 01 ALK A-6/1/ Test Code: Alkalinity Units: mg/L CaCO3 Analysis Date 5/25/99 Prep Date:											
Client ID: 9905030 Run ID: NO INST_990525A SeqNo: 9908											
Alkalinity, Total (As CaCO3)	123	5	126	0	97.6%	85	115	0			
Sample ID: LCS Batch ID: 01 ALK A-6/1/ Test Code: Alkalinity Units: mg/L CaCO3 Analysis Date 5/3/99 Prep Date:											
Client ID: 9905030 Run ID: NO INST_990503B SeqNo: 11151											
Alkalinity, Total (As CaCO3)	120	5	126	0	95.2%	85	115	0			
Sample ID: LCS Batch ID: 01 ALK A-6/1/ Test Code: Alkalinity Units: mg/L CaCO3 Analysis Date 5/10/99 Prep Date:											
Client ID: 9905030 Run ID: NO INST_990510C SeqNo: 11174											
Alkalinity, Total (As CaCO3)	135	5	126	0	107.1%	85	115	0			
Sample ID: LCS Batch ID: 01 ALK A-6/1/ Test Code: Alkalinity Units: mg/L CaCO3 Analysis Date 5/11/99 Prep Date:											
Client ID: 9905030 Run ID: NO INST_990511C SeqNo: 11183											
Alkalinity, Total (As CaCO3)	135	5	126	0	107.1%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit; S - Spike Recovery outside accepted recovery limits; B - Analyte detected in the associated Method Blank; J - Analyte detected below quantitation limits; R - RPD outside accepted recovery limits

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Laboratory Control Spike - generic

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sample ID: LCS	Batch ID: 01 ALK A-6/1/	Test Code: Alkalinity		Units: mg/L CaCO3		Analysis Date 5/14/99			Prep Date:		
Client ID:	9905030	Run ID: NO INST_990514B				SeqNo: 11227					
Alkalinity, Total (As CaCO3)	130	5	126	0	103.2%	85	115	0			
Sample ID: LCS	Batch ID: 01 CL A-6/1/9	Test Code: Chloride		Units: mg/L		Analysis Date 5/26/99			Prep Date:		
Client ID:	9905030	Run ID: NO INST_990526A				SeqNo: 9938					
Chloride	10	0.5	10	0	100.0%	85	115	0			
Sample ID: LCS	Batch ID: 01 CL A-6/1/9	Test Code: Chloride		Units: mg/L		Analysis Date 5/7/99			Prep Date:		
Client ID:	9905030	Run ID: NO INST_990507B				SeqNo: 11087					
Chloride	9.5	0.5	10	0	95.0%	85	115	0			
Sample ID: LCS	Batch ID: 01 CL A-6/1/9	Test Code: Chloride		Units: mg/L		Analysis Date 5/17/99			Prep Date:		
Client ID:	9905030	Run ID: NO INST_990517C				SeqNo: 11135					
Chloride	10.3	0.5	10	0	103.0%	85	115	0			
Sample ID: LCS	Batch ID: 01 COND-06/	Test Code: E120.1		Units: µmhos/cm		Analysis Date 4/21/99			Prep Date:		
Client ID:	9905030	Run ID: NO INST_990421A				SeqNo: 10313					

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: **LCS** Batch ID: **01 COND-06/** Test Code: **E120.1** Units: **µmhos/cm** Analysis Date **5/10/99** Prep Date:
Client ID: **9905030** Run ID: **NO INST_990510A** SeqNo: **10348**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: **LCS** Batch ID: **01 COND-06/** Test Code: **E120.1** Units: **µmhos/cm** Analysis Date **5/20/99** Prep Date:
Client ID: **9905030** Run ID: **NO INST_990520A** SeqNo: **10366**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: **LCS** Batch ID: **01 COND-06/** Test Code: **E120.1** Units: **µmhos/cm** Analysis Date **5/25/99** Prep Date:
Client ID: **9905030** Run ID: **NO INST_990525E** SeqNo: **10385**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	972	1	1000	0	97.2%	85	115	0			

Sample ID: **LCS** Batch ID: **01 FL A-06/0** Test Code: **fluoride** Units: **mg/L** Analysis Date **4/28/99** Prep Date:
Client ID: **9905030** Run ID: **NO INST_990428A** SeqNo: **10090**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	7.8	0.2	7	0	111.4%	85	115	0			

Sample ID: **LCS** Batch ID: **01 FL A-06/0** Test Code: **fluoride** Units: **mg/L** Analysis Date **4/28/99** Prep Date:
Client ID: **9905030** Run ID: **NO INST_990428A** SeqNo: **10091**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	7.6	0.2	7	0	108.6%	85	115	0			

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CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Laboratory Control Spike - generic

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sample ID: LCS	Batch ID: 01 FL A-06/0	Test Code: fluoride		Units: mg/L		Analysis Date 5/11/99			Prep Date:		
Client ID:	9905030	Run ID:	NO INST_990511A			SeqNo:	10161				
Fluoride	6.1	0.2	6	0	101.7%	85	115	0			
Sample ID: LCS	Batch ID: 01 FL A-06/0	Test Code: fluoride		Units: mg/L		Analysis Date 5/19/99			Prep Date:		
Client ID:	9905030	Run ID:	NO INST_990519A			SeqNo:	10253				
Fluoride	5.8	0.2	6	0	96.7%	85	115	0			
Sample ID: LCS	Batch ID: 01 SULFATE	Test Code: Sulfate		Units: mg/L		Analysis Date 5/21/99			Prep Date:		
Client ID:	9905030	Run ID:	HIT MAN_990521B			SeqNo:	9662				
Sulfate	12	5	12	0	100.0%	85	115	0			
Sample ID: LCS	Batch ID: 01 SULFATE	Test Code: Sulfate		Units: mg/L		Analysis Date 5/27/99			Prep Date:		
Client ID:	9905030	Run ID:	HIT MAN_990527A			SeqNo:	9766				
Sulfate	7.816	5	8	0	97.7%	85	115	0			
Sample ID: LCS	Batch ID: 01 SULFATE	Test Code: Sulfate		Units: mg/L		Analysis Date 4/29/99			Prep Date:		
Client ID:	9905030	Run ID:	HIT MAN_990429A			SeqNo:	10622				
Sulfate	10	5	10	0	100.0%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Laboratory Control Spike - generic

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sample ID: LCS Batch ID: 01 SULFATE Test Code: Sulfate Units: mg/L Analysis Date 5/12/99 Prep Date:											
Client ID: 9905030 Run ID: HIT MAN_990512B SeqNo: 10870											
Sulfate	7.43	5	8	0	92.9%	85	115	0			
Sample ID: LCS Batch ID: 01 SULFATE Test Code: Sulfate Units: mg/L Analysis Date 5/20/99 Prep Date:											
Client ID: 9905030 Run ID: HIT MAN_990520A SeqNo: 10999											
Sulfate	7.03	5	8	0	87.9%	85	115	0			
Sample ID: LCS Batch ID: 01 TDS-6/1/99 Test Code: E160.1 Units: mg/L Analysis Date 5/25/99 Prep Date:											
Client ID: 9905030 Run ID: NO INST_990525C SeqNo: 10234											
Total Dissolved Solids (Residue, Filtera	3674	10	3966	0	92.6%	85	115	0			
Sample ID: LCS Batch ID: 01 TDS-6/1/99 Test Code: E160.1 Units: mg/L Analysis Date 5/26/99 Prep Date:											
Client ID: 9905030 Run ID: NO INST_990526C SeqNo: 10285											
Total Dissolved Solids (Residue, Filtera	4080	10	3966	0	102.9%	85	115	0			
Sample ID: LCS Batch ID: 01 TDS-6/1/99 Test Code: E160.1 Units: mg/L Analysis Date 4/28/99 Prep Date:											
Client ID: 9905030 Run ID: NO INST_990428C SeqNo: 11255											
Total Dissolved Solids (Residue, Filtera	3550	10	3966	0	89.5%	85	115	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: LCS	Batch ID: 01 TDS-6/1/99	Test Code: E160.1	Units: mg/L	Analysis Date 5/5/99	Prep Date:
Client ID:	9905030	Run ID: NO INST_990505B		SeqNo: 11273	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	3490	10	3966	0		85	115	0			

Sample ID: LCS	Batch ID: 01 TDS-6/1/99	Test Code: E160.1	Units: mg/L	Analysis Date 5/11/99	Prep Date:
Client ID:	9905030	Run ID: NO INST_990511D		SeqNo: 11288	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	3630	10	3966	0	91.5%	85	115	0			

Sample ID: LCS	Batch ID: 01 TDS-6/1/99	Test Code: E160.1	Units: mg/L	Analysis Date 5/18/99	Prep Date:
Client ID:	9905030	Run ID: NO INST_990518B		SeqNo: 11308	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	3610	10	3966	0		85	115	0			

Sample ID: LCS-447	Batch ID: 447	Test Code: Mercury	Units: mg/L	Analysis Date 5/14/99	Prep Date: 5/13/99
Client ID:	9905030	Run ID: MERC_990514A		SeqNo: 13304	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	.00089	0.0002	0.001	0	89.0%	80	120	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: LCS-449 | Batch ID: 449 | Test Code: ICPMET | Units: mg/L | Analysis Date 5/21/99 | Prep Date: 5/13/99
Client ID: 9905030 | Run ID: ICP_990520A | SeqNo: 11374

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.783	0.05	5	0	95.7%	80	120	0			
Antimony	.5232	0.005	0.5	0	104.6%	80	120	0			
Arsenic, 200.7	.4992	0.005	0.5	0	99.8%	90	110	0			
Barium	.461	0.005	0.5	0	92.2%	80	120	0			
Beryllium	.5184	0.002	0.5	0	103.7%	80	120	0			
Boron	.4619	0.01	0.5	0	92.4%	80	120	0			
Cadmium, 200.7	.488	0.002	0.5	0	97.6%	90	110	0			
Calcium	5.051	0.05	5	0	101.0%	80	120	0			
Chromium, 200.7	.4939	0.005	0.5	0	98.8%	90	110	0			
Cobalt	.4684	0.005	0.5	0	93.7%	80	120	0			
Copper, 200.7	.4767	0.005	0.5	0	95.3%	90	110	0			
Hardness	32.72	0.33	33.1	0	98.8%	80	120	0			
Iron	5.046	0.01	5	0	100.9%	80	120	0			
Lead, 200.7	.5006	0.005	0.5	0	100.1%	90	110	0			
Magnesium	4.883	0.05	5	0	97.7%	80	120	0			
Manganese	.5072	0.005	0.5	0	101.4%	80	120	0			
Molybdenum	.4922	0.005	0.5	0	98.4%	80	120	0			
Nickel, 200.7	.5899	0.005	0.6	0	98.3%	90	110	0			
Potassium	5.091	0.2	5	0	101.8%	80	120	0			
Selenium	.4898	0.005	0.5	0	98.0%	80	120	0			
Silver	.5043	0.005	0.5	0	100.9%	80	120	0			
Sodium	4.732	0.2	5	0	94.6%	80	120	0			
Thallium	.5132	0.01	0.5	0	102.6%	80	120	0			
Vanadium	.4941	0.005	0.5	0	98.8%	80	120	0			
Zinc, 200.7	.4868	0.005	0.5	0	97.4%	90	110	0			

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

Environmental Services Laboratory

Date: *10-Jun-99*

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT

Continuing Calibration Verification Standard

Sample ID: **ICV** Batch ID: **447** Test Code: **Mercury** Units: **mg/L** Analysis Date **05/14/99** Prep Date: **05/13/99**

Client ID: **9905030** Run ID: **MERC_990514A** SeqNo: **13317**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	.00201	0.0002	0.002	0	100.5%	90	110	0			

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Environmental Services Laboratory

Date: *10-Jun-99*

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Initial Calibration Verification Standard

Sample ID: CCVLOW | Batch ID: 449 | Test Code: ICPMET | Units: mg/L | Analysis Date 05/21/99 | Prep Date:
Client ID: 9905030 | Run ID: ICP_990520A | SeqNo: 11372

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	.5171	0.005	0.5	0	103.4%	90	110	0			
Arsenic, 200.7	.5037	0.005	0.5	0	100.7%	95	105	0			
Barium	.4894	0.005	0.5	0	97.9%	90	110	0			
Beryllium	.4972	0.002	0.5	0	99.4%	90	110	0			
Boron	.5006	0.01	0.5	0	100.1%	90	110	0			
Cadmium, 200.7	.4965	0.002	0.5	0	99.3%	95	105	0			
Chromium, 200.7	.5057	0.005	0.5	0	101.1%	95	105	0			
Cobalt	.4785	0.005	0.5	0	95.7%	90	110	0			
Copper, 200.7	.504	0.005	0.5	0	100.8%	95	105	0			
Iron	.5081	0.01	0.5	0	101.6%	90	110	0			
Lead, 200.7	.4994	0.005	0.5	0	99.9%	95	105	0			
Manganese	.4911	0.005	0.5	0	98.2%	90	110	0			
Molybdenum	.495	0.005	0.5	0	99.0%	90	110	0			
Nickel, 200.7	.4886	0.005	0.5	0	97.7%	95	105	0			
Potassium	4.965	0.2	5	0	99.3%	90	110	0			
Selenium	.4966	0.005	0.5	0	99.3%	90	110	0			
Silver	.4974	0.005	0.5	0	99.5%	90	110	0			
Thallium	.518	0.01	0.5	0	103.6%	90	110	0			
Vanadium	.5004	0.005	0.5	0	100.1%	90	110	0			
Zinc, 200.7	.4925	0.005	0.5	0	98.5%	95	105	0			

Qualifiers: ND - Not Detected at the Reporting Limit; J - Analyte detected below quantitation limits; S - Spike Recovery outside accepted recovery limits; R - RPD outside accepted recovery limits; B - Analyte detected in the associated Method Blank

CLIENT: Pinnacle Laboratories
Work Order: 9905030
Project: 905012/NMOCD/Kress Jones Well

QC SUMMARY REPORT
Minerals ICV for ICP

Sample ID: ICVHI	Batch ID: 449	Test Code: ICPMET	Units: mg/L	Analysis Date 05/21/99	Prep Date:
Client ID:	9905030	Run ID: ICP_990520A		SeqNo: 11373	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	23.82	0.05	25	0	95.3%	90	110	0			
Calcium	24.38	0.05	25	0	97.5%	90	110	0			
Hardness	158.5	0.33	165	0	96.1%	90	110	0			
Magnesium	23.71	0.05	25	0	94.9%	90	110	0			
Sodium	4.794	0.2	5	0	95.9%	90	110	0			

Sample ID: ICVHI	Batch ID: 449	Test Code: ICPMET	Units: mg/L	Analysis Date 05/25/99	Prep Date:
Client ID:	9905030	Run ID: ICP_990525B		SeqNo: 12068	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	23.91	0.05									
Sodium	4.771	0.2									

Sample ID: ICVLOW	Batch ID: 449	Test Code: ICPMET	Units: mg/L	Analysis Date 05/25/99	Prep Date:
Client ID:	9905030	Run ID: ICP_990525B		SeqNo: 12069	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	.5149	0.005									
Iron	.5338	0.01									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Glossary of Flags

Qualifier	Description
A	Please see case narrative for information pertaining to this analyte.
AA	The sample was analyzed when the holding time for the analysis had expired
AB	The Relative Percent Difference (RPD) between the duplicate and its associated sample was greater than 20%. A triplicate analysis was not possible due to lack of sample.
	Due to limited volume of sample it was not possible to analyze the standard method quality control.
AD	The hydrocarbon pattern in this sample is not typical of gasoline.
AE	The hydrocarbon pattern in this sample is not typical of diesel.
AF	The hydrocarbon pattern in this sample is not typical of oil.
AG	The hydrocarbons in this sample extend into the gasoline range.
AH	The hydrocarbons in this sample extend into the oil range.
AI	The hydrocarbons in this sample extend into the diesel range.
B	Analyte detected in associated Method Blank.
C	The Laboratory Control Sample (LCS) exceeded control limits. The Matrix Spike (MS) was in control validating the batch.
D	The Laboratory Control Sample (LCS) exceeded control limits. See case narrative for explanation.
E	Value above quantitation range. This value is considered an estimate.
F	The Laboratory Control Standard (LCS) and the LCS Duplicate (LCSD) exceeded Relative Percent Difference (RPD) control limits. See case Narrative for explanation.
G	The Matrix Spike (MS) exceeded control limits. An instrument spike was analyzed and was in control. This indicates an interference affecting the sample preparation process.
H	The Matrix Spike (MS) and Matrix Spike Duplicate (MSD) exceeded recovery control limits. An instrument spike was analyzed and was in control. This indicates an interference affecting the sample preparation process.
	The Matrix Spike (MS) and Matrix Spike Duplicate (MSD) exceeded Relative Percent Difference (RPD) control limits. See case narrative for explanation.
	Analyte detected between the method detection limit (MDL) and the reporting limit. This value is considered an estimate.
K	The Matrix Spike (MS) and Matrix Spike Duplicate (MSD) exceeded recovery control limits. See case narrative for explanation.
M	The Matrix Spike (MS) Exceeded control limits. The Laboratory Control Sample was in control validating the batch.
N	The Matrix Spike (MSD) and Matrix Spike Duplicate (MSD) recoveries is not calculable due to a high amount of analyte in the sample.
O	Detection Limits were elevated due to matrix interference.
P	The Relative Percent Difference (RPD) between the duplicate and its associated sample was greater than 20%. A triplicate was analyzed. The results of all three analysis indicate a non-homogeneous sample.
Q	The Relative Percent Difference (RPD) between the duplicate and its associated sample was greater than 20%. It was concluded through visual inspection that the sample was non-homogeneous
R	RPD outside accepted limits. See other qualifiers or case narrative for corrective action.
S	Spike recovery outside control limits. See other qualifiers or case narrative for corrective action.
T	The Relative Percent Difference (RPD) between the duplicate and its associated sample was greater than 20%. The analyte was less than three times the reporting limit. The RPD is not applicable.
U	The Relative Percent Difference (RPD) between the analysis column and the confirmation column was greater than 40%. The higher result was reported.
V	The Relative Percent Difference (RPD) between the analysis column and the confirmation column was greater than 40%. The lower result was reported due to obvious interference.
W	Surrogate recovery outside control limits. See case narrative.
X	Unable to quantitate surrogate recoveries due to dilution of sample.
Y	The sample was provided in an improper container.

Pinnacle Laboratories, Inc. **Interlab Chain of Custody** Date: 5/6 Page: 1 of 1 9905030

Network Project Manager: Kimberly D. McNeill

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

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Metals (8) RCRA	RCRA TCLP METALS	Metals-13 PP List	Metals ~~TAL~~ Al, Sb, As, Ba, Be, B	Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg	~~Tox~~ Mn, Mo, Ni, K, Se, Ag, Na	~~Tox~~ Tl, V, Zn, Hg	Gen Chemistry: Fl, Cl, SO4, TDS	Conductivity, Alk. + Bicarb, Carb	Oil and Grease	Volatile Organics GC/MS (8260)	BOD	COD	PESTICIDES/PCB (608/8080)	8270 BY GC/MS	PNA (8310)	8240 (TCLP 1311) ZHE	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	URANIUM	RADIUM 226+228	Gross Alpha/Beta	TO-14	NUMBER OF CONTAINERS
905012-01	5/5	0851	AQ	01				X	X	X	X	X	X														

PROJECT INFORMATION		SAMPLE RECEIPT		SAMPLES SENT TO:		RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
PROJECT #: 905012		Total Number of Containers		PENSACOLA - STL-FL		Signature: Time: Francine Tonino 1700	Signature: Time:
PROJ. NAME: NMOCD		Chain of Custody Seals		PORTLAND - ESL-OR	X	Printed Name: Date: Francine Tonino 5/6/99	Printed Name: Date:
QC LEVEL (STD) IV		Received Intact?		STL - CT		Pinnacle Laboratories, Inc.	Company
QC REQUIRED (MS) MSD BLANK		Received Good Cond./Cold		STL- NEW JERSEY		RECEIVED BY: 1.	RECEIVED BY: 2
TAT: (STANDARD) RUSH!!		LAB NUMBER:		N. CREEK		Signature: Time: Kimberly Hinton	Signature: Time:
DUE DATE: 5/20	COMMENTS:			BARRINGER		Printed Name: Date: 5/7/99	Printed Name: Date:
RUSH SURCHARGE: —				SEQUOIA		Company	Company
CLIENT DISCOUNT: —							
SPECIAL CERTIFICATION REQUIRED: YES/(NO)							

PINNACLE LABORATORIES **Pinnacle Laboratories Inc.**

CHAIN OF CUSTODY

DATE: 05-05-99 PAGE: 1 OF 1

PLI Accession #: 905012

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER: Bill Olson

COMPANY: OCD

ADDRESS: 2040 S. Pacheco

Santa Fe, NM 87505

PHONE: 827-7154

FAX: 827-8177

BILL TO: OCD Bill Olson

COMPANY: - Same As Above -

ADDRESS:

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.
990505 0840 (Kress Jones Well)	05-05-99	0840	H_2O	01
990505 0845 (Jones well)	05-05-99	0845	H_2O	01
990505 0849 (Jones well)	05-05-99	0849	Water	
990505 0851 (Jones well)	05-05-99	0851	Water	
990505 0853 (Jones well)	05-05-99	0853	Water	
Trip Blank	4/23	1445	"	02

ANALYSIS REQUEST

Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct Inject		(M8015) Gas/Purge & Trap	8021 (BTEX)/8015 (Gasoline) MTBE	8021 (BTEX) ☐ MTBE ☐ TMB ☐ PCE	8021 (TCL)	8021 (EDX)	8021 (HALO)	8021 (CUST)	504.1 EDB ☐ / DBCP ☐	8260 (TCL) Volatile Organics	8260 (Full) Volatile Organics	8260 (CUST) Volatile Organics	8260 (Landfill) Volatile Organics	Pesticides /PCB (608/8081/8082)	Herbicides (615/8151)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Polynuclear Aromatics (610/8310/8270-SIMS)	General Chemistry:	PH	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals: ICAP-6010 + Add Hg + Se by AA	NUMBER OF CONTAINERS
						X														X					X		1
						X														X					X		1
																				X							1
																									X		1
																			X								1
						X																					1

PROJECT INFORMATION	
PROJ. NO.:	
PROJ. NAME:	Kress Jones well
P.O. NO.:	
SHIPPED VIA:	

SAMPLE RECEIPT	
NO. CONTAINERS	6
CUSTODY SEALS	(Y) N / NA
RECEIVED INTACT	Yes
BLUE ICE/ICE	4°C

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Donna Williams Time: 0930	Signature: Time:
Printed Name: DONNA Williams Date: 05-05-99	Printed Name: Date:
Company: OCD	Company:
See reverse side (Force Magure)	
RECEIVED BY: 1.	**RECEIVED BY: (LAB) 2.**
Signature: Time:	Signature: Mancine Tonno Time: 1040
Printed Name: Date:	Printed Name: Mancine Tonno Date: 5/6/99
Company:	Pinnacle Laboratories Inc.

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88241-1980
(505) 393-6161

June 6, 1997

RECEIVED
JUN 12 1997
Environmental Bureau
Oil Conservation Division

Mr. Kress Jones
3729 W. Sanger
Hobbs, NM 88240

Re: Water Well Sample Analytical Results.

Dear Mr. Jones:

Please find enclosed the analytical results from the sampling of your water well. Please note the New Mexico Oil Conservation Division (NMOCD) sampled your well in response to your concern that your well might have been impacted by crude oil from nearby oil & gas activities.

Please note we ran a common test called (BTEX) which would assist the NMOCD in determining if your well had been impacted by crude oil. Please note the analytical results came back as non-detect or negative. In addition, my field observations reflected that your water was clear, no odors, and the TDS (Total Dissolved Solids) were in line with most of the ground water found in this area.

Please note these results reflect the condition of your water at the point of your pump intake. This depth was not available to me at the time of the visit. As you know we were not able to sample the top of the water table due to the limited space between the well pipe and casing.

If you require any further assistance concerning this matter please do not hesitate to call (505-393-6161) or write.

Sincerely yours,

Wayne Price-Environmental Engineer

cc: Chris Williams-District I Supervisor
Roger Anderson-NM NMOCD Environmental Bureau Chief, Santa Fe
West Hobbs Pool groundwater contamination file.

attachments-yes

R ANDERSON

NEW MEXICO OIL CONSERVATION COMMISSION
FIELD TRIP REPORT

≈ 1:30 PM

Name WAYNE PRICE Date 8/24/17 Miles _____ District I

Time of Departure 7 AM Time of Return 4 PM Car No. G 04

In the space below indicate the purpose of the trip and the duties performed, listing wells or leases visited and any action taken.

Signature [signature]

INSPECTION	CLASSIFICATION	FACILITY	HOURS	QUARTER HOURS

KRESS JONES
3729 W SANGER
HOBBS N.M.
393-0703

SAMPLED WATER WELL FOR HOUSE, PURGED ± 5 MIN
WATER IS CLEAR, NO ODOR, TAKEN AT WELL SPIGOT
TDS ≈ 627 uMHOS
SEE COC ATTACHED (BTEX FOR LAB)

SAMPLED WATER WELL ON BACK LOT OWNED
BY MR. JONES unit B 31-18-38 citgo WATER WE
TDS ≈ 1000 uMHOS, SLIGHT TURBID, NO ODOR
NOTE: SIGN ON WATER WELL "NOT FOR HUMAN CONSUMPTION"

Mileage		Per Diem		Hours	
UIC		UIC		UIC	
RFA		RFA		RFA	
Other		Other		Other	

TYPE INSPECTION PERFORMED

H = Housekeeping
P = Plugging
C = Plugging Cleanup
T = Well Test
R = Repair/Workover
F = Waterflow
M = Mixmop or Spill
W = Water Contamination
O = Other

INSPECTION CLASSIFICATION

U = Underground Injection Control - Any inspection of or related to injection project, facility, or well or resulting from injection into any well. (SWD, 2ndry injection and production wells, water flows or pressure tests, surface injection equipment, plugging, etc.)
R = Inspections relating to Reclamation Fund Activity
O = Other - Inspections not related to injection or The Reclamation Fund

E = Indicates some form of enforcement action taken in the field (show immediately below the letter U, R or O)

NATURE OF SPECIFIC WELL OR FACILITY INSPECTED

D = Drilling
P = Production
I = Injection
C = Combined prod. inj operations
S = SWD
U = Underground Storage
G = General Operation
F = Facility or Lease
M = Meeting
O = Other

American Environmental Network (N.M.), Inc.
Albuquerque Office: 2709-D Pan American Fwy., NE
Albuquerque, NM 87107
(505) 344-3777
Remit To: American Environmental Network (N.M.), Inc.
P.O. Box 5676
Boston, MA 02206

American Environmental Network, Inc.

Bill To: N.M. Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Client #: 810-134

Date	Invoice
4/ 1/97	76211

Proj. Name: Jones Water Well

Original
BALANCE DUE: 40.00

PO Number	Terms	Project
	Net 30	AEN ALB-810

Quantity	Description	Rate	Amount
1	EPA Method 8020 (BTEX/MTBE)	40.00	40.00

To: Roger Anderson for signed approval

Approved Wayne Price District I

Accession #:703385 Authorized by:Wayne Price	TOTAL:	40.00

A finance charge of 1½% will be charged on balances 30 days past due
DISTRIBUTION: White-Customer, Yellow-File, Pink-Accounting

American Environmental Network, Inc.

AEN I.D. 703385

April 1, 1997

JONES WATER WELL
3729 W SANGER
HOBBS, NM

Project Name Jones Water Well
Project Number (none)

Attention: WAYNE PRICE

On 3/28/97 American Environmental Network (NM), Inc. (ADHS License No. AZ0015), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

If you have any questions or comments, please do not hesitate to contact us at (505)344-3777.

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph. D.
General Manager

MR: mt

Enclosure

2709-D Pan American Freeway, NE • Albuquerque, NM 87107 • (505) 344-3777 • Fax (602) 344-4413

American Environmental Network, Inc.

CLIENT	: JONES WATER WELL	AEN I.D.	: 703385
PROJECT #	: (none)	DATE RECEIVED	: 3/28/97
PROJECT NAME	: Jones Water Well	REPORT DATE	: 4/1/97

AEN ID. #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	9703260126	AQUEOUS	3/26/97
02	TRIP BLANK	AQUEOUS	3/20/97

GAS CHROMOTOGRAPHY RESULTS

TEST : BTEX, MTBE (EPA 8020)
CLIENT : JONES WATER WELL AEN I.D.: 703385
PROJECT # : (none)
PROJECT NAME : Jones Water Well

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	9703260126	AQUEOUS	3/26/97	NA	3/31/97	1
02	TRIP BLANK	AQUEOUS	3/20/97	NA	3/31/97	1

PARAMETER	DET. LIMIT	UNITS	01	02
BENZENE	0.5	UG/L	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	< 0.5
METHYL-t-BUTYL ETHER	2.5	UG/L	< 2.5	< 2.5
SURROGATE:				
BROMOFLUOROBENZENE (%)			102	95
SURROGATE LIMITS	(80 - 120)			

CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY RESULTS
REAGENT BLANK

TEST	: BTEX, MTBE (EPA 8020)	AEN I.D.	: 703385
BLANK I. D.	: 033197	DATE EXRACTED	: NA
CLIENT	: JONES WATER WELL	DATE ANALYZED	: 3/31/97
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: Jones Water Well		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5
METHYL-t-BUTYL ETHER	UG/L	<2.5

SURROGATE:
BROMOFLUOROBENZENE (%) 103
SURROGATE LIMITS: (80 - 120)
CHEMIST NOTES:
N/A

GAS CHROMOTOGRAPHY QUALITY CONTROL
MSMSD

TEST	: BTEX, MTBE (EPA 8020)		
MSMSD #	: 703382-01	AEN I.D.	: 703385
CLIENT	: JONES WATER WELL	DATE EXRACTED	: NA
PROJECT #	: (none)	DATE ANALYZED	: 3/31/97
PROJECT NAME	: Jones Water Well	SAMPLE MATRIX	: AQUEOUS
		UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	10.0	9.0	90	8.8	88	2	(80 - 120)	20
TOLUENE	<0.5	10.0	9.5	95	9.3	93	2	(80 - 120)	20
ETHYLBENZENE	<0.5	10.0	9.7	97	9.3	93	4	(80 - 120)	20
TOTAL XYLENES	<0.5	30.0	29.7	99	28.8	96	3	(80 - 120)	20
METHYL-t-BUTYL ETHER	<2.5	20.0	18.4	92	17.7	89	4	(70 - 133)	20

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

American Environmental Network (NM), Inc.
Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 3/26/97 PAGE: 1 OF 1

AEN LAB I.D. 703385

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER: WAYNE PRICE

COMPANY: JONES WATER WELL
ADDRESS: x3729 W SANGER HOBBS NM
505-393-0703
PHONE: 505-393-6161
FAX: 505-393-0720

BILL TO: NMOCD - SANTA FE
COMPANY:
ADDRESS: 2040 PACHECO
SANTA FE NM 87505

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	BTXE/MTBE (8020)	NUMBER OF CONTAINERS
9703260126	3/26/97	1:26PM	WATER	-01	X	3
BLANK	3/20	17:20	AQ	-02	X	1

Petroleum Hydrocarbons (418.1) TRPH; (MOD.8015) Diesel/Direct/Inject; (M8015) Gas/Purge & Trap; Gasoline/BTEX & MTBE (M8015/8020); BTEX & Chlorinated Aromatics (602/8020); BTEX/MTBE/EDC & EDB (8020/8010/Short); Chlorinated Hydrocarbons (601/8010); 504 EDB / DBCP; Polynuclear Aromatics (610/8310); Volatile Organics (624/8240) GC/MS; Volatile Organics (8260) GC/MS; Pesticides/PCB (608/8080); Herbicides (615/8150); Base/Neutral/Acid Compounds GC/MS (625/8270); General Chemistry:; Priority Pollutant Metals (13); Target Analyte List Metals (23); RCRA Metals (8); RCRA Metals by TCLP (Method 1311); Metals:

PROJECT INFORMATION

PROJ. NO.:
PROJ. NAME: JONES WATER WELL
P.O. NO.:
SHIPPED VIA:

SAMPLE RECEIPT

NO. CONTAINERS	4
CUSTODY SEALS	Y/N/NA
RECEIVED INTACT	Y
BLUE ICE/ICE	12°

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

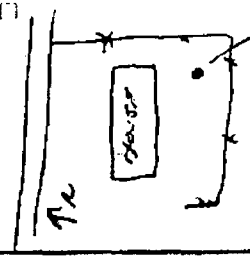
(RUSH) [ ]24hr [ ]48hr [ ]72hr [ ]1 WEEK (NORMAL) X

CERTIFICATION REQUIRED: [ ]NM [ ]SDWA [ ]OTHER N

METHANOL PRESERVATION [ ] - BLUE ICE - SAMPLE COOLER UNTIL PICK-UP

COMMENTS: FIXED FEE [ ]

ON BLUE ICE



RELINQUISHED BY: 1.
Signature: [signature] Time: 3:00 PM + 1:26 PM
Printed Name: WAYNE PRICE Date: 3/26/97
Company: NMOCD

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.
Signature: [signature] Time: 8:00 AM
Printed Name: WAYNE PRICE Date: 3/27/97
Company: NMOCD

RECEIVED BY: (LAB) 2.
Signature: [signature] Time: 10:35
Printed Name: [illegible] Date: 3/28/97
American Environmental Network (NM), Inc.

American Environmental Network (NM), Inc.
Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 3/26/97 PAGE: 1 OF 1

AEN LAB I.D.

SHADED AREAS FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: WAYNE PRICE

COMPANY: JONES WATER WELL
ADDRESS: x3729 W SANGER HOBBS NM
505-393-0703
PHONE: 505-393-6161
FAX: 505-393-0720

BILL TO: NMOCD - SANTA FE
COMPANY:
ADDRESS: 2040 MCHECO
SANTA FE NM 87505

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	NUMBER OF CONTAINERS
9703260126	3/26/97	1:26PM	WATER		3
BLANK					1

Petroleum Hydrocarbons (418.1) TRPH; (MOD.8015) Diesel/Direct/Inject; (M8015) Gas/Purge & Trap; Gasoline/BTEX & MTBE (M8015/8020); BTXE/MTBE (8020) [X]; BTEX & Chlorinated Aromatics (602/8020); BTEX/MTBE/EDC & EDB (8020/8010/Short); Chlorinated Hydrocarbons (601/8010); 504 EDB ☐ / DBCP ☐; Polynuclear Aromatics (610/8310); Volatile Organics (624/8240) GC/MS; Volatile Organics (8260) GC/MS; Pesticides/PCB (608/8080); Herbicides (615/8150); Base/Neutral/Acid Compounds GC/MS (625/8270); General Chemistry:; Priority Pollutant Metals (13); Target Analyte List Metals (23); RCRA Metals (8); RCRA Metals by TCLP (Method 1311); Metals:

PROJECT INFORMATION

PROJ. NO.:
PROJ. NAME: JONES WATER WELL
P.O. NO.:
SHIPPED VIA:

SAMPLE RECEIPT

NO. CONTAINERS	
CUSTODY SEALS	Y / N / NA
RECEIVED INTACT	
BLUE ICE/ICE	

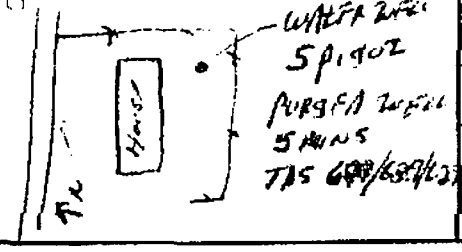
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒

CERTIFICATION REQUIRED: ☒ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐



RELINQUISHED BY: 1.
Signature: Time: 3:00 PM 1:20PM
Printed Name: WAYNE PRICE Date: 3/26/97
Company: NMOCD

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 2.
Signature: Time:
Printed Name: Date:
American Enviromental Network (NM), Inc.

American Environmental Network - 2709 D Pan American Frwy NE, Albuquerque, NM 87107. (505) 344-3777

Client: OCD-HOBBS
Phone: 505 393 6161
Address: 1000 W BROADWAY
HOBBS, NM 88240
Attention: WAYNE PRICE

Date Needed: Fri Time: ____ am/pm
☐ Pick up by Client
☐ Deliver to client
Kit Prepared by: ☐ John
☐ Other _____

2 nd day

SAMPLE KIT

	PARAMETER	HOLDING TIME	BOTTLE DESCRIPTION			
			WATER- PRESERVATIVE		SOIL- PRESERVATIVE	
VOLATILES	624 (8240)	14 DAYS	___ 3X40ML VOA	HCL/HgCl$_2$	___ 1 X 4 oz Jar	4^{oc}
	601/602		___ 3X40ML VOA	HCL/HgCl$_2$	___ 1 X 4 oz Jar	4^{oc}
	8010/8020		___ 3X40ML VOA	HCL/HgCl$_2$	___ 1 X 4 oz Jar	4^{oc}
	_____		___ 3X40ML VOA	HCL/HgCl$_2$	___ 1 X 4 oz Jar	4^{oc}
	___ 504		___ 3X40ML VOA	Na2S2O3	___ NA	NA
FUELS	8015 (TPH)	14 DAYS	___ 3X40ML VOA	HCL/HgCl$_2$	___	
	~~8015~~(8020)	14 DAYS	1 3X40ML VOA	~~HCL~~/HgCl$_2$	___ 1 X 4 oz Jar	4^{oc}
	418.1	28 DAYS	___ 2X500ML AMB.	H_2SO_4	___	
ORGANICS	625 (8270)	7 DAYS	___		___	
	608 (8080)		___		___	
	615 (8150)		___ 2 X 1L	4^{oc}	___ 1 X 4 oz Jar	4^{oc}
	610(8310)		___ AMBER		___	
	_____	_____	___		___	
	TOC	28 DAYS	___ 1X250ML AMB.	H_2SO_4	___ 1 X 4 oz Jar	4^{oc}
	TOX	7 DAYS	___ 1X250ML AMB.	H_2SO_4	___	
METALS	_____	6 MONTHS	___ 1X___ML PL.		___	
	_____		___ 1X___ML PL.	HNO_3	___ 1 X 4 oz Jar	4^{oc}
	_____		___ 1X___ML PL.		___	
GEN. CHEM.	_____	14 DAYS	___ 1X___ML PL.		___	
	_____		___ 1X___ML PL.	4^{oc}	___ 1 X 4 oz Jar	4^{oc}
	_____		___ 1X___ML PL.		___	
			___		___	
			___		___	
			___		___	
			___		___	
			___		___	
X	TRIP BLANK	14 DAYS	1 1X40ML VOA	~~HCL~~/HgCl$_2$	NA	NA
	AIR: _____	3 DAYS	___ 1 X 1L. TEDLAR AIR BAG VALVE: STAINLESS STEEL/POLYPROPYLENE			
METH	METHANOL PRESERVED		___ 2 X 60ML Amber Preweight; 2 X 10ML Methanol Vials; 1 X 2oz jar (4oz jar for diesel)			

X COC
X BLUE ICE
X LABELS
X SEALS
X PENS/GLOVES

_____
_____
_____
_____
_____

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Jennifer A. Salisbury
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

September 7, 2000

Mr. Neal King
4001 Mahan Dr.
Hobbs, New Mexico 88240

RE: WATER WELL SAMPLE ANALYSES

Dear Mr. King:

Enclosed you will find a copy of the laboratory analytical results of the water samples that the New Mexico Oil Conservation Division (OCD) obtained from your private water well on June 7, 2000. The sample analyses did not detect any oil or gas related contaminants in your well water.

The OCD is continuing to investigate ground water contamination in your area. If you have any questions regarding the laboratory analyses of your water or the OCD's investigations, please feel free to call me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrologist
Environmental Bureau

Enclosure

xc w/ enclosure: Chris Williams, OCD Hobbs District Supervisor

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Bill Olson
OCD
2040 S. Pacheco
Santa Fe, NM 87505

Report Date: June 23, 2000

Order ID Number: A00060920

Project Number: Neal King Well
Project Name: Windmill Oil
Project Location: Neal King Well

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
147700	0006071600 (Neal King)	Water	6/7/00	16:00	6/9/00
147701	Trip Blank	Water	6/7/00	16:00	6/9/00

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 26 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

RECEIVED
JUN 29 2000
ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Cation-Anion Balance Sheet

Sample # 147700 Date: 6/26/00

Cations

	ppm	meq/L
Calcium	162	8.0838
Magnesium	26	2.13954
Sodium	66	2.871
Potassium	2.9	0.074182

Total Cations 13.1685 in meq/L

Anions

	ppm	meq/L
Alkalinity	372	7.44
Sulfate	140	2.9148
Chloride	86	2.42606
Nitrate as N	3.4	0.242726
Fluoride	1.5	0.07896

Total Anions 13.1025 in meq/L

Percentage Error
0.50227 %
(needs to be <10%)

OTHER INFORMATION

TDS	0
EC	0

Measure EC and Cation Sums	1316.8522	Range should be:	0	to	0
Measure EC and Anion Sums	1310.2546	Range should be:	0	to	0
Calculated TDS/Conductivity	#DIV/0!	Range should be:	0.55	to	0.77
Measure TDS and Cation Sums	0	Range should be:	0.55	to	0.77
Measure TDS and Anion Sums	0	Range should be:	0.55	to	0.77

Analytical and Quality Control Report

Sample: 147700 - 0006071600 (Neal King)

Analysis:	8260	Analytical Method:	S 8260B	QC Batch:	QC03134	Date Analyzed:	6/11/00
Analyst:	JG	Preparation Method:	E 5030B	Prep Batch:	PB02694	Date Prepared:	6/11/00

Param	Flag	Result	Units	Dilution	RDL
Bromochloromethane		<2.00	µg/L	1	2
Dichlorodifluoromethane		<2.00	µg/L	1	2
Chloromethane (methyl chloride)		<2.00	µg/L	1	2
Vinyl Chloride		<2.00	µg/L	1	2
Bromomethane (methyl bromide)		<5.00	µg/L	1	5
Chloroethane		<2.00	µg/L	1	2
Trichlorofluoromethane		<2.00	µg/L	1	2
Acetone		<10.00	µg/L	1	10
Iodomethane (methyl iodide)		<2.00	µg/L	1	2
Carbon Disulfide		<2.00	µg/L	1	2
Acrylonitrile		<2.00	µg/L	1	2
2-Butanone (MEK)		<2.00	µg/L	1	2
4-methyl-2-pentanone (MIBK)		<10.00	µg/L	1	10
2-hexanone		<2.00	µg/L	1	2
trans 1,4-Dichloro-2-butene		<10.00	µg/L	1	10
1,1-Dichloroethene		<2.00	µg/L	1	2
Methylene chloride		<5.00	µg/L	1	5
MTBE		<2.00	µg/L	1	2
trans-1,2-Dichloroethene		<2.00	µg/L	1	2
1,1-Dichloroethane		<2.00	µg/L	1	2
cis-1,2-dichloroethene		<2.00	µg/L	1	2
2,2-Dichloropropane		<2.00	µg/L	1	2
1,2-Dichloroethane (EDC)		<2.00	µg/L	1	2
Chloroform		<2.00	µg/L	1	2
1,1,1-Trichloroethane		<2.00	µg/L	1	2
1,1-Dichloropropene		<2.00	µg/L	1	2
Benzene		<2.00	µg/L	1	2
Carbon Tetrachloride		<2.00	µg/L	1	2
1,2-Dichloropropane		<2.00	µg/L	1	2
Trichloroethene (TCE)		<2.00	µg/L	1	2
Dibromomethane (methylene bromide)		<2.00	µg/L	1	2
Bromodichloromethane		<2.00	µg/L	1	2
2-Chloroethyl vinyl ether		<10.00	µg/L	1	10
cis-1,3-Dichloropropene		<2.00	µg/L	1	2
trans-1,3-Dichloropropene		<2.00	µg/L	1	2
Toluene		<2.00	µg/L	1	2
1,1,2-Trichloroethane		<2.00	µg/L	1	2
1,3-Dichloropropane		<2.00	µg/L	1	2
Dibromochloromethane		<2.00	µg/L	1	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	1	2
Tetrachloroethene (PCE)		<2.00	µg/L	1	2
Chlorobenzene		<2.00	µg/L	1	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	1	2
Ethylbenzene		<2.00	µg/L	1	2
m,p-Xylene		<2.00	µg/L	1	2

Continued ...

... *Continued* Sample: 147700 Analysis: 8260

Param	Flag	Result	Units	Dilution	RDL
Bromoform		<2.00	µg/L	1	2
Styrene		<2.00	µg/L	1	2
o-Xylene		<2.00	µg/L	1	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	1	2
2-Chlorotoluene		<2.00	µg/L	1	2
1,2,3-Trichloropropane		<2.00	µg/L	1	2
Isopropylbenzene		<2.00	µg/L	1	2
Bromobenzene		<2.00	µg/L	1	2
n-Propylbenzene		<2.00	µg/L	1	2
1,3,5-Trimethylbenzene		<2.00	µg/L	1	2
tert-Butylbenzene		<2.00	µg/L	1	2
1,2,4-Trimethylbenzene		<2.00	µg/L	1	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	1	2
sec-Butylbenzene		<2.00	µg/L	1	2
1,3-Dichlorobenzene		<2.00	µg/L	1	2
p-Isopropyltoluene		<2.00	µg/L	1	2
4-Chlorotoluene		<2.00	µg/L	1	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	1	2
n-Butylbenzene		<2.00	µg/L	1	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5
Naphthalene		<2.00	µg/L	1	2
Hexachlorobutadiene		<5.00	µg/L	1	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		50.27	µg/L	1	50	100	84 - 116
Toluene-d8		53.11	µg/L	1	50	106	92 - 108
4-Bromofluorobenzene		43.29	µg/L	1	50	86	80 - 110

Sample: 147700 - 0006071600 (Neal King)

Analysis:	8270	Analytical Method:	S 8270C	QC Batch:	QC03142	Date Analyzed:	6/12/00
Analyst:	MA	Preparation Method:	E 3510C	Prep Batch:	PB02699	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Pyridine		<0.005	mg/L	1	0.005
n-Nitrosodimethylamine		<0.005	mg/L	1	0.005
2-Picoline		<0.005	mg/L	1	0.005
Methyl methanesulfonate		<0.005	mg/L	1	0.005
Ethyl methanesulfonate		<0.005	mg/L	1	0.005
Phenol		<0.005	mg/L	1	0.005
Aniline		<0.005	mg/L	1	0.005
bis (2-chloroethyl) ether		<0.005	mg/L	1	0.005
2-Chlorophenol		<0.005	mg/L	1	0.005
1,3-Dichlorobenzene		<0.005	mg/L	1	0.005
1,4-Dichlorobenzene		<0.005	mg/L	1	0.005
Benzyl alcohol		<0.005	mg/L	1	0.005

Continued ...

... *Continued* Sample: 147700 Analysis: 8270

Param	Flag	Result	Units	Dilution	RDL
1,2-Dichlorobenzene		<0.005	mg/L	1	0.005
2-Methylphenol		<0.005	mg/L	1	0.005
bis (2-chloroisopropyl) ether		<0.005	mg/L	1	0.005
4-Methylphenol/3-Methylphenol		<0.005	mg/L	1	0.005
Acetophenone		<0.005	mg/L	1	0.005
n-Nitrosodi-n-propylamine		<0.005	mg/L	1	0.005
Hexachloroethane		<0.005	mg/L	1	0.005
Nitrobenzene		<0.005	mg/L	1	0.005
n-Nitrosopiperidine		<0.005	mg/L	1	0.005
Isophorone		<0.005	mg/L	1	0.005
2-Nitrophenol		<0.005	mg/L	1	0.005
2,4-Dimethylphenol		<0.005	mg/L	1	0.005
bis (2-chloroethoxy) methane		<0.005	mg/L	1	0.005
Benzoic acid		<0.005	mg/L	1	0.005
2,4-Dichlorophenol		<0.005	mg/L	1	0.005
1,2,4-Trichlorobenzene		<0.005	mg/L	1	0.005
a,a-Dimethylphenethylamine		<0.005	mg/L	1	0.005
Naphthalene		<0.005	mg/L	1	0.005
4-Chloroaniline		<0.005	mg/L	1	0.005
2,6-Dichlorophenol		<0.005	mg/L	1	0.005
Hexachlorobutadiene		<0.005	mg/L	1	0.005
n-Nitroso-di-n-butylamine		<0.005	mg/L	1	0.005
4-Chloro-3-methylphenol		<0.005	mg/L	1	0.005
1-Methylnaphthalene		<0.005	mg/L	1	0.005
2-Methylnaphthalene		<0.005	mg/L	1	0.005
1,2,4,5-Tetrachlorobenzene		<0.005	mg/L	1	0.005
Hexachlorocyclopentadiene		<0.005	mg/L	1	0.005
2,4,6-Trichlorophenol		<0.005	mg/L	1	0.005
2,4,5-Trichlorophenol		<0.005	mg/L	1	0.005
2-Chloronaphthalene		<0.005	mg/L	1	0.005
1-Chloronaphthalene		<0.005	mg/L	1	0.005
2-Nitroaniline		<0.005	mg/L	1	0.005
Dimethylphthalate		<0.005	mg/L	1	0.005
Acenaphthylene		<0.005	mg/L	1	0.005
2,6-Dinitrotoluene		<0.005	mg/L	1	0.005
3-Nitroaniline		<0.005	mg/L	1	0.005
Acenaphthene		<0.005	mg/L	1	0.005
2,4-Dinitrophenol		<0.005	mg/L	1	0.005
Dibenzofuran		<0.005	mg/L	1	0.005
Pentachlorobenzene		<0.005	mg/L	1	0.005
4-Nitrophenol		<0.005	mg/L	1	0.005
1-Napthylamine		<0.005	mg/L	1	0.005
2,4-Dinitrotoluene		<0.005	mg/L	1	0.005
2-Napthylamine		<0.005	mg/L	1	0.005
2,3,4,6-Tetrachlorophenol		<0.005	mg/L	1	0.005
Fluorene		<0.005	mg/L	1	0.005
Diethylphthalate		<0.005	mg/L	1	0.005
4-Chlorophenyl-phenylether		<0.005	mg/L	1	0.005
4-Nitroaniline		<0.005	mg/L	1	0.005
4,6-Dinitro-2-methylphenol		<0.005	mg/L	1	0.005
Diphenylamine		<0.005	mg/L	1	0.005

Continued ...

... *Continued* Sample: 147700 Analysis: 8270

Param	Flag	Result	Units	Dilution	RDL
Diphenylhydrazine		<0.005	mg/L	1	0.005
4-Bromophenyl-phenylether		<0.005	mg/L	1	0.005
Phenacetin		<0.005	mg/L	1	0.005
Hexachlorobenzene		<0.005	mg/L	1	0.005
4-Aminobiphenyl		<0.005	mg/L	1	0.005
Pentachlorophenol		<0.005	mg/L	1	0.005
Pentachloronitrobenzene		<0.005	mg/L	1	0.005
Pronamide		<0.005	mg/L	1	0.005
Phenanthrene		<0.005	mg/L	1	0.005
Anthracene		<0.005	mg/L	1	0.005
Di-n-butylphthalate		<0.005	mg/L	1	0.005
Fluoranthene		<0.005	mg/L	1	0.005
Benzidine		<0.005	mg/L	1	0.005
Pyrene		<0.005	mg/L	1	0.005
p-Dimethylaminoazobenzene		<0.005	mg/L	1	0.005
Butylbenzylphthalate		<0.005	mg/L	1	0.005
Benzo(a)anthracene		<0.005	mg/L	1	0.005
3,3-Dichlorobenzidine		<0.005	mg/L	1	0.005
Chrysene		<0.005	mg/L	1	0.005
Bis (2-ethylhexyl) phthalate		<0.005	mg/L	1	0.005
Di-n-octylphthalate		<0.005	mg/L	1	0.005
Benzo(b)fluoranthene		<0.005	mg/L	1	0.005
7,12-Dimethylbenz(a)anthracene		<0.005	mg/L	1	0.005
Benzo(k)fluoranthene		<0.005	mg/L	1	0.005
Benzo(a)pyrene		<0.005	mg/L	1	0.005
3-Methylcholanthrene		<0.005	mg/L	1	0.005
Dibenzo(a,j)acridine		<0.005	mg/L	1	0.005
Indeno(1,2,3-cd)pyrene		<0.005	mg/L	1	0.005
Dibenzo(a,h)anthracene		<0.005	mg/L	1	0.005
Benzo(g,h,i)perylene		<0.005	mg/L	1	0.005

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		20.58	mg/L	1	80	25	8 - 73
Nitrobenzene-d5		53.69	mg/L	1	80	67	44 - 109
2-Fluorobiphenyl		52.72	mg/L	1	80	65	45 - 109
2,4,6-Tribromophenol		55.90	mg/L	1	80	69	39 - 132
Terphenyl-d14		53.70	mg/L	1	80	67	46 - 121

Sample: 147700 - 0006071600 (Neal King)

Analysis:	Alkalinity	Analytical Method:	E 310.1	QC Batch:	QC03238	Date Analyzed:	6/13/00
Analyst:	LD	Preparation Method:	N/A	Prep Batch:	PB02792	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		372	mg/L as CaCo3	1	1
Total Alkalinity		372	mg/L as CaCo3	1	1

Sample: 147700 - 0006071600 (Neal King)

Analysis:	Conductivity	Analytical Method:	SM 2510B	QC Batch:	QC03138	Date Analyzed:	6/12/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02696	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Specific Conductance		1200	uMHOS/cm	1	

Sample: 147700 - 0006071600 (Neal King)

Analysis:	Dissolved Metals	Analytical Method:	E 200.7	QC Batch:	QC03374	Date Analyzed:	6/20/00
Analyst:	RR	Preparation Method:	E 3005A	Prep Batch:	PB02731	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		162	mg/L	1	0.50
Dissolved Magnesium		26	mg/L	1	0.50
Dissolved Potassium		2.9	mg/L	1	0.50
Dissolved Sodium		66	mg/L	1	0.50

Sample: 147700 - 0006071600 (Neal King)

Analysis:	Hg, Total	Analytical Method:	S 7470A	QC Batch:	QC03373	Date Analyzed:	6/22/00
Analyst:	JM	Preparation Method:	N/A	Prep Batch:	PB02908	Date Prepared:	6/19/00

Param	Flag	Result	Units	Dilution	RDL
Total Mercury		0.00027	mg/L	1	0.0002

Sample: 147700 - 0006071600 (Neal King)

Analysis:	Ion Chromatography (IC)	Analytical Method:	E 300.0	QC Batch:	QC03102	Date Analyzed:	6/9/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02661	Date Prepared:	6/9/00

Param	Flag	Result	Units	Dilution	RDL
CL		86	mg/L	1	0.50
Fluoride		1.5	mg/L	1	0.20
Nitrate-N	[1]	3.4	mg/L	1	0.20
Sulfate		140	mg/L	1	0.50

Sample: 147700 - 0006071600 (Neal King)

Analysis:	TDS	Analytical Method:	E 160.1	QC Batch:	QC03180	Date Analyzed:	6/12/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02733	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Total Dissolved Solids		810	mg/L	J	10

[1] Sample out of holding time for NO3.

Sample: 147700 - 0006071600 (Neal King)

Analysis: Total Metals | Analytical Method: S 6010B | QC Batch: QC03370 | Date Analyzed: 6/16/00
Analyst: RR | Preparation Method: E 3010A | Prep Batch: PB02676 | Date Prepared: 6/12/00

Param	Flag	Result	Units	Dilution	RDL
Total Aluminum		<0.10	mg/L	1	0.10
Total Arsenic		<0.10	mg/L	1	0.10
Total Barium		0.10	mg/L	1	0.10
Total Boron		<0.50	mg/L	1	0.50
Total Cadmium		<0.01	mg/L	1	0.01
Total Chromium		<0.05	mg/L	1	0.05
Total Cobalt		<0.05	mg/L	1	0.05
Total Copper		<0.10	mg/L	1	0.10
Total Iron		0.70	mg/L	1	0.10
Total Lead		<0.05	mg/L	1	0.05
Total Manganese		<0.10	mg/L	1	0.10
Total Molybdenum		<0.10	mg/L	1	0.10
Total Nickel		<0.10	mg/L	1	0.10
Total Selenium		<0.05	mg/L	1	0.05
Total Silica		125	mg/L	1	0.50
Total Silver		<0.05	mg/L	1	0.05
Total Zinc		<0.10	mg/L	1	0.10

Sample: 147700 - 0006071600 (Neal King)

Analysis: pH | Analytical Method: E 150.1 | QC Batch: QC03169 | Date Analyzed: 6/9/00
Analyst: RS | Preparation Method: N/A | Prep Batch: PB02721 | Date Prepared: 6/9/00

Param	Flag	Result	Units	Dilution	RDL
pH	[2]	7.2	s.u.	1	1

Sample: 147701 - Trip Blank

Analysis: 8260 | Analytical Method: S 8260B | QC Batch: QC03134 | Date Analyzed: 6/11/00
Analyst: JG | Preparation Method: E 5030B | Prep Batch: PB02694 | Date Prepared: 6/11/00

Param	Flag	Result	Units	Dilution	RDL
Bromochloromethane		<2.00	µg/L	1	2
Dichlorodifluoromethane		<2.00	µg/L	1	2
Chloromethane (methyl chloride)		<2.00	µg/L	1	2
Vinyl Chloride		<2.00	µg/L	1	2
Bromomethane (methyl bromide)		<5.00	µg/L	1	5
Chloroethane		<2.00	µg/L	1	2
Trichlorofluoromethane		<2.00	µg/L	1	2
Acetone		<10.00	µg/L	1	10
Iodomethane (methyl iodide)		<2.00	µg/L	1	2
Carbon Disulfide		<2.00	µg/L	1	2
Acrylonitrile		<2.00	µg/L	1	2
2-Butanone (MEK)		<2.00	µg/L	1	2
4-methyl-2-pentanone (MIBK)		<10.00	µg/L	1	10

Continued ...

[2] Out of holding time.

... *Continued* Sample: 147701 Analysis: 8260

Param	Flag	Result	Units	Dilution	RDL
2-hexanone		<2.00	µg/L	1	2
trans 1,4-Dichloro-2-butene		<10.00	µg/L	1	10
1,1-Dichloroethene		<2.00	µg/L	1	2
Methylene chloride		<5.00	µg/L	1	5
MTBE		<2.00	µg/L	1	2
trans-1,2-Dichloroethene		<2.00	µg/L	1	2
1,1-Dichloroethane		<2.00	µg/L	1	2
cis-1,2-dichloroethene		<2.00	µg/L	1	2
2,2-Dichloropropane		<2.00	µg/L	1	2
1,2-Dichloroethane (EDC)		<2.00	µg/L	1	2
Chloroform		<2.00	µg/L	1	2
1,1,1-Trichloroethane		<2.00	µg/L	1	2
1,1-Dichloropropene		<2.00	µg/L	1	2
Benzene		<2.00	µg/L	1	2
Carbon Tetrachloride		<2.00	µg/L	1	2
1,2-Dichloropropane		<2.00	µg/L	1	2
Trichloroethene (TCE)		<2.00	µg/L	1	2
Dibromomethane (methylene bromide)		<2.00	µg/L	1	2
Bromodichloromethane		<2.00	µg/L	1	2
2-Chloroethyl vinyl ether		<10.00	µg/L	1	10
cis-1,3-Dichloropropene		<2.00	µg/L	1	2
trans-1,3-Dichloropropene		<2.00	µg/L	1	2
Toluene		<2.00	µg/L	1	2
1,1,2-Trichloroethane		<2.00	µg/L	1	2
1,3-Dichloropropane		<2.00	µg/L	1	2
Dibromochloromethane		<2.00	µg/L	1	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	1	2
Tetrachloroethene (PCE)		<2.00	µg/L	1	2
Chlorobenzene		<2.00	µg/L	1	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	1	2
Ethylbenzene		<2.00	µg/L	1	2
m,p-Xylene		<2.00	µg/L	1	2
Bromoform		<2.00	µg/L	1	2
Styrene		<2.00	µg/L	1	2
o-Xylene		<2.00	µg/L	1	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	1	2
2-Chlorotoluene		<2.00	µg/L	1	2
1,2,3-Trichloropropane		<2.00	µg/L	1	2
Isopropylbenzene		<2.00	µg/L	1	2
Bromobenzene		<2.00	µg/L	1	2
n-Propylbenzene		<2.00	µg/L	1	2
1,3,5-Trimethylbenzene		<2.00	µg/L	1	2
tert-Butylbenzene		<2.00	µg/L	1	2
1,2,4-Trimethylbenzene		<2.00	µg/L	1	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	1	2
sec-Butylbenzene		<2.00	µg/L	1	2
1,3-Dichlorobenzene		<2.00	µg/L	1	2
p-Isopropyltoluene		<2.00	µg/L	1	2
4-Chlorotoluene		<2.00	µg/L	1	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	1	2
n-Butylbenzene		<2.00	µg/L	1	2

Continued ...

... *Continued* Sample: 147701 Analysis: 8260

Param	Flag	Result	Units	Dilution	RDL
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5
Naphthalene		<2.00	µg/L	1	2
Hexachlorobutadiene		<5.00	µg/L	1	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		50.87	µg/L	1	50	101	84 - 116
Toluene-d8		53.91	µg/L	1	50	107	92 - 108
4-Bromofluorobenzene		43.51	µg/L	1	50	87	80 - 110

Quality Control Report
Method Blank

Sample: Method Blank QCBatch: QC03102

Param	Flag	Results	Units	Reporting Limit
CL		<0.5	mg/L	0.50
Fluoride		<0.2	mg/L	0.20
Nitrate-N		<0.2	mg/L	0.20
Sulfate		<0.5	mg/L	0.50

Sample: Method Blank QCBatch: QC03134

Param	Flag	Results	Units	Reporting Limit
Bromochloromethane		<2.00	µg/L	2
Dichlorodifluoromethane		<2.00	µg/L	2
Chloromethane (methyl chloride)		<2.00	µg/L	2
Vinyl Chloride		<2.00	µg/L	2
Bromomethane (methyl bromide)		<5.00	µg/L	5
Chloroethane		<2.00	µg/L	2
Trichlorofluoromethane		<2.00	µg/L	2
Acetone		<10.00	µg/L	10
Iodomethane (methyl iodide)		<2.00	µg/L	2
Carbon Disulfide		<2.00	µg/L	2
Acrylonitrile		<2.00	µg/L	2
2-Butanone (MEK)		<2.00	µg/L	2
4-methyl-2-pentanone (MIBK)		<10.00	µg/L	10
2-hexanone		<2.00	µg/L	2
trans 1,4-Dichloro-2-butene		<10.00	µg/L	10
1,1-Dichloroethene		<2.00	µg/L	2

Continued ...

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Param	Flag	Results	Units	Reporting Limit
Methylene chloride		<5.00	µg/L	5
MTBE		<2.00	µg/L	2
trans-1,2-Dichloroethene		<2.00	µg/L	2
1,1-Dichloroethane		<2.00	µg/L	2
cis-1,2-dichloroethene		<2.00	µg/L	2
2,2-Dichloropropane		<2.00	µg/L	2
1,2-Dichloroethane (EDC)		<2.00	µg/L	2
Chloroform		<2.00	µg/L	2
1,1,1-Trichloroethane		<2.00	µg/L	2
1,1-Dichloropropene		<2.00	µg/L	2
Benzene		<2.00	µg/L	2
Carbon Tetrachloride		<2.00	µg/L	2
1,2-Dichloropropane		<2.00	µg/L	2
Trichloroethene (TCE)		<2.00	µg/L	2
Dibromomethane (methylene bromide)		<2.00	µg/L	2
Bromodichloromethane		<2.00	µg/L	2
2-Chloroethyl vinyl ether		<10.00	µg/L	10
cis-1,3-Dichloropropene		<2.00	µg/L	2
trans-1,3-Dichloropropene		<2.00	µg/L	2
Toluene		<2.00	µg/L	2
1,1,2-Trichloroethane		<2.00	µg/L	2
1,3-Dichloropropane		<2.00	µg/L	2
Dibromochloromethane		<2.00	µg/L	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	2
Tetrachloroethene (PCE)		<2.00	µg/L	2
Chlorobenzene		<2.00	µg/L	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	2
Ethylbenzene		<2.00	µg/L	2
m,p-Xylene		<2.00	µg/L	2
Bromoform		<2.00	µg/L	2
Styrene		<2.00	µg/L	2
o-Xylene		<2.00	µg/L	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	2
2-Chlorotoluene		<2.00	µg/L	2
1,2,3-Trichloropropane		<2.00	µg/L	2
Isopropylbenzene		<2.00	µg/L	2
Bromobenzene		<2.00	µg/L	2
n-Propylbenzene		<2.00	µg/L	2
1,3,5-Trimethylbenzene		<2.00	µg/L	2
tert-Butylbenzene		<2.00	µg/L	2
1,2,4-Trimethylbenzene		<2.00	µg/L	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	2
sec-Butylbenzene		<2.00	µg/L	2
1,3-Dichlorobenzene		<2.00	µg/L	2
p-Isopropyltoluene		<2.00	µg/L	2
4-Chlorotoluene		<2.00	µg/L	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	2
n-Butylbenzene		<2.00	µg/L	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5
1,2,3-Trichlorobenzene		<5.00	µg/L	5

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Param	Flag	Results	Units	Reporting Limit
1,2,4-Trichlorobenzene		<5.00	µg/L	5
Naphthalene		<2.00	µg/L	2
Hexachlorobutadiene		<5.00	µg/L	5

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
Dibromofluoromethane		49.95	µg/L	50	99	84 - 116
Toluene-d8		53.67	µg/L	50	107	92 - 108
4-Bromofluorobenzene		42.34	µg/L	50	84	80 - 110

Sample: Method Blank

QCBatch: QC03138

Param	Flag	Results	Units	Reporting Limit
Specific Conductance		2.8	uMHOS/cm	

Sample: Method Blank

QCBatch: QC03142

Param	Flag	Results	Units	Reporting Limit
Pyridine		<0.005	mg/L	0.005
n-Nitrosodimethylamine		<0.005	mg/L	0.005
2-Picoline		<0.005	mg/L	0.005
Methyl methanesulfonate		<0.005	mg/L	0.005
Ethyl methanesulfonate		<0.005	mg/L	0.005
Phenol		<0.005	mg/L	0.005
Aniline		<0.005	mg/L	0.005
bis (2-chloroethyl) ether		<0.005	mg/L	0.005
2-Chlorophenol		<0.005	mg/L	0.005
1,3-Dichlorobenzene		<0.005	mg/L	0.005
1,4-Dichlorobenzene		<0.005	mg/L	0.005
Benzyl alcohol		<0.005	mg/L	0.005
1,2-Dichlorobenzene		<0.005	mg/L	0.005
2-Methylphenol		<0.005	mg/L	0.005
bis (2-chloroisopropyl) ether		<0.005	mg/L	0.005
4-Methylphenol/3-Methylphenol		<0.005	mg/L	0.005
Acetophenone		<0.005	mg/L	0.005
n-Nitrosodi-n-propylamine		<0.005	mg/L	0.005
Hexachloroethane		<0.005	mg/L	0.005
Nitrobenzene		<0.005	mg/L	0.005
n-Nitrosopiperidine		<0.005	mg/L	0.005
Isophorone		<0.005	mg/L	0.005
2-Nitrophenol		<0.005	mg/L	0.005
2,4-Dimethylphenol		<0.005	mg/L	0.005
bis (2-chloroethoxy) methane		<0.005	mg/L	0.005

Continued ...

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Param	Flag	Results	Units	Reporting Limit
Benzoic acid		<0.005	mg/L	0.005
2,4-Dichlorophenol		<0.005	mg/L	0.005
1,2,4-Trichlorobenzene		<0.005	mg/L	0.005
a,a-Dimethylphenethylamine		<0.005	mg/L	0.005
Naphthalene		<0.005	mg/L	0.005
4-Chloroaniline		<0.005	mg/L	0.005
2,6-Dichlorophenol		<0.005	mg/L	0.005
Hexachlorobutadiene		<0.005	mg/L	0.005
n-Nitroso-di-n-butylamine		<0.005	mg/L	0.005
4-Chloro-3-methylphenol		<0.005	mg/L	0.005
1-Methylnaphthalene		<0.005	mg/L	0.005
2-Methylnaphthalene		<0.005	mg/L	0.005
1,2,4,5-Tetrachlorobenzene		<0.005	mg/L	0.005
Hexachlorocyclopentadiene		<0.005	mg/L	0.005
2,4,6-Trichlorophenol		<0.005	mg/L	0.005
2,4,5-Trichlorophenol		<0.005	mg/L	0.005
2-Chloronaphthalene		<0.005	mg/L	0.005
1-Chloronaphthalene		<0.005	mg/L	0.005
2-Nitroaniline		<0.005	mg/L	0.005
Dimethylphthalate		<0.005	mg/L	0.005
Acenaphthylene		<0.005	mg/L	0.005
2,6-Dinitrotoluene		<0.005	mg/L	0.005
3-Nitroaniline		<0.005	mg/L	0.005
Acenaphthene		<0.005	mg/L	0.005
2,4-Dinitrophenol		<0.005	mg/L	0.005
Dibenzofuran		<0.005	mg/L	0.005
Pentachlorobenzene		<0.005	mg/L	0.005
4-Nitrophenol		<0.005	mg/L	0.005
1-Napthylamine		<0.005	mg/L	0.005
2,4-Dinitrotoluene		<0.005	mg/L	0.005
2-Napthylamine		<0.005	mg/L	0.005
2,3,4,6-Tetrachlorophenol		<0.005	mg/L	0.005
Fluorene		<0.005	mg/L	0.005
Diethylphthalate		<0.005	mg/L	0.005
4-Chlorophenyl-phenylether		<0.005	mg/L	0.005
4-Nitroaniline		<0.005	mg/L	0.005
4,6-Dinitro-2-methylphenol		<0.005	mg/L	0.005
Diphenylamine		<0.005	mg/L	0.005
Diphenylhydrazine		<0.005	mg/L	0.005
4-Bromophenyl-phenylether		<0.005	mg/L	0.005
Phenacetin		<0.005	mg/L	0.005
Hexachlorobenzene		<0.005	mg/L	0.005
4-Aminobiphenyl		<0.005	mg/L	0.005
Pentachlorophenol		<0.005	mg/L	0.005
Pentachloronitrobenzene		<0.005	mg/L	0.005
Pronamide		<0.005	mg/L	0.005
Phenanthrene		<0.005	mg/L	0.005
Anthracene		<0.005	mg/L	0.005
Di-n-butylphthalate		<0.005	mg/L	0.005
Fluoranthene		<0.005	mg/L	0.005

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Param	Flag	Results	Units	Reporting Limit
Benzidine		<0.005	mg/L	0.005
Pyrene		<0.005	mg/L	0.005
p-Dimethylaminoazobenzene		<0.005	mg/L	0.005
Butylbenzylphthalate		<0.005	mg/L	0.005
Benzo(a)anthracene		<0.005	mg/L	0.005
3,3-Dichlorobenzidine		<0.005	mg/L	0.005
Chrysene		<0.005	mg/L	0.005
Bis (2-ethylhexyl) phthalate		<0.005	mg/L	0.005
Di-n-octylphthalate		<0.005	mg/L	0.005
Benzo(b)fluoranthene		<0.005	mg/L	0.005
7,12-Dimethylbenz(a)anthracene		<0.005	mg/L	0.005
Benzo(k)fluoranthene		<0.005	mg/L	0.005
Benzo(a)pyrene		<0.005	mg/L	0.005
3-Methylcholanthrene		<0.005	mg/L	0.005
Dibenzo(a,j)acridine		<0.005	mg/L	0.005
Indeno(1,2,3-cd)pyrene		<0.005	mg/L	0.005
Dibenzo(a,h)anthracene		<0.005	mg/L	0.005
Benzo(g,h,i)perylene		<0.005	mg/L	0.005

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
2-Fluorophenol		25.50	mg/L	80	31	8 - 73
Nitrobenzene-d5		59.91	mg/L	80	74	44 - 109
2-Fluorobiphenyl		58.24	mg/L	80	72	45 - 109
2,4,6-Tribromophenol		57.84	mg/L	80	72	39 - 132
Terphenyl-d14		53.99	mg/L	80	67	46 - 121

Sample: Method Blank

QCBatch: QC03180

Param	Flag	Results	Units	Reporting Limit
Total Dissolved Solids		<10	mg/L	10

Sample: Method Blank

QCBatch: QC03238

Param	Flag	Results	Units	Reporting Limit
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1
Bicarbonate Alkalinity		<4.0	mg/L as CaCo3	1
Total Alkalinity		<4.0	mg/L as CaCo3	1

Sample: Method Blank

QCBatch: QC03370

Param	Flag	Results	Units	Reporting Limit
Total Aluminum		<0.10	mg/L	0.10
Total Arsenic		<0.10	mg/L	0.10
Total Barium		<0.10	mg/L	0.10
Total Boron		<0.50	mg/L	0.50
Total Cadmium		<0.01	mg/L	0.01
Total Chromium		<0.05	mg/L	0.05
Total Cobalt		<0.05	mg/L	0.05
Total Copper		<0.10	mg/L	0.10
Total Iron		<0.10	mg/L	0.10
Total Lead		<0.05	mg/L	0.05
Total Manganese		<0.10	mg/L	0.10
Total Molybdenum		<0.10	mg/L	0.10
Total Nickel		<0.10	mg/L	0.10
Total Selenium		<0.05	mg/L	0.05
Total Silica		<0.50	mg/L	0.50
Total Silver		<0.05	mg/L	0.05
Total Zinc		<0.10	mg/L	0.10

Sample: Method Blank QCBatch: QC03373

Param	Flag	Results	Units	Reporting Limit
Total Mercury		<0.0002	mg/L	0.0002

Sample: Method Blank QCBatch: QC03374

Param	Flag	Results	Units	Reporting Limit
Dissolved Calcium		<0.50	mg/L	0.50
Dissolved Magnesium		<0.50	mg/L	0.50
Dissolved Potassium		<0.50	mg/L	0.50
Dissolved Sodium		<0.50	mg/L	0.50

Quality Control Report
Lab Control Spikes and Duplicate Spikes

Sample: LCS QC Batch: QC03102

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
CL		11.62	mg/L	1	12.50	<0.5	92		80 - 120	20
Fluoride		2.48	mg/L	1	2.50	<0.2	99		80 - 120	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Nitrate-N	[3]	4.80	mg/L	1	5	<0.2	96		80 - 120	20
Sulfate		12.02	mg/L	1	12.50	<0.5	96		80 - 120	20

Sample: LCSD

QC Batch: QC03102

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
CL		11.59	mg/L	1	12.50	<0.5	92	0.25	80 - 120	20
Fluoride		2.56	mg/L	1	2.50	<0.2	102	3.17	80 - 120	20
Nitrate-N	[4]	4.76	mg/L	1	5	<0.2	95	0.83	80 - 120	20
Sulfate		12.04	mg/L	1	12.50	<0.5	96	0.16	80 - 120	20

Sample: LCS

QC Batch: QC03134

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
1,1-Dichloroethene		95	µg/L	1	100	<2.00	95		73 - 154	20
Benzene		95	µg/L	1	100	<2.00	95		84 - 126	20
Trichloroethene (TCE)		97	µg/L	1	100	<2.00	97		82 - 123	20
Toluene		94	µg/L	1	100	<2.00	94		81 - 122	20
Chlorobenzene		104	µg/L	1	100	<2.00	104		86 - 121	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Dibromofluoromethane		49.17	µg/L	1	50	98	84 - 116
Toluene-d8		51.04	µg/L	1	50	102	92 - 108
4-Bromofluorobenzene		43.22	µg/L	1	50	86	80 - 110

Sample: LCSD

QC Batch: QC03134

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
1,1-Dichloroethene		96	µg/L	1	100	<2.00	96	1.04	73 - 154	20
Benzene		97	µg/L	1	100	<2.00	97	2.08	84 - 126	20
Trichloroethene (TCE)		97	µg/L	1	100	<2.00	97	0.00	82 - 123	20
Toluene		96	µg/L	1	100	<2.00	96	2.10	81 - 122	20
Chlorobenzene		105	µg/L	1	100	<2.00	105	0.95	86 - 121	20

[3] Blank spikes used because the electricity went off during the duplicate spike.
[4] Blank spikes used because the electricity went off during the duplicate spike.

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Dibromofluoromethane		49.79	µg/L	1	50	99	84 - 116
Toluene-d8		51.40	µg/L	1	50	102	92 - 108
4-Bromofluorobenzene		43.29	µg/L	1	50	86	80 - 110

Sample: LCS

QC Batch: QC03142

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Phenol		42.824	mg/L	1	80	<0.005	53		5 - 57	20
2-Chlorophenol		43.416	mg/L	1	80	<0.005	54		29 - 110	20
1,4-Dichlorobenzene		54.708	mg/L	1	80	<0.005	68		25 - 94	20
n-Nitrosodi-n-propylamine		58.916	mg/L	1	80	<0.005	73		36 - 119	20
1,2,4-Trichlorobenzene		56.070	mg/L	1	80	<0.005	70		28 - 110	20
4-Chloro-3-methylphenol		49.008	mg/L	1	80	<0.005	61		40 - 126	20
Acenaphthene		50.649	mg/L	1	80	<0.005	63		47 - 118	20
4-Nitrophenol		38.123	mg/L	1	80	<0.005	47		0 - 69	20
2,4-Dinitrotoluene		62.227	mg/L	1	80	<0.005	77		46 - 133	20
Pentachlorophenol		33.291	mg/L	1	80	<0.005	41		21 - 131	20
Pyrene		49.127	mg/L	1	80	<0.005	61		44 - 125	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
2-Fluorophenol		49.05	mg/L	1	80	61	8 - 73
Phenol-d5		53.54	mg/L	1	80	66	8 - 62
Nitrobenzene-d5		53.51	mg/L	1	80	66	44 - 109
2-Fluorobiphenyl		53.68	mg/L	1	80	67	45 - 109
2,4,6-Tribromophenol		51.74	mg/L	1	80	64	39 - 132
Terphenyl-d14		53.77	mg/L	1	80	67	46 - 121

Sample: LCSD

QC Batch: QC03142

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Phenol		45.977	mg/L	1	80	<0.005	57	7.10	5 - 57	20
2-Chlorophenol		46.473	mg/L	1	80	<0.005	58	6.80	29 - 110	20
1,4-Dichlorobenzene		56.488	mg/L	1	80	<0.005	70	3.20	25 - 94	20
n-Nitrosodi-n-propylamine		61.484	mg/L	1	80	<0.005	76	4.26	36 - 119	20
1,2,4-Trichlorobenzene		57.925	mg/L	1	80	<0.005	72	3.25	28 - 110	20
4-Chloro-3-methylphenol		54.881	mg/L	1	80	<0.005	68	11.30	40 - 126	20
Acenaphthene		53.894	mg/L	1	80	<0.005	67	6.20	47 - 118	20
4-Nitrophenol		43.909	mg/L	1	80	<0.005	54	14.10	0 - 69	20
2,4-Dinitrotoluene		68.147	mg/L	1	80	<0.005	85	9.08	46 - 133	20
Pentachlorophenol		38.058	mg/L	1	80	<0.005	47	13.36	21 - 131	20
Pyrene		45.151	mg/L	1	80	<0.005	56	8.43	44 - 125	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
2-Fluorophenol		51.82	mg/L	1	80	64	8 - 73
Phenol-d5		56.70	mg/L	1	80	70	8 - 62
Nitrobenzene-d5		55.67	mg/L	1	80	69	44 - 109
2-Fluorobiphenyl		58.17	mg/L	1	80	72	45 - 109
2,4,6-Tribromophenol		54.87	mg/L	1	80	68	39 - 132
Terphenyl-d14		50.62	mg/L	1	80	63	46 - 121

Sample: LCS

QC Batch: QC03370

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		1.93	mg/L	1	2	<0.10	96		75 - 125	20
Total Arsenic		1.85	mg/L	1	2	<0.10	92		75 - 125	20
Total Barium		2.01	mg/L	1	2	<0.10	100		75 - 125	20
Total Boron		1.87	mg/L	1	2	<0.50	93		75 - 125	20
Total Cadmium		1.97	mg/L	1	2	<0.01	98		75 - 125	20
Total Chromium		2.02	mg/L	1	2	<0.05	101		75 - 125	20
Total Cobalt		2.09	mg/L	1	2	<0.05	104		75 - 125	20
Total Copper		2.04	mg/L	1	2	<0.10	102		75 - 125	20
Total Iron		2.02	mg/L	1	2	<0.10	101		75 - 125	20
Total Lead		1.96	mg/L	1	2	<0.05	98		75 - 125	20
Total Manganese		2.05	mg/L	1	2	<0.10	102		75 - 125	20
Total Molybdenum		2.08	mg/L	1	2	<0.10	104		75 - 125	20
Total Nickel		1.98	mg/L	1	2	<0.10	99		75 - 125	20
Total Selenium		1.64	mg/L	1	2	<0.05	82		75 - 125	20
Total Silica		10.4	mg/L	1	10	<0.50	104		75 - 125	20
Total Silver		0.36	mg/L	1	0.40	<0.05	90		75 - 125	20
Total Zinc		2.01	mg/L	1	2	<0.10	100		75 - 125	20

Sample: LCSD

QC Batch: QC03370

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		1.94	mg/L	1	2	<0.10	97	0.51	75 - 125	20
Total Arsenic		1.88	mg/L	1	2	<0.10	94	1.60	75 - 125	20
Total Barium		2.03	mg/L	1	2	<0.10	101	0.99	75 - 125	20
Total Boron		1.88	mg/L	1	2	<0.50	94	0.53	75 - 125	20
Total Cadmium		2.00	mg/L	1	2	<0.01	100	1.51	75 - 125	20
Total Chromium		2.04	mg/L	1	2	<0.05	102	0.98	75 - 125	20
Total Cobalt		2.11	mg/L	1	2	<0.05	105	0.95	75 - 125	20
Total Copper		2.05	mg/L	1	2	<0.10	102	0.48	75 - 125	20
Total Iron		2.04	mg/L	1	2	<0.10	102	0.98	75 - 125	20
Total Lead		1.99	mg/L	1	2	<0.05	99	1.51	75 - 125	20
Total Manganese		2.07	mg/L	1	2	<0.10	103	0.97	75 - 125	20
Total Molybdenum		2.09	mg/L	1	2	<0.10	104	0.47	75 - 125	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Nickel		2.01	mg/L	1	2	<0.10	100	1.50	75 - 125	20
Total Selenium		1.68	mg/L	1	2	<0.05	84	2.40	75 - 125	20
Total Silica		10.6	mg/L	1	10	<0.50	106	1.90	75 - 125	20
Total Silver		0.36	mg/L	1	0.40	<0.05	98	0.00	75 - 125	20
Total Zinc		2.03	mg/L	1	2	<0.10	101	0.99	75 - 125	20

Sample: LCS QC Batch: QC03373

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00103	mg/L	1	0.001	<0.0002	103		80 - 120	20

Sample: LCSD QC Batch: QC03373

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00111	mg/L	1	0.001	<0.0002	111	7.47	80 - 120	20

Sample: LCS QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1063	mg/L	1	1000	<0.50	106		75 - 125	20
Dissolved Magnesium		982	mg/L	1	1000	<0.50	98		75 - 125	20
Dissolved Potassium		968	mg/L	1	1000	<0.50	97		75 - 125	20
Dissolved Sodium		955	mg/L	1	1000	<0.50	96		75 - 125	20

Sample: LCSD QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1077	mg/L	1	1000	<0.50	108	1.30	75 - 125	20
Dissolved Magnesium		992	mg/L	1	1000	<0.50	99	1.01	75 - 125	20
Dissolved Potassium		951	mg/L	1	1000	<0.50	95	1.77	75 - 125	20
Dissolved Sodium		960	mg/L	1	1000	<0.50	96	0.52	75 - 125	20

Quality Control Report
Matrix Spikes and Duplicate Spikes

Sample: MS QC Batch: QC03370

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		2.11	mg/L	1	2	<0.10	105		75 - 125	20
Total Arsenic		1.91	mg/L	1	2	<0.10	95		75 - 125	20
Total Barium		2.05	mg/L	1	2	0.10	97		75 - 125	20
Total Boron		2.14	mg/L	1	2	<0.50	107		75 - 125	20
Total Cadmium		1.87	mg/L	1	2	<0.01	93		75 - 125	20
Total Chromium		1.92	mg/L	1	2	<0.05	96		75 - 125	20
Total Cobalt		1.97	mg/L	1	2	<0.05	98		75 - 125	20
Total Copper		1.96	mg/L	1	2	<0.10	98		75 - 125	20
Total Iron		2.62	mg/L	1	2	0.70	96		75 - 125	20
Total Lead		1.88	mg/L	1	2	<0.05	94		75 - 125	20
Total Manganese		1.98	mg/L	1	2	<0.10	99		75 - 125	20
Total Molybdenum		2.02	mg/L	1	2	<0.10	101		75 - 125	20
Total Nickel		1.91	mg/L	1	2	<0.10	96		75 - 125	20
Total Selenium		1.68	mg/L	1	2	<0.05	84		75 - 125	20
Total Silica		136	mg/L	1	10	125	110		75 - 125	20
Total Silver		0.35	mg/L	1	0.40	<0.05	88		75 - 125	20
Total Zinc		1.91	mg/L	1	2	<0.10	95		75 - 125	20

Sample: MSD QC Batch: QC03370

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		2.14	mg/L	1	2	<0.10	107	1.41	75 - 125	20
Total Arsenic		1.88	mg/L	1	2	<0.10	94	1.58	75 - 125	20
Total Barium		2.04	mg/L	1	2	0.10	97	0.51	75 - 125	20
Total Boron		2.15	mg/L	1	2	<0.50	107	0.46	75 - 125	20
Total Cadmium		1.84	mg/L	1	2	<0.01	92	1.61	75 - 125	20
Total Chromium		1.90	mg/L	1	2	<0.05	95	1.04	75 - 125	20
Total Cobalt		1.94	mg/L	1	2	<0.05	97	1.53	75 - 125	20
Total Copper		1.98	mg/L	1	2	<0.10	99	1.01	75 - 125	20
Total Iron		2.60	mg/L	1	2	0.70	95	1.04	75 - 125	20
Total Lead		1.85	mg/L	1	2	<0.05	92	1.60	75 - 125	20
Total Manganese		1.97	mg/L	1	2	<0.10	98	0.50	75 - 125	20
Total Molybdenum		1.99	mg/L	1	2	<0.10	99	1.49	75 - 125	20
Total Nickel		1.89	mg/L	1	2	<0.10	96	1.05	75 - 125	20
Total Selenium		1.66	mg/L	1	2	<0.05	83	1.19	75 - 125	20
Total Silica		136	mg/L	1	10	125	110	0.00	75 - 125	20
Total Silver		0.33	mg/L	1	0.40	<0.05	83	5.88	75 - 125	20
Total Zinc		1.87	mg/L	1	2	<0.10	93	2.11	75 - 125	20

Sample: MS QC Batch: QC03373

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00111	mg/L	1	0.001	<0.0002	111		80 - 120	20

Sample: MSD QC Batch: QC03373

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00117	mg/L	1	0.001	<0.0002	117	5.26	80 - 120	20

Sample: MS QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1275	mg/L	1	1000	162	111		75 - 125	20
Dissolved Magnesium		1032	mg/L	1	1000	26	101		75 - 125	20
Dissolved Potassium		934	mg/L	1	1000	2.9	93		75 - 125	20
Dissolved Sodium		1000	mg/L	1	1000	66	93		75 - 125	20

Sample: MSD QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1272	mg/L	1	1000	162	111	0.26	75 - 125	20
Dissolved Magnesium		1059	mg/L	1	1000	26	103	2.64	75 - 125	20
Dissolved Potassium		976	mg/L	1	1000	2.9	97	4.41	75 - 125	20
Dissolved Sodium		1032	mg/L	1	1000	66	97	3.36	75 - 125	20

Quality Control Report
Duplicate Samples

Sample: Duplicate QC Batch: QC03138

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Specific Conductance		1222	1200	uMHOS/cm	1	1.81	20

Sample: Duplicate QC Batch: QC03169

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH		8.7	8.7	s.u.	1	0.00	20

Sample: Duplicate QC Batch: QC03180

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids		1648	1600	mg/L	1	2.95	20

Sample: Duplicate QC Batch: QC03238

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Hydroxide Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0.00	20
Carbonate Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0.00	20
Bicarbonate Alkalinity		180	172	mg/L as CaCo3	1	4.54	20
Total Alkalinity		180	172	mg/L as CaCo3	1	4.54	20

Quality Control Report
Continuing Calibration Verification Standards

Sample: CCV (1) QC Batch: QC03102

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
CL		mg/L	12.50	11.60	92	80 - 120	6/9/00
Fluoride		mg/L	2.50	2.48	99	80 - 120	6/9/00
Nitrate-N		mg/L	5	4.79	95	80 - 120	6/9/00
Sulfate		mg/L	12.50	12.03	96	80 - 120	6/9/00

Sample: ICV (1) QC Batch: QC03102

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
CL		mg/L	12.50	11.40	91	80 - 120	6/9/00
Fluoride		mg/L	2.50	2.56	102	80 - 120	6/9/00
Nitrate-N		mg/L	5	4.72	94	80 - 120	6/9/00
Sulfate		mg/L	12.50	11.84	94	80 - 120	6/9/00

Sample: CCV (1) QC Batch: QC03134

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Vinyl Chloride		µg/L	100	98	98	80 - 120	6/11/00
1,1-Dichloroethene		µg/L	100	94	94	73 - 154	6/11/00
Chloroform		µg/L	100	97	97	80 - 120	6/11/00
1,2-Dichloropropane		µg/L	100	96	96	80 - 120	6/11/00
Toluene		µg/L	100	97	97	81 - 122	6/11/00
Chlorobenzene		µg/L	100	102	102	86 - 121	6/11/00
Ethylbenzene		µg/L	100	106	106	80 - 120	6/11/00
Dibromofluoromethane		µg/L	50	49.57	99	80 - 120	6/11/00
Toluene-d8		µg/L	50	49.65	99	80 - 120	6/11/00
4-Bromofluorobenzene		µg/L	50	49.00	98	80 - 120	6/11/00

Sample: CCV (1) QC Batch: QC03138

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1413	1419	100	80 - 120	6/12/00

Sample: ICV (1) QC Batch: QC03138

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1413	1406	99	80 - 120	6/12/00

Sample: CCV (1) QC Batch: QC03142

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Phenol		mg/L	60	63.48	105	5 - 57	6/12/00
1,4-Dichlorobenzene		mg/L	60	58.75	97	25 - 94	6/12/00
2-Nitrophenol		mg/L	60	59.98	99	80 - 120	6/12/00
2,4-Dichlorophenol		mg/L	60	62.59	104	80 - 120	6/12/00
Hexachlorobutadiene		mg/L	60	55.74	92	80 - 120	6/12/00
4-Chloro-3-methylphenol		mg/L	60	62.67	104	40 - 126	6/12/00
2,4,6-Trichlorophenol		mg/L	60	57.22	95	80 - 120	6/12/00
Acenaphthene		mg/L	60	58.12	96	47 - 118	6/12/00
Diphenylamine		mg/L	60	58.17	96	80 - 120	6/12/00
Pentachlorophenol		mg/L	60	58.45	97	21 - 131	6/12/00
Fluoranthene		mg/L	60	59.51	99	80 - 120	6/12/00
Di-n-octylphthalate		mg/L	60	60.38	100	80 - 120	6/12/00

Continued . . .

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzo(a)pyrene		mg/L	60	55.79	92	80 - 120	6/12/00
2-Fluorophenol		mg/L	60	59.39	98	8 - 73	6/12/00
Phenol-d5		mg/L	60	63.57	105	8 - 62	6/12/00
Nitrobenzene-d5		mg/L	60	59.40	99	44 - 109	6/12/00
2-Fluorobiphenyl		mg/L	60	57.74	96	45 - 109	6/12/00
2,4,6-Tribromophenol		mg/L	60	54.22	90	39 - 132	6/12/00
Terphenyl-d14		mg/L	60	53.41	89	46 - 121	6/12/00

Sample: CCV (1)

QC Batch: QC03169

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.0	100	80 - 120	6/9/00

Sample: ICV (1)

QC Batch: QC03169

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.0	100	80 - 120	6/9/00

Sample: CCV (1)

QC Batch: QC03180

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	991	99	80 - 120	6/12/00

Sample: ICV (1)

QC Batch: QC03180

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	987	98	80 - 120	6/12/00

Sample: CCV (1)

QC Batch: QC03238

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	80 - 120	6/13/00
Carbonate Alkalinity		mg/L as CaCo3	0	204	0	80 - 120	6/13/00
Bicarbonate Alkalinity		mg/L as CaCo3	0	32	0	80 - 120	6/13/00
Total Alkalinity		mg/L as CaCo3	250	236	94	80 - 120	6/13/00

Sample: ICV (1) QC Batch: QC03238

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	80 - 120	6/13/00
Carbonate Alkalinity		mg/L as CaCo3	0	220	0	80 - 120	6/13/00
Bicarbonate Alkalinity		mg/L as CaCo3	0	31	0	80 - 120	6/13/00
Total Alkalinity		mg/L as CaCo3	250	251	100	80 - 120	6/13/00

Sample: CCV (1) QC Batch: QC03370

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	5	5.33	106	75 - 125	6/16/00
Total Arsenic		mg/L	2.50	2.62	104	75 - 125	6/16/00
Total Barium		mg/L	5	5.31	106	75 - 125	6/16/00
Total Boron		mg/L	2.50	2.66	106	75 - 125	6/16/00
Total Cadmium		mg/L	0.50	0.52	104	75 - 125	6/16/00
Total Chromium		mg/L	1	1.05	105	75 - 125	6/16/00
Total Cobalt		mg/L	2.50	2.64	105	75 - 125	6/16/00
Total Copper		mg/L	1	1.07	107	75 - 125	6/16/00
Total Iron		mg/L	5	5.26	105	75 - 125	6/16/00
Total Lead		mg/L	2.50	2.64	105	75 - 125	6/16/00
Total Manganese		mg/L	0.50	0.53	106	75 - 125	6/16/00
Total Molybdenum		mg/L	2.50	2.60	104	75 - 125	6/16/00
Total Nickel		mg/L	2.50	2.60	104	75 - 125	6/16/00
Total Selenium		mg/L	2.50	2.60	104	75 - 125	6/16/00
Total Silica		mg/L	2.50	2.70	108	75 - 125	6/16/00
Total Silver		mg/L	0.50	0.53	106	75 - 125	6/16/00
Total Zinc		mg/L	0.50	0.52	104	75 - 125	6/16/00

Sample: ICV (1) QC Batch: QC03370

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	5	4.99	99	75 - 125	6/16/00

Continued ...

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Arsenic		mg/L	2.50	2.53	101	75 - 125	6/16/00
Total Barium		mg/L	5	5.11	102	75 - 125	6/16/00
Total Boron		mg/L	2.50	2.54	101	75 - 125	6/16/00
Total Cadmium		mg/L	0.50	0.52	104	75 - 125	6/16/00
Total Chromium		mg/L	1	1.02	102	75 - 125	6/16/00
Total Cobalt		mg/L	2.50	2.56	102	75 - 125	6/16/00
Total Copper		mg/L	1	1.00	100	75 - 125	6/16/00
Total Iron		mg/L	5	5.2	104	75 - 125	6/16/00
Total Lead		mg/L	2.50	2.56	102	75 - 125	6/16/00
Total Manganese		mg/L	0.50	0.51	102	75 - 125	6/16/00
Total Molybdenum		mg/L	2.50	2.55	102	75 - 125	6/16/00
Total Nickel		mg/L	2.50	2.54	101	75 - 125	6/16/00
Total Selenium		mg/L	2.50	2.53	101	75 - 125	6/16/00
Total Silica		mg/L	2.50	2.43	97	75 - 125	6/16/00
Total Silver		mg/L	0.50	0.55	110	75 - 125	6/16/00
Total Zinc		mg/L	0.50	0.52	104	75 - 125	6/16/00

Sample: CCV (1) QC Batch: QC03373

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.001	0.00105	100	80 - 120	6/22/00

Sample: ICV (1) QC Batch: QC03373

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.001	0.00092	92	80 - 120	6/22/00

Sample: CCV (1) QC Batch: QC03374

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	20	20.8	104	75 - 125	6/20/00
Dissolved Magnesium		mg/L	20	20.2	101	75 - 125	6/20/00
Dissolved Potassium		mg/L	20	19.6	98	75 - 125	6/20/00
Dissolved Sodium		mg/L	20	18.5	93	75 - 125	6/20/00

Sample: ICV (1) QC Batch: QC03374

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	20	21.6	108	75 - 125	6/20/00
Dissolved Magnesium		mg/L	20	21.2	106	75 - 125	6/20/00
Dissolved Potassium		mg/L	20	20.9	105	75 - 125	6/20/00
Dissolved Sodium		mg/L	20	19.5	98	75 - 125	6/20/00

147700-01

Page ____ of ____

6701 Aberdeen Avenue, Ste. 9
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1 (800) 378-1296

TraceAnalysis, Inc.

4725 Ripley Dr., Ste A
El Paso, Texas 79922-1028
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # 40006 0920

Company Name: N.M Oil Conservation Division Phone #: (505) 827-7154

Address: (Street, City, Zip) 2040 S. Pacheco, Santa Fe, NM 87505 Fax #: (505) 827-8177

Contact Person: Bill Olson

Invoice to: (If different from above)

Project #: Project Name: Windmill Oil

Project Location: Neal King Well Sampler Signature: Bill Olson

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	NaHSO4	H2SO4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
147700	000607 1600 (Neal King)	2	40ml	✓				✓					✓		6/7/00	1600
	000607 1600 (Neal King)	1	liter	✓									✓		6/7/00	1600
	000607 1600 (Neal King)	1	liter	✓									✓		6/7/00	1600
	000607 1600 (Neal King)	1	500ml	✓					✓				✓		6/7/00	1600
147701	000607 1600 (TB)	1	40ml	✓						✓			✓		6/7/00	1600

ANALYSIS REQUEST
(Circle or Specify Method No.)

MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC-MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	Gen Chem (OCD contract item #24)	OCD metals (OCD contract item #23)			Turn Around Time if different from standard	Hold
										2										
											1									
															1					
																1				
										2										

Relinquished by: Bill Olson Date: 6/8/00 Time: 1020 Received by: Date: Time:

Relinquished by: Date: Time: Received by: Date: Time:

Relinquished by: Date: Time: Received at Laboratory by: Jeff Kindy Date: 6-9-00 Time: 10:00

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.

ORIGINAL COPY

LAB USE ONLY

Intact (Y) N

Headspace Y / N

Temp 1 °

Log-in Review

REMARKS:

Carrier # Trans 902-401-359-4

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Bill Olson
OCD
2040 S. Pacheco
Santa Fe, NM 87505

RECEIVED
JUN 30 2000
ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Report Date: June 27, 2000

Order ID Number: A00061012

Project Number: North Flowers
Project Name: Windmill
Project Location: North Flowers

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
147771	0006081500 (N. Flowers)	Water	6/8/00	15:00	6/10/00

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 24 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Cation-Anion Balance Sheet

Sample # 147771 Date: 6/26/00

Cations

	ppm	meq/L
Calcium	114	5.6886
Magnesium	19	1.56351
Sodium	53	2.3055
Potassium	2.3	0.058834

Total Cations 9.61644 in meq/L

Anions

	ppm	meq/L
Alkalinity	292	5.84
Sulfate	65	1.3533
Chloride	60	1.6926
Nitrate as N	3	0.21417
Fluoride	1.8	0.094752

Total Anions 9.19482 in meq/L

Percentage Error
4.48265 %
(needs to be <10%)

OTHER INFORMATION

TDS	0
EC	0

Measure EC and Cation Sums	961.6444	Range should be:	0	to	0
Measure EC and Anion Sums	919.4822	Range should be:	0	to	0
Calculated TDS/Conductivity	#DIV/0!	Range should be:	0.55	to	0.77
Measure TDS and Cation Sums	0	Range should be:	0.55	to	0.77
Measure TDS and Anion Sums	0	Range should be:	0.55	to	0.77

Analytical and Quality Control Report

Sample: 147771 - 0006081500 (N. Flowers)

Analysis:	8260	Analytical Method:	S 8260B	QC Batch:	QC03195	Date Analyzed:	6/13/00
Analyst:	JG	Preparation Method:	E 5030B	Prep Batch:	PB02746	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Bromochloromethane		<2.00	µg/L	1	2
Dichlorodifluoromethane		<2.00	µg/L	1	2
Chloromethane (methyl chloride)		<2.00	µg/L	1	2
Vinyl Chloride		<2.00	µg/L	1	2
Bromomethane (methyl bromide)		<5.00	µg/L	1	5
Chloroethane		<2.00	µg/L	1	2
Trichlorofluoromethane		<2.00	µg/L	1	2
Acetone		<10.00	µg/L	1	10
Iodomethane (methyl iodide)		<2.00	µg/L	1	2
Carbon Disulfide		<2.00	µg/L	1	2
Acrylonitrile		<2.00	µg/L	1	2
2-Butanone (MEK)		<2.00	µg/L	1	2
4-methyl-2-pentanone (MIBK)		<10.00	µg/L	1	10
2-hexanone		<2.00	µg/L	1	2
trans 1,4-Dichloro-2-butene		<10.00	µg/L	1	10
1,1-Dichloroethene		<2.00	µg/L	1	2
Methylene chloride		<5.00	µg/L	1	5
MTBE		<2.00	µg/L	1	2
trans-1,2-Dichloroethene		<2.00	µg/L	1	2
1,1-Dichloroethane		<2.00	µg/L	1	2
cis-1,2-dichloroethene		<2.00	µg/L	1	2
2,2-Dichloropropane		<2.00	µg/L	1	2
1,2-Dichloroethane (EDC)		<2.00	µg/L	1	2
Chloroform		<2.00	µg/L	1	2
1,1,1-Trichloroethane		<2.00	µg/L	1	2
1,1-Dichloropropene		<2.00	µg/L	1	2
Benzene		<2.00	µg/L	1	2
Carbon Tetrachloride		<2.00	µg/L	1	2
1,2-Dichloropropane		<2.00	µg/L	1	2
Trichloroethene (TCE)		<2.00	µg/L	1	2
Dibromomethane (methylene bromide)		<2.00	µg/L	1	2
Bromodichloromethane		<2.00	µg/L	1	2
2-Chloroethyl vinyl ether		<10.00	µg/L	1	10
cis-1,3-Dichloropropene		<2.00	µg/L	1	2
trans-1,3-Dichloropropene		<2.00	µg/L	1	2
Toluene		<2.00	µg/L	1	2
1,1,2-Trichloroethane		<2.00	µg/L	1	2
1,3-Dichloropropane		<2.00	µg/L	1	2
Dibromochloromethane		<2.00	µg/L	1	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	1	2
Tetrachloroethene (PCE)		<2.00	µg/L	1	2
Chlorobenzene		<2.00	µg/L	1	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	1	2
Ethylbenzene		<2.00	µg/L	1	2
m,p-Xylene		<2.00	µg/L	1	2

Continued ...

... *Continued* Sample: 147771 Analysis: 8260

Param	Flag	Result	Units	Dilution	RDL
Bromoform		<2.00	µg/L	1	2
Styrene		<2.00	µg/L	1	2
o-Xylene		<2.00	µg/L	1	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	1	2
2-Chlorotoluene		<2.00	µg/L	1	2
1,2,3-Trichloropropane		<2.00	µg/L	1	2
Isopropylbenzene		<2.00	µg/L	1	2
Bromobenzene		<2.00	µg/L	1	2
n-Propylbenzene		<2.00	µg/L	1	2
1,3,5-Trimethylbenzene		<2.00	µg/L	1	2
tert-Butylbenzene		<2.00	µg/L	1	2
1,2,4-Trimethylbenzene		<2.00	µg/L	1	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	1	2
sec-Butylbenzene		<2.00	µg/L	1	2
1,3-Dichlorobenzene		<2.00	µg/L	1	2
p-Isopropyltoluene		<2.00	µg/L	1	2
4-Chlorotoluene		<2.00	µg/L	1	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	1	2
n-Butylbenzene		<2.00	µg/L	1	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5
Naphthalene		<2.00	µg/L	1	2
Hexachlorobutadiene		<5.00	µg/L	1	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		53.07	µg/L	1	50	106	84 - 116
Toluene-d8		52.84	µg/L	1	50	105	92 - 108
4-Bromofluorobenzene		43.74	µg/L	1	50	87	80 - 110

Sample: 147771 - 0006081500 (N. Flowers)

Analysis:	8270	Analytical Method:	S 8270C	QC Batch:	QC03142	Date Analyzed:	6/12/00
Analyst:	MA	Preparation Method:	E 3510C	Prep Batch:	PB02699	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Pyridine		<0.005	mg/L	1	0.005
n-Nitrosodimethylamine		<0.005	mg/L	1	0.005
2-Picoline		<0.005	mg/L	1	0.005
Methyl methanesulfonate		<0.005	mg/L	1	0.005
Ethyl methanesulfonate		<0.005	mg/L	1	0.005
Phenol		<0.005	mg/L	1	0.005
Aniline		<0.005	mg/L	1	0.005
bis (2-chloroethyl) ether		<0.005	mg/L	1	0.005
2-Chlorophenol		<0.005	mg/L	1	0.005
1,3-Dichlorobenzene		<0.005	mg/L	1	0.005
1,4-Dichlorobenzene		<0.005	mg/L	1	0.005
Benzyl alcohol		<0.005	mg/L	1	0.005

Continued ...

... *Continued* Sample: 147771 Analysis: 8270

Param	Flag	Result	Units	Dilution	RDL
1,2-Dichlorobenzene		<0.005	mg/L	1	0.005
2-Methylphenol		<0.005	mg/L	1	0.005
bis (2-chloroisopropyl) ether		<0.005	mg/L	1	0.005
4-Methylphenol/3-Methylphenol		<0.005	mg/L	1	0.005
Acetophenone		<0.005	mg/L	1	0.005
n-Nitrosodi-n-propylamine		<0.005	mg/L	1	0.005
Hexachloroethane		<0.005	mg/L	1	0.005
Nitrobenzene		<0.005	mg/L	1	0.005
n-Nitrosopiperidine		<0.005	mg/L	1	0.005
Isophorone		<0.005	mg/L	1	0.005
2-Nitrophenol		<0.005	mg/L	1	0.005
2,4-Dimethylphenol		<0.005	mg/L	1	0.005
bis (2-chloroethoxy) methane		<0.005	mg/L	1	0.005
Benzoic acid		<0.005	mg/L	1	0.005
2,4-Dichlorophenol		<0.005	mg/L	1	0.005
1,2,4-Trichlorobenzene		<0.005	mg/L	1	0.005
a,a-Dimethylphenethylamine		<0.005	mg/L	1	0.005
Naphthalene		<0.005	mg/L	1	0.005
4-Chloroaniline		<0.005	mg/L	1	0.005
2,6-Dichlorophenol		<0.005	mg/L	1	0.005
Hexachlorobutadiene		<0.005	mg/L	1	0.005
n-Nitroso-di-n-butylamine		<0.005	mg/L	1	0.005
4-Chloro-3-methylphenol		<0.005	mg/L	1	0.005
1-Methylnaphthalene		<0.005	mg/L	1	0.005
2-Methylnaphthalene		<0.005	mg/L	1	0.005
1,2,4,5-Tetrachlorobenzene		<0.005	mg/L	1	0.005
Hexachlorocyclopentadiene		<0.005	mg/L	1	0.005
2,4,6-Trichlorophenol		<0.005	mg/L	1	0.005
2,4,5-Trichlorophenol		<0.005	mg/L	1	0.005
2-Chloronaphthalene		<0.005	mg/L	1	0.005
1-Chloronaphthalene		<0.005	mg/L	1	0.005
2-Nitroaniline		<0.005	mg/L	1	0.005
Dimethylphthalate		<0.005	mg/L	1	0.005
Acenaphthylene		<0.005	mg/L	1	0.005
2,6-Dinitrotoluene		<0.005	mg/L	1	0.005
3-Nitroaniline		<0.005	mg/L	1	0.005
Acenaphthene		<0.005	mg/L	1	0.005
2,4-Dinitrophenol		<0.005	mg/L	1	0.005
Dibenzofuran		<0.005	mg/L	1	0.005
Pentachlorobenzene		<0.005	mg/L	1	0.005
4-Nitrophenol		<0.005	mg/L	1	0.005
1-Napthylamine		<0.005	mg/L	1	0.005
2,4-Dinitrotoluene		<0.005	mg/L	1	0.005
2-Napthylamine		<0.005	mg/L	1	0.005
2,3,4,6-Tetrachlorophenol		<0.005	mg/L	1	0.005
Fluorene		<0.005	mg/L	1	0.005
Diethylphthalate		<0.005	mg/L	1	0.005
4-Chlorophenyl-phenylether		<0.005	mg/L	1	0.005
4-Nitroaniline		<0.005	mg/L	1	0.005
4,6-Dinitro-2-methylphenol		<0.005	mg/L	1	0.005
Diphenylamine		<0.005	mg/L	1	0.005

Continued ...

... *Continued* Sample: 147771 Analysis: 8270

Param	Flag	Result	Units	Dilution	RDL
Diphenylhydrazine		<0.005	mg/L	1	0.005
4-Bromophenyl-phenylether		<0.005	mg/L	1	0.005
Phenacetin		<0.005	mg/L	1	0.005
Hexachlorobenzene		<0.005	mg/L	1	0.005
4-Aminobiphenyl		<0.005	mg/L	1	0.005
Pentachlorophenol		<0.005	mg/L	1	0.005
Pentachloronitrobenzene		<0.005	mg/L	1	0.005
Pronamide		<0.005	mg/L	1	0.005
Phenanthrene		<0.005	mg/L	1	0.005
Anthracene		<0.005	mg/L	1	0.005
Di-n-butylphthalate		<0.005	mg/L	1	0.005
Fluoranthene		<0.005	mg/L	1	0.005
Benzidine		<0.005	mg/L	1	0.005
Pyrene		<0.005	mg/L	1	0.005
p-Dimethylaminoazobenzene		<0.005	mg/L	1	0.005
Butylbenzylphthalate		<0.005	mg/L	1	0.005
Benzo(a)anthracene		<0.005	mg/L	1	0.005
3,3-Dichlorobenzidine		<0.005	mg/L	1	0.005
Chrysene		<0.005	mg/L	1	0.005
Bis (2-ethylhexyl) phthalate		<0.005	mg/L	1	0.005
Di-n-octylphthalate		<0.005	mg/L	1	0.005
Benzo(b)fluoranthene		<0.005	mg/L	1	0.005
7,12-Dimethylbenz(a)anthracene		<0.005	mg/L	1	0.005
Benzo(k)fluoranthene		<0.005	mg/L	1	0.005
Benzo(a)pyrene		<0.005	mg/L	1	0.005
3-Methylcholanthrene		<0.005	mg/L	1	0.005
Dibenzo(a,j)acridine		<0.005	mg/L	1	0.005
Indeno(1,2,3-cd)pyrene		<0.005	mg/L	1	0.005
Dibenzo(a,h)anthracene		<0.005	mg/L	1	0.005
Benzo(g,h,i)perylene		<0.005	mg/L	1	0.005

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		20.63	mg/L	1	80	25	8 - 73
Nitrobenzene-d5		54.50	mg/L	1	80	68	44 - 109
2-Fluorobiphenyl		55.28	mg/L	1	80	69	45 - 109
2,4,6-Tribromophenol		54.18	mg/L	1	80	67	39 - 132
Terphenyl-d14		54.51	mg/L	1	80	68	46 - 121

Sample: 147771 - 0006081500 (N. Flowers)

Analysis:	Alkalinity	Analytical Method:	E 310.1	QC Batch:	QC03240	Date Analyzed:	6/16/00
Analyst:	LD	Preparation Method:	N/A	Prep Batch:	PB02794	Date Prepared:	6/16/00

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		292	mg/L as CaCo3	1	1
Total Alkalinity		292	mg/L as CaCo3	1	1

Param	Flag	Result	Units	Dilution	RDL
Total Aluminum		0.11	mg/L	1	0.10
Total Arsenic		<0.10	mg/L	1	0.10
Total Barium		0.19	mg/L	1	0.10
Total Boron		0.27	mg/L	1	0.10
Total Cadmium		<0.01	mg/L	1	0.01
Total Chromium		<0.05	mg/L	1	0.05
Total Cobalt		<0.05	mg/L	1	0.05
Total Copper		<0.10	mg/L	1	0.10
Total Iron		5.4	mg/L	1	0.10
Total Lead		<0.05	mg/L	1	0.05
Total Manganese		0.12	mg/L	1	0.10
Total Molybdenum		<0.10	mg/L	1	0.10
Total Nickel		<0.10	mg/L	1	0.10
Total Selenium		<0.05	mg/L	1	0.05
Total Silica		126	mg/L	1	0.50
Total Silver		<0.05	mg/L	1	0.05
Total Zinc		<0.10	mg/L	1	0.10

Sample: 147771 - 0006081500 (N. Flowers)

Analysis:	pH	Analytical Method:	E 150.1	QC Batch:	QC03271	Date Analyzed:	6/12/00
Analyst:	RS	Preparation Method:	N/A	Prep Batch:	PB02820	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
pH	[1]	7.2	s.u.	1	1

Quality Control Report
Method Blank

Sample: Method Blank QCBatch: QC03137

Param	Flag	Results	Units	Reporting Limit
Specific Conductance		2.8	uMHOS/cm	

Sample: Method Blank QCBatch: QC03142

Param	Flag	Results	Units	Reporting Limit
Pyridine		<0.005	mg/L	0.005
n-Nitrosodimethylamine		<0.005	mg/L	0.005
2-Picoline		<0.005	mg/L	0.005

Continued ...

[1] Out of holding time.

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Param	Flag	Results	Units	Reporting Limit
Methyl methanesulfonate		<0.005	mg/L	0.005
Ethyl methanesulfonate		<0.005	mg/L	0.005
Phenol		<0.005	mg/L	0.005
Aniline		<0.005	mg/L	0.005
bis (2-chloroethyl) ether		<0.005	mg/L	0.005
2-Chlorophenol		<0.005	mg/L	0.005
1,3-Dichlorobenzene		<0.005	mg/L	0.005
1,4-Dichlorobenzene		<0.005	mg/L	0.005
Benzyl alcohol		<0.005	mg/L	0.005
1,2-Dichlorobenzene		<0.005	mg/L	0.005
2-Methylphenol		<0.005	mg/L	0.005
bis (2-chloroisopropyl) ether		<0.005	mg/L	0.005
4-Methylphenol/3-Methylphenol		<0.005	mg/L	0.005
Acetophenone		<0.005	mg/L	0.005
n-Nitrosodi-n-propylamine		<0.005	mg/L	0.005
Hexachloroethane		<0.005	mg/L	0.005
Nitrobenzene		<0.005	mg/L	0.005
n-Nitrosopiperidine		<0.005	mg/L	0.005
Isophorone		<0.005	mg/L	0.005
2-Nitrophenol		<0.005	mg/L	0.005
2,4-Dimethylphenol		<0.005	mg/L	0.005
bis (2-chloroethoxy) methane		<0.005	mg/L	0.005
Benzoic acid		<0.005	mg/L	0.005
2,4-Dichlorophenol		<0.005	mg/L	0.005
1,2,4-Trichlorobenzene		<0.005	mg/L	0.005
a,a-Dimethylphenethylamine		<0.005	mg/L	0.005
Naphthalene		<0.005	mg/L	0.005
4-Chloroaniline		<0.005	mg/L	0.005
2,6-Dichlorophenol		<0.005	mg/L	0.005
Hexachlorobutadiene		<0.005	mg/L	0.005
n-Nitroso-di-n-butylamine		<0.005	mg/L	0.005
4-Chloro-3-methylphenol		<0.005	mg/L	0.005
1-Methylnaphthalene		<0.005	mg/L	0.005
2-Methylnaphthalene		<0.005	mg/L	0.005
1,2,4,5-Tetrachlorobenzene		<0.005	mg/L	0.005
Hexachlorocyclopentadiene		<0.005	mg/L	0.005
2,4,6-Trichlorophenol		<0.005	mg/L	0.005
2,4,5-Trichlorophenol		<0.005	mg/L	0.005
2-Chloronaphthalene		<0.005	mg/L	0.005
1-Chloronaphthalene		<0.005	mg/L	0.005
2-Nitroaniline		<0.005	mg/L	0.005
Dimethylphthalate		<0.005	mg/L	0.005
Acenaphthylene		<0.005	mg/L	0.005
2,6-Dinitrotoluene		<0.005	mg/L	0.005
3-Nitroaniline		<0.005	mg/L	0.005
Acenaphthene		<0.005	mg/L	0.005
2,4-Dinitrophenol		<0.005	mg/L	0.005
Dibenzofuran		<0.005	mg/L	0.005
Pentachlorobenzene		<0.005	mg/L	0.005
4-Nitrophenol		<0.005	mg/L	0.005

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Param	Flag	Results	Units	Reporting Limit
1-Napthylamine		<0.005	mg/L	0.005
2,4-Dinitrotoluene		<0.005	mg/L	0.005
2-Napthylamine		<0.005	mg/L	0.005
2,3,4,6-Tetrachlorophenol		<0.005	mg/L	0.005
Fluorene		<0.005	mg/L	0.005
Diethylphthalate		<0.005	mg/L	0.005
4-Chlorophenyl-phenylether		<0.005	mg/L	0.005
4-Nitroaniline		<0.005	mg/L	0.005
4,6-Dinitro-2-methylphenol		<0.005	mg/L	0.005
Diphenylamine		<0.005	mg/L	0.005
Diphenylhydrazine		<0.005	mg/L	0.005
4-Bromophenyl-phenylether		<0.005	mg/L	0.005
Phenacetin		<0.005	mg/L	0.005
Hexachlorobenzene		<0.005	mg/L	0.005
4-Aminobiphenyl		<0.005	mg/L	0.005
Pentachlorophenol		<0.005	mg/L	0.005
Pentachloronitrobenzene		<0.005	mg/L	0.005
Pronamide		<0.005	mg/L	0.005
Phenanthrene		<0.005	mg/L	0.005
Anthracene		<0.005	mg/L	0.005
Di-n-butylphthalate		<0.005	mg/L	0.005
Fluoranthene		<0.005	mg/L	0.005
Benzidine		<0.005	mg/L	0.005
Pyrene		<0.005	mg/L	0.005
p-Dimethylaminoazobenzene		<0.005	mg/L	0.005
Butylbenzylphthalate		<0.005	mg/L	0.005
Benzo(a)anthracene		<0.005	mg/L	0.005
3,3-Dichlorobenzidine		<0.005	mg/L	0.005
Chrysene		<0.005	mg/L	0.005
Bis (2-ethylhexyl) phthalate		<0.005	mg/L	0.005
Di-n-octylphthalate		<0.005	mg/L	0.005
Benzo(b)fluoranthene		<0.005	mg/L	0.005
7,12-Dimethylbenz(a)anthracene		<0.005	mg/L	0.005
Benzo(k)fluoranthene		<0.005	mg/L	0.005
Benzo(a)pyrene		<0.005	mg/L	0.005
3-Methylcholanthrene		<0.005	mg/L	0.005
Dibenzo(a,j)acridine		<0.005	mg/L	0.005
Indeno(1,2,3-cd)pyrene		<0.005	mg/L	0.005
Dibenzo(a,h)anthracene		<0.005	mg/L	0.005
Benzo(g,h,i)perylene		<0.005	mg/L	0.005

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
2-Fluorophenol		25.50	mg/L	80	31	8 - 73
Nitrobenzene-d5		59.91	mg/L	80	74	44 - 109
2-Fluorobiphenyl		58.24	mg/L	80	72	45 - 109
2,4,6-Tribromophenol		57.84	mg/L	80	72	39 - 132
Terphenyl-d14		53.99	mg/L	80	67	46 - 121

Sample: Method Blank QCBatch: QC03190

Param	Flag	Results	Units	Reporting Limit
CL		<0.5	mg/L	0.50
Fluoride		<0.2	mg/L	0.20
Nitrate-N		<0.2	mg/L	0.20
Sulfate		<0.5	mg/L	0.50

Sample: Method Blank QCBatch: QC03193

Param	Flag	Results	Units	Reporting Limit
Total Dissolved Solids		10	mg/L	10

Sample: Method Blank QCBatch: QC03195

Param	Flag	Results	Units	Reporting Limit
Bromochloromethane		<2.00	µg/L	2
Dichlorodifluoromethane		<2.00	µg/L	2
Chloromethane (methyl chloride)		<2.00	µg/L	2
Vinyl Chloride		<2.00	µg/L	2
Bromomethane (methyl bromide)		<5.00	µg/L	5
Chloroethane		<2.00	µg/L	2
Trichlorofluoromethane		<2.00	µg/L	2
Acetone		<10.00	µg/L	10
Iodomethane (methyl iodide)		<2.00	µg/L	2
Carbon Disulfide		<2.00	µg/L	2
Acrylonitrile		<2.00	µg/L	2
2-Butanone (MEK)		<2.00	µg/L	2
4-methyl-2-pentanone (MIBK)		<10.00	µg/L	10
2-hexanone		<2.00	µg/L	2
trans 1,4-Dichloro-2-butene		<10.00	µg/L	10
1,1-Dichloroethene		<2.00	µg/L	2
Methylene chloride		<5.00	µg/L	5
MTBE		<2.00	µg/L	2
trans-1,2-Dichloroethene		<2.00	µg/L	2
1,1-Dichloroethane		<2.00	µg/L	2
cis-1,2-dichloroethene		<2.00	µg/L	2
2,2-Dichloropropane		<2.00	µg/L	2
1,2-Dichloroethane (EDC)		<2.00	µg/L	2
Chloroform		<2.00	µg/L	2
1,1,1-Trichloroethane		<2.00	µg/L	2
1,1-Dichloropropene		<2.00	µg/L	2
Benzene		<2.00	µg/L	2
Carbon Tetrachloride		<2.00	µg/L	2
1,2-Dichloropropane		<2.00	µg/L	2
Trichloroethene (TCE)		<2.00	µg/L	2

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Param	Flag	Results	Units	Reporting Limit
Dibromomethane (methylene bromide)		<2.00	µg/L	2
Bromodichloromethane		<2.00	µg/L	2
2-Chloroethyl vinyl ether		<10.00	µg/L	10
cis-1,3-Dichloropropene		<2.00	µg/L	2
trans-1,3-Dichloropropene		<2.00	µg/L	2
Toluene		<2.00	µg/L	2
1,1,2-Trichloroethane		<2.00	µg/L	2
1,3-Dichloropropane		<2.00	µg/L	2
Dibromochloromethane		<2.00	µg/L	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	2
Tetrachloroethene (PCE)		<2.00	µg/L	2
Chlorobenzene		<2.00	µg/L	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	2
Ethylbenzene		<2.00	µg/L	2
m,p-Xylene		<2.00	µg/L	2
Bromoform		<2.00	µg/L	2
Styrene		<2.00	µg/L	2
o-Xylene		<2.00	µg/L	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	2
2-Chlorotoluene		<2.00	µg/L	2
1,2,3-Trichloropropane		<2.00	µg/L	2
Isopropylbenzene		<2.00	µg/L	2
Bromobenzene		<2.00	µg/L	2
n-Propylbenzene		<2.00	µg/L	2
1,3,5-Trimethylbenzene		<2.00	µg/L	2
tert-Butylbenzene		<2.00	µg/L	2
1,2,4-Trimethylbenzene		<2.00	µg/L	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	2
sec-Butylbenzene		<2.00	µg/L	2
1,3-Dichlorobenzene		<2.00	µg/L	2
p-Isopropyltoluene		<2.00	µg/L	2
4-Chlorotoluene		<2.00	µg/L	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	2
n-Butylbenzene		<2.00	µg/L	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5
1,2,3-Trichlorobenzene		<5.00	µg/L	5
1,2,4-Trichlorobenzene		<5.00	µg/L	5
Naphthalene		<2.00	µg/L	2
Hexachlorobutadiene		<5.00	µg/L	5

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
Dibromofluoromethane		51.65	µg/L	50	103	84 - 116
Toluene-d8		51.61	µg/L	50	103	92 - 108
4-Bromofluorobenzene		43.93	µg/L	50	87	80 - 110

Sample: Method Blank QCBatch: QC03240

Param	Flag	Results	Units	Reporting Limit
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1
Bicarbonate Alkalinity		<2.0	mg/L as CaCo3	1
Total Alkalinity		<2.0	mg/L as CaCo3	1

Sample: Method Blank QCBatch: QC03374

Param	Flag	Results	Units	Reporting Limit
Dissolved Calcium		<0.50	mg/L	0.50
Dissolved Magnesium		<0.50	mg/L	0.50
Dissolved Potassium		<0.50	mg/L	0.50
Dissolved Sodium		<0.50	mg/L	0.50

Sample: Method Blank QCBatch: QC03389

Param	Flag	Results	Units	Reporting Limit
Total Aluminum		<0.10	mg/L	0.10
Total Arsenic		<0.10	mg/L	0.10
Total Barium		<0.10	mg/L	0.10
Total Boron		<0.10	mg/L	0.10
Total Cadmium		<0.01	mg/L	0.01
Total Chromium		<0.05	mg/L	0.05
Total Cobalt		<0.05	mg/L	0.05
Total Copper		<0.10	mg/L	0.10
Total Iron		<0.10	mg/L	0.10
Total Lead		<0.05	mg/L	0.05
Total Manganese		<0.10	mg/L	0.10
Total Molybdenum		<0.10	mg/L	0.10
Total Nickel		<0.10	mg/L	0.10
Total Selenium		<0.05	mg/L	0.05
Total Silica		<0.50	mg/L	0.50
Total Silver		<0.05	mg/L	0.05
Total Zinc		<0.10	mg/L	0.10

Sample: Method Blank QCBatch: QC03390

Param	Flag	Results	Units	Reporting Limit
Total Mercury		<0.0002	mg/L	0.0002

Quality Control Report

Lab Control Spikes and Duplicate Spikes

Sample: LCS QC Batch: QC03142

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Phenol		42.824	mg/L	1	80	<0.005	53		5 - 57	20
2-Chlorophenol		43.416	mg/L	1	80	<0.005	54		29 - 110	20
1,4-Dichlorobenzene		54.708	mg/L	1	80	<0.005	68		25 - 94	20
n-Nitrosodi-n-propylamine		58.916	mg/L	1	80	<0.005	73		36 - 119	20
1,2,4-Trichlorobenzene		56.070	mg/L	1	80	<0.005	70		28 - 110	20
4-Chloro-3-methylphenol		49.008	mg/L	1	80	<0.005	61		40 - 126	20
Acenaphthene		50.649	mg/L	1	80	<0.005	63		47 - 118	20
4-Nitrophenol		38.123	mg/L	1	80	<0.005	47		0 - 69	20
2,4-Dinitrotoluene		62.227	mg/L	1	80	<0.005	77		46 - 133	20
Pentachlorophenol		33.291	mg/L	1	80	<0.005	41		21 - 131	20
Pyrene		49.127	mg/L	1	80	<0.005	61		44 - 125	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
2-Fluorophenol		49.05	mg/L	1	80	61	8 - 73
Phenol-d5		53.54	mg/L	1	80	66	8 - 62
Nitrobenzene-d5		53.51	mg/L	1	80	66	44 - 109
2-Fluorobiphenyl		53.68	mg/L	1	80	67	45 - 109
2,4,6-Tribromophenol		51.74	mg/L	1	80	64	39 - 132
Terphenyl-d14		53.77	mg/L	1	80	67	46 - 121

Sample: LCSD QC Batch: QC03142

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Phenol		45.977	mg/L	1	80	<0.005	57	7.10	5 - 57	20
2-Chlorophenol		46.473	mg/L	1	80	<0.005	58	6.80	29 - 110	20
1,4-Dichlorobenzene		56.488	mg/L	1	80	<0.005	70	3.20	25 - 94	20
n-Nitrosodi-n-propylamine		61.484	mg/L	1	80	<0.005	76	4.26	36 - 119	20
1,2,4-Trichlorobenzene		57.925	mg/L	1	80	<0.005	72	3.25	28 - 110	20
4-Chloro-3-methylphenol		54.881	mg/L	1	80	<0.005	68	11.30	40 - 126	20
Acenaphthene		53.894	mg/L	1	80	<0.005	67	6.20	47 - 118	20
4-Nitrophenol		43.909	mg/L	1	80	<0.005	54	14.10	0 - 69	20
2,4-Dinitrotoluene		68.147	mg/L	1	80	<0.005	85	9.08	46 - 133	20
Pentachlorophenol		38.058	mg/L	1	80	<0.005	47	13.36	21 - 131	20
Pyrene		45.151	mg/L	1	80	<0.005	56	8.43	44 - 125	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
2-Fluorophenol		51.82	mg/L	1	80	64	8 - 73

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Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Phenol-d5		56.70	mg/L	1	80	70	8 - 62
Nitrobenzene-d5		55.67	mg/L	1	80	69	44 - 109
2-Fluorobiphenyl		58.17	mg/L	1	80	72	45 - 109
2,4,6-Tribromophenol		54.87	mg/L	1	80	68	39 - 132
Terphenyl-d14		50.62	mg/L	1	80	63	46 - 121

Sample: LCS QC Batch: QC03195

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
1,1-Dichloroethene		100	µg/L	1	100	<2.00	100		73 - 154	20
Benzene		98	µg/L	1	100	<2.00	98		84 - 126	20
Trichloroethene (TCE)		98	µg/L	1	100	<2.00	98		82 - 123	20
Toluene		97	µg/L	1	100	<2.00	97		81 - 122	20
Chlorobenzene		103	µg/L	1	100	<2.00	103		86 - 121	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Dibromofluoromethane		50.92	µg/L	1	50	101	84 - 116
Toluene-d8		50.07	µg/L	1	50	100	92 - 108
4-Bromofluorobenzene		44.30	µg/L	1	50	88	80 - 110

Sample: LCSD QC Batch: QC03195

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
1,1-Dichloroethene		100	µg/L	1	100	<2.00	100	0.00	73 - 154	20
Benzene		99	µg/L	1	100	<2.00	99	1.01	84 - 126	20
Trichloroethene (TCE)		98	µg/L	1	100	<2.00	98	0.00	82 - 123	20
Toluene		99	µg/L	1	100	<2.00	99	2.04	81 - 122	20
Chlorobenzene		105	µg/L	1	100	<2.00	105	1.92	86 - 121	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Dibromofluoromethane		51.22	µg/L	1	50	102	84 - 116
Toluene-d8		49.81	µg/L	1	50	99	92 - 108
4-Bromofluorobenzene		45.19	µg/L	1	50	90	80 - 110

Sample: LCS QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1063	mg/L	1	1000	<0.50	106		75 - 125	20
Dissolved Magnesium		982	mg/L	1	1000	<0.50	98		75 - 125	20
Dissolved Potassium		968	mg/L	1	1000	<0.50	97		75 - 125	20
Dissolved Sodium		955	mg/L	1	1000	<0.50	96		75 - 125	20

Sample: LCSD

QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1077	mg/L	1	1000	<0.50	108	1.30	75 - 125	20
Dissolved Magnesium		992	mg/L	1	1000	<0.50	99	1.01	75 - 125	20
Dissolved Potassium		951	mg/L	1	1000	<0.50	95	1.77	75 - 125	20
Dissolved Sodium		960	mg/L	1	1000	<0.50	96	0.52	75 - 125	20

Sample: LCS

QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		1.95	mg/L	1	2	<0.10	97		75 - 125	20
Total Arsenic		1.89	mg/L	1	2	<0.10	94		75 - 125	20
Total Barium		2.07	mg/L	1	2	<0.10	103		75 - 125	20
Total Boron		1.90	mg/L	1	2	<0.10	95		75 - 125	20
Total Cadmium		2.02	mg/L	1	2	<0.01	101		75 - 125	20
Total Chromium		2.07	mg/L	1	2	<0.05	103		75 - 125	20
Total Cobalt		2.13	mg/L	1	2	<0.05	106		75 - 125	20
Total Copper		2.06	mg/L	1	2	<0.10	103		75 - 125	20
Total Iron		2.08	mg/L	1	2	<0.10	104		75 - 125	20
Total Lead		2.01	mg/L	1	2	<0.05	100		75 - 125	20
Total Manganese		2.09	mg/L	1	2	<0.10	104		75 - 125	20
Total Molybdenum		2.14	mg/L	1	2	<0.10	107		75 - 125	20
Total Nickel		2.01	mg/L	1	2	<0.10	101		75 - 125	20
Total Selenium		1.66	mg/L	1	2	<0.05	83		75 - 125	20
Total Silica		9.75	mg/L	1	10	<0.50	97		75 - 125	20
Total Silver		0.35	mg/L	1	0.40	<0.05	87		75 - 125	20
Total Zinc		2.10	mg/L	1	2	<0.10	105		75 - 125	20

Sample: LCSD

QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		1.95	mg/L	1	2	<0.10	97	0.00	75 - 125	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Arsenic		1.90	mg/L	1	2	<0.10	95	0.52	75 - 125	20
Total Barium		2.08	mg/L	1	2	<0.10	104	0.48	75 - 125	20
Total Boron		1.91	mg/L	1	2	<0.10	95	0.52	75 - 125	20
Total Cadmium		2.03	mg/L	1	2	<0.01	101	0.49	75 - 125	20
Total Chromium		2.07	mg/L	1	2	<0.05	103	0.00	75 - 125	20
Total Cobalt		2.14	mg/L	1	2	<0.05	107	0.46	75 - 125	20
Total Copper		2.07	mg/L	1	2	<0.10	103	0.48	75 - 125	20
Total Iron		2.09	mg/L	1	2	<0.10	104	0.47	75 - 125	20
Total Lead		2.02	mg/L	1	2	<0.05	101	0.49	75 - 125	20
Total Manganese		2.10	mg/L	1	2	<0.10	105	0.47	75 - 125	20
Total Molybdenum		2.14	mg/L	1	2	<0.10	107	0.00	75 - 125	20
Total Nickel		2.03	mg/L	1	2	<0.10	102	0.99	75 - 125	20
Total Selenium		1.69	mg/L	1	2	<0.05	84	1.79	75 - 125	20
Total Silica		9.84	mg/L	1	10	<0.50	98	0.91	75 - 125	20
Total Silver		0.36	mg/L	1	0.40	<0.05	90	2.81	75 - 125	20
Total Zinc		2.10	mg/L	1	2	<0.10	105	0.00	75 - 125	20

Sample: LCS QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00103	mg/L	1	0.001	<0.0002	103		80 - 120	20

Sample: LCSD QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00111	mg/L	1	0.001	<0.0002	111	7.47	80 - 120	20

Quality Control Report
Matrix Spikes and Duplicate Spikes

Sample: MS QC Batch: QC03190

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Cl		117.23	mg/L	1	62.50	58	94		80 - 120	20
Fluoride		13.97	mg/L	1	12.50	2.3	93		80 - 120	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Nitrate-N		26.33	mg/L	1	25	3.3	92		80 - 120	20
Sulfate		129.52	mg/L	1	62.50	69	96		80 - 120	20

Sample: MSD QC Batch: QC03190

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
CL		117.28	mg/L	1	62.50	58	94	0.08	80 - 120	20
Fluoride		13.75	mg/L	1	12.50	2.3	91	1.90	80 - 120	20
Nitrate-N		25.86	mg/L	1	25	3.3	90	2.06	80 - 120	20
Sulfate		129.38	mg/L	1	62.50	69	96	0.23	80 - 120	20

Sample: MS QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1182	mg/L	1	1000	162	102		75 - 125	20
Dissolved Magnesium		1010	mg/L	1	1000	26	98		75 - 125	20
Dissolved Potassium		953	mg/L	1	1000	2.9	95		75 - 125	20
Dissolved Sodium		1001	mg/L	1	1000	66	93		75 - 125	20

Sample: MSD QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1157	mg/L	1	1000	162	99	2.48	75 - 125	20
Dissolved Magnesium		997	mg/L	1	1000	26	97	1.32	75 - 125	20
Dissolved Potassium		938	mg/L	1	1000	2.9	93	1.59	75 - 125	20
Dissolved Sodium		968	mg/L	1	1000	66	90	3.59	75 - 125	20

Sample: MS QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		2.12	mg/L	1	2	<0.10	106		75 - 125	20
Total Arsenic		1.92	mg/L	1	2	<0.10	96		75 - 125	20
Total Barium		2.11	mg/L	1	2	0.10	100		75 - 125	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Boron		2.08	mg/L	1	2	0.21	93		75 - 125	20
Total Cadmium		1.92	mg/L	1	2	<0.01	96		75 - 125	20
Total Chromium		1.99	mg/L	1	2	<0.05	99		75 - 125	20
Total Cobalt		2.00	mg/L	1	2	<0.05	100		75 - 125	20
Total Copper		1.99	mg/L	1	2	<0.10	99		75 - 125	20
Total Iron		2.04	mg/L	1	2	<0.10	102		75 - 125	20
Total Lead		1.92	mg/L	1	2	<0.05	96		75 - 125	20
Total Manganese		2.02	mg/L	1	2	<0.10	101		75 - 125	20
Total Molybdenum		2.08	mg/L	1	2	<0.10	104		75 - 125	20
Total Nickel		1.94	mg/L	1	2	<0.10	98		75 - 125	20
Total Selenium		1.67	mg/L	1	2	<0.05	83		75 - 125	20
Total Silica		119	mg/L	1	10	107	120		75 - 125	20
Total Silver		0.34	mg/L	1	0.40	<0.05	85		75 - 125	20
Total Zinc		2.00	mg/L	1	2	<0.10	100		75 - 125	20

Sample: MSD

QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		2.16	mg/L	1	2	<0.10	108	1.86	75 - 125	20
Total Arsenic		1.93	mg/L	1	2	<0.10	96	0.51	75 - 125	20
Total Barium		2.12	mg/L	1	2	0.10	101	0.49	75 - 125	20
Total Boron		2.10	mg/L	1	2	0.21	94	1.06	75 - 125	20
Total Cadmium		1.91	mg/L	1	2	<0.01	95	0.52	75 - 125	20
Total Chromium		1.99	mg/L	1	2	<0.05	99	0.00	75 - 125	20
Total Cobalt		2.00	mg/L	1	2	<0.05	100	0.00	75 - 125	20
Total Copper		2.01	mg/L	1	2	<0.10	100	0.99	75 - 125	20
Total Iron		2.05	mg/L	1	2	<0.10	102	0.48	75 - 125	20
Total Lead		1.92	mg/L	1	2	<0.05	96	0.00	75 - 125	20
Total Manganese		2.03	mg/L	1	2	<0.10	101	0.49	75 - 125	20
Total Molybdenum		2.08	mg/L	1	2	<0.10	104	0.00	75 - 125	20
Total Nickel		1.95	mg/L	1	2	<0.10	98	0.51	75 - 125	20
Total Selenium		1.69	mg/L	1	2	<0.05	84	1.19	75 - 125	20
Total Silica		118	mg/L	1	10	107	110	8.69	75 - 125	20
Total Silver		0.36	mg/L	1	0.40	<0.05	90	5.71	75 - 125	20
Total Zinc		1.99	mg/L	1	2	<0.10	99	0.50	75 - 125	20

Sample: MS

QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00112	mg/L	1	0.001	<0.0002	112		80 - 120	20

Sample: MSD QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00103	mg/L	1	0.001	<0.0002	103	8.37	80 - 120	20

Quality Control Report
Duplicate Samples

Sample: Duplicate QC Batch: QC03137

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Specific Conductance		943	940	uMHOS/cm	1	0.31	20

Sample: Duplicate QC Batch: QC03193

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids		2118	1900	mg/L	1	10.85	20

Sample: Duplicate QC Batch: QC03240

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Hydroxide Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0.00	20
Carbonate Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0.00	20
Bicarbonate Alkalinity		313	316	mg/L as CaCo3	1	0.95	20
Total Alkalinity		313	316	mg/L as CaCo3	1	0.95	20

Sample: Duplicate QC Batch: QC03271

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH		7.1	7.1	s.u.	1	0.00	20

Quality Control Report
Continuing Calibration Verification Standards

Sample: CCV (1) QC Batch: QC03137

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1413	1406	99	80 - 120	6/12/00

Sample: ICV (1) QC Batch: QC03137

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1413	1406	99	80 - 120	6/12/00

Sample: CCV (1) QC Batch: QC03142

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Phenol		mg/L	60	63.48	105	5 - 57	6/12/00
1,4-Dichlorobenzene		mg/L	60	58.75	97	25 - 94	6/12/00
2-Nitrophenol		mg/L	60	59.98	99	80 - 120	6/12/00
2,4-Dichlorophenol		mg/L	60	62.59	104	80 - 120	6/12/00
Hexachlorobutadiene		mg/L	60	55.74	92	80 - 120	6/12/00
4-Chloro-3-methylphenol		mg/L	60	62.67	104	40 - 126	6/12/00
2,4,6-Trichlorophenol		mg/L	60	57.22	95	80 - 120	6/12/00
Acenaphthene		mg/L	60	58.12	96	47 - 118	6/12/00
Diphenylamine		mg/L	60	58.17	96	80 - 120	6/12/00
Pentachlorophenol		mg/L	60	58.45	97	21 - 131	6/12/00
Fluoranthene		mg/L	60	59.51	99	80 - 120	6/12/00
Di-n-octylphthalate		mg/L	60	60.38	100	80 - 120	6/12/00
Benzo(a)pyrene		mg/L	60	55.79	92	80 - 120	6/12/00
2-Fluorophenol		mg/L	60	59.39	98	8 - 73	6/12/00
Phenol-d5		mg/L	60	63.57	105	8 - 62	6/12/00
Nitrobenzene-d5		mg/L	60	59.40	99	44 - 109	6/12/00
2-Fluorobiphenyl		mg/L	60	57.74	96	45 - 109	6/12/00
2,4,6-Tribromophenol		mg/L	60	54.22	90	39 - 132	6/12/00
Terphenyl-d14		mg/L	60	53.41	89	46 - 121	6/12/00

Sample: CCV (1) QC Batch: QC03190

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
CL		mg/L	12.50	11.80	94	80 - 120	6/10/00
Fluoride		mg/L	2.50	2.45	98	80 - 120	6/10/00
Nitrate-N		mg/L	5	4.79	95	80 - 120	6/10/00

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		mg/L	12.50	12.07	96	80 - 120	6/10/00

Sample: ICV (1) QC Batch: QC03190

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
CL		mg/L	12.50	11.57	92	80 - 120	6/10/00
Fluoride		mg/L	2.50	2.50	100	80 - 120	6/10/00
Nitrate-N		mg/L	5	4.81	96	80 - 120	6/10/00
Sulfate		mg/L	12.50	11.98	95	80 - 120	6/10/00

Sample: CCV (1) QC Batch: QC03193

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	1005	100	80 - 120	6/13/00

Sample: ICV (1) QC Batch: QC03193

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	991	99	80 - 120	6/13/00

Sample: CCV (1) QC Batch: QC03195

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Vinyl Chloride		µg/L	100	96	96	80 - 120	6/13/00
1,1-Dichloroethene		µg/L	100	99	99	73 - 154	6/13/00
Chloroform		µg/L	100	100	100	80 - 120	6/13/00
1,2-Dichloropropane		µg/L	100	101	101	80 - 120	6/13/00
Toluene		µg/L	100	100	100	81 - 122	6/13/00
Chlorobenzene		µg/L	100	102	102	86 - 121	6/13/00
Ethylbenzene		µg/L	100	106	106	80 - 120	6/13/00
Dibromofluoromethane		µg/L	50	50.44	100	80 - 120	6/13/00
Toluene-d8		µg/L	50	49.03	98	80 - 120	6/13/00
4-Bromofluorobenzene		µg/L	50	50.36	100	80 - 120	6/13/00

Sample: CCV (1) QC Batch: QC03240

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	80 - 120	6/16/00
Carbonate Alkalinity		mg/L as CaCo3	0	198	0	80 - 120	6/16/00
Bicarbonate Alkalinity		mg/L as CaCo3	0	36	0	80 - 120	6/16/00
Total Alkalinity		mg/L as CaCo3	250	234	93	80 - 120	6/16/00

Sample: ICV (1) QC Batch: QC03240

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	80 - 120	6/16/00
Carbonate Alkalinity		mg/L as CaCo3	0	230	0	80 - 120	6/16/00
Bicarbonate Alkalinity		mg/L as CaCo3	0	17	0	80 - 120	6/16/00
Total Alkalinity		mg/L as CaCo3	250	247	98	80 - 120	6/16/00

Sample: CCV (1) QC Batch: QC03271

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.0	100	80 - 120	6/12/00

Sample: ICV (1) QC Batch: QC03271

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.0	100	80 - 120	6/12/00

Sample: CCV (1) QC Batch: QC03374

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	20	21.6	108	75 - 125	6/20/00
Dissolved Magnesium		mg/L	20	21.2	106	75 - 125	6/20/00
Dissolved Potassium		mg/L	20	20.9	104	75 - 125	6/20/00
Dissolved Sodium		mg/L	20	19.5	97	75 - 125	6/20/00

Sample: ICV (1) QC Batch: QC03374

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	20	20.9	104	75 - 125	6/20/00
Dissolved Magnesium		mg/L	20	20.2	101	75 - 125	6/20/00
Dissolved Potassium		mg/L	20	20.3	101	75 - 125	6/20/00
Dissolved Sodium		mg/L	20	19.1	95	75 - 125	6/20/00

Sample: CCV (1) QC Batch: QC03389

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	5	5.28	105	75 - 125	6/17/00
Total Arsenic		mg/L	2.50	2.63	105	75 - 125	6/17/00
Total Barium		mg/L	5	5.28	105	75 - 125	6/17/00
Total Boron		mg/L	2.50	2.64	105	75 - 125	6/17/00
Total Cadmium		mg/L	0.50	0.52	104	75 - 125	6/17/00
Total Chromium		mg/L	1	1.05	105	75 - 125	6/17/00
Total Cobalt		mg/L	2.50	2.61	104	75 - 125	6/17/00
Total Copper		mg/L	1	1.06	106	75 - 125	6/17/00
Total Iron		mg/L	5	5.25	104	75 - 125	6/17/00
Total Lead		mg/L	2.50	2.64	104	75 - 125	6/17/00
Total Manganese		mg/L	0.50	0.53	106	75 - 125	6/17/00
Total Molybdenum		mg/L	2.50	2.63	104	75 - 125	6/17/00
Total Nickel		mg/L	2.50	2.64	104	75 - 125	6/17/00
Total Selenium		mg/L	2.50	2.66	104	75 - 125	6/17/00
Total Silica		mg/L	2.50	2.60	104	75 - 125	6/17/00
Total Silver		mg/L	0.50	0.52	104	75 - 125	6/17/00
Total Zinc		mg/L	0.50	0.53	106	75 - 125	6/17/00

Sample: ICV (1) QC Batch: QC03389

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	5	4.99	99	75 - 125	6/17/00
Total Arsenic		mg/L	2.50	2.48	99	75 - 125	6/17/00
Total Barium		mg/L	5	5.04	100	75 - 125	6/17/00
Total Boron		mg/L	2.50	2.57	102	75 - 125	6/17/00
Total Cadmium		mg/L	0.50	0.50	100	75 - 125	6/17/00
Total Chromium		mg/L	1	1.00	100	75 - 125	6/17/00
Total Cobalt		mg/L	2.50	2.50	100	75 - 125	6/17/00
Total Copper		mg/L	1	1.00	100	75 - 125	6/17/00
Total Iron		mg/L	5	5.03	101	75 - 125	6/17/00
Total Lead		mg/L	2.50	2.52	100	75 - 125	6/17/00
Total Manganese		mg/L	0.50	0.50	100	75 - 125	6/17/00

Continued ...

... Continued

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Molybdenum		mg/L	2.50	2.50	100	75 - 125	6/17/00
Total Nickel		mg/L	2.50	2.51	100	75 - 125	6/17/00
Total Selenium		mg/L	2.50	2.50	100	75 - 125	6/17/00
Total Silica		mg/L	2.50	2.45	100	75 - 125	6/17/00
Total Silver		mg/L	0.50	0.50	100	75 - 125	6/17/00
Total Zinc		mg/L	0.50	0.51	100	75 - 125	6/17/00

Sample: CCV (1)

QC Batch: QC03390

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.001	0.00088	88	80 - 120	6/22/00

Sample: ICV (1)

QC Batch: QC03390

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.001	0.00092	92	80 - 120	6/22/00

147771

Page 1 of 1

6701 Aberdeen Avenue, Ste. 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

TraceAnalysis, Inc.

4725 Ripley Dr., Ste A
El Paso, Texas 79922-1028
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # A00041012

Company Name: NM Oil Conservation Division
Phone #: 505-827-7154

Address: (Street, City, Zip) 2040 S Pacheco SANTA Fe 87505
Fax #: 505-827-8177

Contact Person: BILL OLSON

Invoice to: (If different from above)

Project #:
Project Name: WINDMILL OIL

Project Location: North Flowers
Sampler Signature: Bill Olson

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	NaHSO4	H2SO4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
147771	000608 1500 (N. Flowers)	2	40 ml	✓				✓					✓		6/8/00	1500
	000608 1500 (N. Flowers)	1	liter	✓									✓		6/8/00	1500
	000608 1500 (N. Flowers)	1	liter	✓									✓		6/8/00	1500
	000608 1500 (N. Flowers)	1	500 ml	✓					✓				✓		6/8/00	1500

ANALYSIS REQUEST (Circle or Specify Method No.)

MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC-MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH			Turn Around Time if different from standard	Hold
										2								
											1							
															1			
																1		

SEL CHEM OCD ITEM #24
OCD METALS ITEM #23

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Bill Olson	6/9/00	1200			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by: Vicki Beasley	6-10-00	10:00

LAB USE ONLY
Intact Y / N
Headspace Y / N
Temp 2 °
Log-in Review

REMARKS:

Carrier # BUS 902 421 3737

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.

ORIGINAL COPY

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Betty Rivera
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

February 19, 2002

Hilga Blos
3907 West Bender
Hobbs, New Mexico 88240

RE: WATER WELL SAMPLE ANALYSES

Dear Ms. Blos:

On January 9, 2002, the New Mexico Oil Conservation Division (OCD) obtained a water sample from the private water well at the property you rent at 3907 West Bender in Hobbs, New Mexico. Enclosed you will find a copy of the volatile organic and general water chemistry laboratory analytical results of that water sample. The laboratory analyses show that there are no detectable petroleum-related or other volatile organics in your well water. The analyses also show that the general water chemistry is within human health and domestic water supply standards set by the New Mexico Water Quality Control Commission. The OCD is still awaiting the results of the heavy metals analyses. The New Mexico Scientific Laboratory Division has informed the OCD that they have a backlog of approximately 1000 metals samples to analyze. The OCD will send you copies of the metals analysis results when they are received.

If you have any questions regarding the laboratory analyses of your water, please feel free to call me at (505) 476-3491.

Sincerely,

William C. Olson
Hydrologist
Environmental Bureau

Enclosure

xc w/ enclosure: Chris Williams, OCD Hobbs District Supervisor
Rozanne Johnson, NMED Hobbs Field Office
Jan Pfeiffer
Patrick McMahon, Heidel, Samberson, Newell, Cox & McMahon

STATE OF NEW MEXICO

DEPARTMENT OF HEALTH

SCIENTIFIC LABORATORY DIVISION

P.O Box 4700
Albuquerque, NM 87196-4700

700 Camino de Salud, NE
(505) 841-2500

WATER CHEMISTRY SECTION (505)-841-2555

SAMPLE COLLECTION DATE: 1/9/2002 TIME: 10:01 BY: SHEELEY

SAMPLING LOCATION: HELGA BLOS

SAMPLE MATRIX: wn

SLD No.: WC- 200200048

REQUEST ID No.:	2329885
RECEIVED AT SLD:	1/10/2002
USER:	70320
SUBMITTER:	999
WSS #:	0

This Copy of Report for::

New Mexico Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

DISTRIBUTION TO:

NM E, M & NR - Oil Conserv Div (U)
New Mexico Oil Conservation Division (S)
Water Chemistry Section - File Copy

ANALYTICAL RESULTS

Analyte	Result	Units	Analysis Date	Method	Minimum Level	Dilution Factor	Sample Det. Limit	Analyst	Data Qualifier
Potassium	<5	mG/L	1/11/2002	200.7	1.	1.	1.	Cliff Kear	
Sodium	70.6	mG/L	1/11/2002	200.7	1.	1.	1.	Cliff Kear	
Hardness (Ca & Mg)	464.	mG/L CaCO3	1/11/2002	200.7	6.6	1.	6.6	Cliff Kear	
Calcium	140.	mG/L	1/11/2002	200.7	1.	1.	1.	Cliff Kear	
Magnesium	27.6	mG/L	1/11/2002	200.7	1.	1.	1.	Cliff Kear	
Alkalinity (CO3 & HCO3)	311.	mG/L	1/22/2002	310.1	2.5	1.	2.5	Roberta Hine	
Carbonate	0.	mG/L	1/22/2002	310.1	.	1.	.	Roberta Hine	
Bicarbonate	379.	mG/L	1/22/2002	310.1	3.	1.	3.	Roberta Hine	
Chloride	<10	mG/L	1/15/2002	300.	10.	1.	10.	Cliff Kear	
Sulfate	<10	mG/L	1/15/2002	300.	10.	1.	10.	Cliff Kear	
pH	8.01	pH Units	1/22/2002	310.1	.	1.	.	Roberta Hine	
TDS	782.	mG/L	1/16/2002	160.1	10.	1.	10.	Roberta Hine	
Ion Balance	33.	%Dif.	1/22/2002	SM1030F	–	1.	–	Calculated	

Laboratory Comments:

Reviewed by Chris Dean
Supervisor, Water Chemistry Section

Date Printed: 31-Jan-02

Data Qualifier Codes and Definitions

A - Insufficient sample to analyze or verify results
B - Sample holding time exceeded at laboratory
C - Sample submitted past holding time
D - Inconsistent results, data unusable, suggest re-sampling
E - Matrix interference suspected
F - Ion balance criteria exceeded
G - Result equals 50% or more of EPA MCL
H - Result equals or exceeds EPA MCL for this analyte
I - Spike recovery <80% or >120%
J - Estimated quantity only
K - Sample rejected
L - Sample voided at laboratory
M - Daily control value <80% or >120% of theoretical value
N - External control value <80% or >120% of theoretical value

RECEIVED

FEB 05 2002

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

RECEIVED
FEB 01 2002
ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

STATE OF NEW MEXICO — DEPARTMENT OF HEALTH

SCIENTIFIC LABORATORY DIVISION

P.O. Box 4700
Albuquerque, NM 87196-4700
700 Camino de Salud, NE
[505] 841-2500
ORGANIC CHEMISTRY SECTION [505] 841-2570

REPORT TO CLIENT:

Bill Olson
New Mexico Oil Conservation Division
1220 St. Francis Drive
Santa Fe, Nm 87505

SLD No.: OR- 200200060
REQUEST ID No.: 2329886
RECEIVED AT SLD: 1/10/02
SLD COPY USER 70320

SAMPLE COLLECTION: DATE: 1/9/02 TIME: 1003 BY: SHEELEY
FACILITY NAME: Windmill Oil - BLOS
SAMPLING LOCATION: HELGA BLOS
SAMPLE MATRIX: Water REPORTING UNITS: µg/L

Remarks: No Targeted Compounds were detected in this sample.

EPA METHOD 8260 MASS SPECTROMETER VOLATILES BY PURGE AND TRAP

DATE EXTRACTED: N/A
DATE ANALYZED: 1/12/02 (3 Days: Within EPA Analysis Time)
SAMPLE VOL (ml): 5.0

ANALYSIS No.: OR- 200200060
SLD BATCH No.: 003
DILUTION FACTOR: 1.00
REQUEST ID No.: 2329886

SAMPLE PRESERVATION: Sample temperature when received: 5 Degrees C.; sample preserved with HCl acid: pH = 2

CAS #	ANALYTE NAME	CONC. (ug/L)	QUAL.	SDL
71-43-2	Benzene		U	0.10
108-86-1	Bromobenzene		U	0.19
74-97-5	Bromochloromethane		U	0.17
75-27-4	Bromodichloromethane*		U	0.13
75-25-2	Bromoform*		U	0.26
74-83-9	Bromomethane		U	0.24
78-93-3	2-Butanone (MEK)		U	0.40
104-51-8	n-Butylbenzene		U	0.24
135-98-8	sec-Butylbenzene		U	0.28
98-06-6	tert-Butylbenzene		U	0.27
1634-04-4	tert-Butyl methyl ether (MTBE)		U	0.17
56-23-5	Carbon tetrachloride		U	0.20
108-90-7	Chlorobenzene (monochlorobenzene)		U	0.11
75-00-3	Chloroethane		U	0.21
67-66-3	Chloroform*		U	0.11
74-87-3	Chloromethane		U	0.33
95-49-8	2-Chlorotoluene		U	0.13
106-43-4	4-Chlorotoluene		U	0.24
96-12-8	1,2-Dibromo-3-chloropropane (DBCP)		U	0.42
124-48-1	Dibromochloromethane*		U	0.20
106-93-4	1,2-Dibromoethane (Ethylene dibromide (EDB))		U	0.14
74-95-3	Dibromomethane		U	0.17
95-50-1	1,2-Dichlorobenzene (o-Dichlorobenzene)		U	0.18
541-73-1	1,3-Dichlorobenzene (m-Dichlorobenzene)		U	0.17
106-46-7	1,4-Dichlorobenzene (p-Dichlorobenzene)		U	0.16
75-71-8	Dichlorodifluoromethane		U	0.62
75-34-3	1,1-Dichloroethane		U	0.28
107-06-2	1,2-Dichloroethane		U	0.27
75-35-4	1,1-Dichloroethene		U	0.17
156-59-2	cis-1,2-Dichloroethene		U	0.26
156-60-5	trans-1,2-Dichloroethene		U	0.14
78-87-5	1,2-Dichloropropane		U	0.15
142-28-9	1,3-Dichloropropane		U	0.29
594-20-7	2,2-Dichloropropane		U	0.26
563-58-6	1,1-Dichloropropene		U	0.36

1006-10-15	cis-1,3-Dich. ,propene		U	0.33
1006-10-26	trans-1,3-Dichloropropene		U	0.26
100-41-4	Ethylbenzene		U	0.08
87-68-3	Hexachlorobutadiene		U	0.46
98-82-8	Isopropylbenzene		U	0.14
99-87-6	4-Isopropyltoluene		U	0.30
75-09-2	Methylene chloride (Dichloromethane)		U	0.80
91-20-3	Naphthalene		U	0.39
103-65-1	Propylbenzene		U	0.22
100-42-5	Styrene		U	0.15
630-20-6	1,1,1,2-Tetrachloroethane		U	0.15
79-34-5	1,1,2,2-Tetrachloroethane		U	0.17
127-18-4	Tetrachloroethene		U	0.32
109-99-9	Tetrahydrofuran (THF)		U	1.04
108-88-3	Toluene		U	0.11
87-61-6	1,2,3-Trichlorobenzene		U	0.29
120-82-1	1,2,4-Trichlorobenzene		U	0.29
71-55-6	1,1,1-Trichloroethane		U	0.16
79-00-5	1,1,2-Trichloroethane		U	0.14
79-01-6	Trichloroethene		U	0.16
75-69-4	Trichlorofluoromethane		U	0.22
96-18-4	1,2,3-Trichloropropane		U	0.22
95-63-6	1,2,4-Trimethylbenzene		U	0.18
108-67-8	1,3,5-Trimethylbenzene		U	0.20
75-01-4	Vinyl Chloride		U	0.24
95-47-6	o-Xylene*		U	0.12
N/A	p- & m-Xylenes*		U	0.15
N/A	*Total Xylenes*	0.0	U	
N/A	*Total Trihalomethanes*	0.0	U	

Laboratory Remarks:

LABORATORY BATCH QUALITY CONTROL SUMMARY			
SURROGATE RECOVERIES	SURROGATE COMPOUNDS	CONCENTRATION	% RECOVERY
	Dibromofluoromethane	9.5	95%
	1,2-Dichloroethane-d4	10.6	106%
	Toluene-d8	9.9	99%
	4-Bromofluorobenzene	9.6	96%
LABORATORY FORTIFIED BLANK RECOVERIES	The percent recoveries for compounds in the batch spike were within 80% to 120% with the exception of the compound(s) listed below: COMPOUND — CONCENTRATION (µg/L) — % RECOVERY **No Exceptions**		
LABORATORY BLANKS	No target compounds were detected above the sample detection limit in laboratory blank with the exception of the compound(s) listed below: COMPOUND — CONCENTRATION (µg/L) — MDL **Chloroform** — 0.4 — 0.11		

Analyst: CC Cyndi Reynolds QC Approved By: Michael Trujillo MT

DEFINITIONS

**	Concentration Exceeds EPA's allowable Maximum Contamination Level
CAS#	Chemical Abstract Services Number - Unique number to help identify analytes listed by different names
CONC.	Concentration (ug/L) of analyte actually detected in the sample
QUAL	Qualifier of analytical results as follows:
	B Analyte was detected in laboratory blank
	E Analyte was detected at a level above the concentration of the calibration curve.
	J Analyte was detected at a level below which an accurate quantitation can be given (~5 * SDL)
	U No analyte was detected above the Sample Detection Limit.
SDL	Sample Detection Limit - The lowest concentration which can be differentiated from Zero with 99% confidence taking sample size (compositing) into account.
ug/L	Concentration Units - micrograms per liter which is approximately equivalent to Parts Per Billion (ppb)

ORGANIC CHEMISTRY ANALYTICAL REQUEST FORM

P 2329886

02

Scientific Laboratory Division
700 Camino de Salud, NE (P.O. Box 4700)
Albuquerque, NM 87106 (87196-4700)
Phone: 505-841-2500/-2570/-2566

OR OR0200060

[3] User Code: 7,0,3,2,0 | Date & Time of Receipt at SLD: 02 JAN 10 AM 10:21 | [4] Sample Priority: 3 (If 1 or 2 call SLD)

[5] Submitter Code: | WSS Code: NM35 - | User 6 Site ID: | [6] Sample Temp. Receipt @ SLD: 5 °C

[7] Facility or WSS Name: WINDMILL OIL - BLOS

Facility/WSS Location: *If No WSS Code Complete 8, 9 & 10* | [8] County: Lea | [9] City: Hobbs | [10] State: *or CHANGE* NM TO

[11] Sampling Location: HELGA BLOS

[12] Sample Collection: On: 01 / 09 / 02 (Date: MM / DD / YY) By: SHEELEY (Last Name) PAUL (First Name)
At: 10 : 03 (Time: 24:00 Hour Clock)

[13] Sample Info. Contact: Ph: [505] - 476 - 3491 | If not collector, per box 12, Please print name here: Bill Olson

[14] *Reports are mailed to the address specified by the Submitter Code and WSS Code (when present). However, if one of the following applies, please check ☒ appropriate boxes below and complete address form.*

☐ Send additional Report to: ——➡
☐ New Address for:
☐ Submitter
☐ WSS / Client ——➡

Name: New Mexico Oil Conservation Div,
Address: 1220 S. St Francis Drive
City: Santa Fe State: NM Zip: 87505

[15] Sampling Documentation: *(Check)*
☐ Confirmation ☐ NMED Monitoring
☐ Resample ☐ Raw Water
☐ Split w/ Facility ☐ Finished Water
☒ Grab Sample
☐ Other: _____

[16a] Field Data: *(When appropriate)*
☐ Sample is Chlorinated
Chlorine Residual: _____ mG/L
Conductivity: _____ uMhos/cm
Sulfate: _____ mG/L
Temperature on Collection: _____ °C

[16b] Field Remarks: *(Optional)* _____

SDWA Comments:
☐ Compliance
SDWA Compositing:
☐ No Compositing
☐ Within This System Only
☐ Within All Systems

[17] Sample Type: *(Check ☒ only one)*
☒ Water ☐ Soil ☐ Vapor ☐ Plant ☐ Tissue ☐ Blood ☐ Other: ☐ Liquid: ☐ Solid: _____

[18] Preservation: *(Check ☒ all that apply)*
☒ Preserved with HCl to pH < 2 ☐ No Preservation
☒ Stored at 4°C 3 drops ☐ Other: _____

Number of Containers Submitted: Bottles: _____ Vials: _____ Jars: _____

[19] Analyses Requested: *Please Check ☒ the appropriate box(es) below to indicate your analytical request(s);*

Volatile Analyses:
☐-(754) Aromatic & Halogenated Volatiles (EPA 8021)
☒-(765) Mass Spectrometer Volatiles (EPA 8260 or 524.2)
☐-(764) Appendix IX Mass Spectrometer VOCs (EPA 8260)
☐-(774) Volatile Organic Compounds [VOC's] (EPA 502.2)
☐-(766) SDWA Trihalomethanes (EPA 502.2)

Remarks or Other Specific Compounds or Classes:
☐-(___) _____
☐-(___) _____

Special Extractions:
☐-(784) TCLP Extraction, Volatiles (Method 1311)
☐-(785) TCLP Extraction, Semivolatiles (Method 1311)

Semivolatile Analyses:
☐-(789) Drinking Water Semivolatile Analyses (Indented list)
☐-(775) EDB, DBCP & TCP (EPA 504.1)
☐-(758) Acid Herbicides (EPA 515.2)
☐-(772) Carbamates (EPA 531.1)
☐-(781) Glyphosate (EPA 547)
☐-(782) Endothall (EPA 548.1)
☐-(783) Diquat (EPA 549.1)
☐-(788) Synthetic Organic Compounds (SOCs) (EPA 525/508)
☐-(771) Haloacetic Acids in Drinking Water (EPA 552.2)
☐-(750) Hydrocarbon Fuel Screen, GRO (Modified EPA 8015)
☐-(751) Hydrocarbon Fuel Screen, GRO/DRO (Mod. EPA 8015)
☐-(752) Hydrocarbon Fuel Screen, DRO (Mod. EPA 8015)
☐-(755) Base/Neutral Semivolatiles (No Phenols) (EPA 8270)
☐-(756) Base/Neutral/Acids Semivolatiles (EPA 625/8270)
☐-(759) Polychlorinated Biphenyls (PCBs) (EPA 8082)
☐-(760) Organochlorine Pesticides (EPA 608/8081)
☐-(786) Explosives Screen (Aberdeen Method)

State of New Mexico
ENERGY MINERALS and NATURAL RESOURCES DEPARTMENT
Santa Fe, New Mexico 87505

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☑ Telephone ☐ Personal	Time 1415	Date 2/4/02

Originating Party	Other Parties
Bill Olson - Enviro Bureau	Pat McMahon - Heidel, Samberson, Nacell, Cox & McMahon (505) 396-5303

Subject

Helga Blos Well and
Amerada Hess - NMGSAU Battery #67

Discussion

Told him had contacted Ms. Blos. No organics detected in water. OCD still awaiting metals and gen chem results

Don't know status of Amerada Hess case. Need to contact Hobbs. No water wells in vicinity of the site (per McMahon)

Conclusions or Agreements

- OCD will send Ms. Blos explanation of results when all have been recieved
- I will contact Hobbs to determine status of Amerada Hess case

Distribution

Signed Bill Olson

State of New Mexico
ENERGY 'INERALS and NATURAL RESOURCF' DEPARTMENT
Santa Fe, New Mexico 87505

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☑ Telephone ☐ Personal	Time 1409	Date 2/4/02
Originating Party		**Other Parties**
Jan Pfeiffer - Hobbs resident 393-7997		Bill Olson - Envir. Bureau

Subject

Hilga Blos Complaint

Discussion

She stated that she knows of no problems with water. Ms. Blos told her water smells of hydrocarbons. Reported to her after Ms. Blos complained to state. She is concerned about water quality for Ms. Blos and her parents who are all on same well

Conclusions or Agreements

OCD will send copies of analyses

Distribution

Signed Bill Olson

State of New Mexico
ENERGY 'INERALS and NATURAL RESOURCE' DEPARTMENT
Santa Fe, New Mexico 87505

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☑ Telephone ☐ Personal	Time 1400	Date 2/4/02

Originating Party	Other Parties
Bill Olson - Enviro Bureau	Helga Blos - citizen (505) 397-3450 (work)

Subject

Water Well Complaint

Discussion

Told her that sample results show no hydrocarbons in her water. Results from metals and gen chem samples not back yet.
She still believes oil in her water.
Her son took water sample to trucking company & put gasoline in sample to cut oil out and centrifuged sample, then said he saw oil phase in water.
She rents place from Jan Pfiefer.

Conclusions or Agreements

OCD will send explanation of sample results when all have been recieved.

Distribution

Signed Bill Olson

Incl 2/7/02

State of New Mexico
DEPARTMENT OF HEALTH

SCIENTIFIC LABORATORY DIVISION

P.O. BOX 4700
ALBUQUERQUE, NEW MEXICO 87196-4700
VOICE: 505-841-
2519 FAX: 505-

INVOICE: 021117

Invoice_date: 01-Feb-02
Date Due: 03-Mar-02
Term Net 30 Days

Customer PO

Customer ID 9999

Bill To

New Mexico Oil Conservation Division
Attn: Bill Olsen
1220 St. Francis Drive
Santa Fe, NM 87505
User ID#

Item #	Qnty	Test Code	Description	Org #	Rev Code	Unit Cost	Sub Total
1	1	765.0	VOC's by GC/MS (EPA Method 8260)	314400	429916	$150.00	$150.00

Invoice Total **$150.00**

SLD Lab_number OR200200060

RECEIVED

FEB 0 5 2002

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Comments:

SLD FORM FY-INV-1019

021117

LAW OFFICES

HEIDEL, SAMBERSON, NEWELL, COX & McMAHON

C. GENE SAMBERSON
MICHAEL T. NEWELL
LEWIS C. COX, III
PATRICK B. McMAHON

311 NORTH FIRST STREET
POST OFFICE DRAWER 1599
LOVINGTON, NM 88260
TELEPHONE (505) 396-5303
FAX (505) 396-5305

F.L. HEIDEL
(1913-1985)

January 30, 2002

Bill Olson
P. O. Box 6429
Santa Fe NM 87504-6429

Re: Helga Blos
3907 West Bender
Hobbs, New Mexico

Dear Mr. Olson,

On or about January 8, 2002 Mr. Larry Johnson of the Hobbs OCD office collected a water sample from Ms. Helga Blos's residence at 3907 West Bender Rd. Ms. Blos contacted the OCD because she suspected that her domestic water was contaminated with hydrocarbons. Considering her location, Ms. Blos's initial suspicions could very well be correct.

Mr. Johnson collected the sample and sent it to a lab in Albuquerque to be analyzed for TPH and BTEX. Mr. Johnson received confirmation that the lab received the sample on January 9, 2002. As of January 30, 2002, more than three weeks after the sample was taken, Ms. Blos has not been informed if any of the results of the water analysis.

At Ms. Blos's request, I contacted Mr. Johnson on January 30, 2002. According to Mr. Johnson, lab results were to be sent to you at the Santa Fe office and then forwarded to the Hobbs office.

I am writing this letter to you to inquire as to the status of the water sample and the pending results. Considering that Ms. Blos must use this water source for domestic purposes, I am sure that you can appreciate her interest in resolving this issue as expediently as possible. To that effect, Ms. Blos is in the process of hiring a consultant to run additional samples of her water. We would be happy to allow the OCD to split sample with us and would share our sample results.

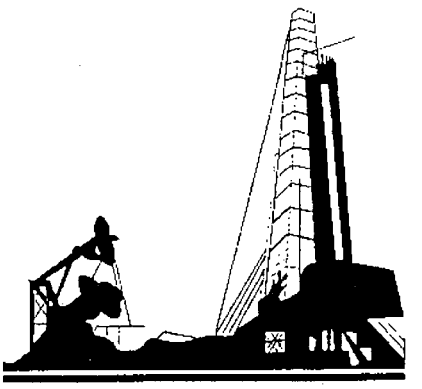
Please contact me if I need to make arragnments to split sample. Otherwise, I look forward to hearing from you regarding the January 8, 2002 sample event.

Sincerely,

HEIDEL, SAMBERSON, NEWELL, COX & MCMAHON

By: Patrick McMahon/ksp
Patrick McMahon

PBM:dr
pc: Helga Blos
Larry Johnson. Hobbs OCD



TRANSMITTAL COVER SHEET

OIL CONSERVATION DIVISION
1220 S. ST. FRANCIS DRIVE
SANTA FE, NM 87505
(505) 476-3440
(505)476-3462 (Fax)

PLEASE DELIVER THIS FAX:

TO: Larry Johnson

FROM: Bill Olson

DATE: 1/2/02

PAGES: 2

SUBJECT: Copy of purchase document that must go with samples

IF YOU HAVE TROUBLE RECEIVING THIS FAX, PLEASE CALL THE OFFICE NUMBER ABOVE.

VENDOR CODE: 665 A

VENDOR NAME AND ORDER ADDRESS:
SCIENTIFIC LABORATORY
NM DEPARTMENT OF HEALTH
PO BOX 4700
ALBUQUERQUE, NM 89196 SC0001

STATE OF NEW MEXICO PURCHASE DOCUMENT

BUDGET FY	DATE	PAGE
02	12/21/2001	1 OF 1

AGENCY CODE	DOCUMENT NUMBER
521	02-311-004772

TERMS	DELIVERY DATE	FOB
	/ /	

SHIP TO:
Support Services
Energy, Minerals, & Natural Res.
1220 South St. Francis Dr.
Santa Fe, NM 87505

BILL TO:
same

AGENCY CONTACT: Penny Clark

PHONE NUMBER: (505) 476-3259

☐ PURCHASE REQUISITION
(Bids must be requested for items over $1500.00)

RECOMMENDED SOURCE & SPECIAL REMARKS:

☐ ESTABLISH ☐ RENEWAL NO.

I	FUND	AGCY	ORG/PROG	APPR UNIT	DIVISION	OBJECT	AMOUNT	FOR AGENCY USE
								4421 2501 337.00
			NOT FOR DFA					
							TOTAL	

MAXIMUM OF SIX ACCOUNTING LINES PER PURCHASE ORDER

☐ CONTRACT, PRICE AGREEMENT, PURCHASE ORDER OTHER THAN PROFESSIONAL SERVICE CONTRACTS:
(Approved vendors must be used for items under contract)

C/PA/PO#: SPD 13-1-98A-1 EXPIRES: / /

☐ DIRECT PURCHASE ORDER
(only valid for purchases $1500.00 and under)

☒ EXEMPT FROM THE NM PROCUREMENT CODE
Pursuant to Section _____ NMSA;1978

☐ EXCLUDED FROM PROCUREMENT THROUGH STATE PURCHASING
Pursuant to Section _____ NMSA,1978

☐ FOR ENCUMBERING PURPOSES ONLY
Reason: _____

AGENCY APPROVAL - I certify that the proposed purchase represented by this document is authorized by and is made in accordance with all State (and if applicable Federal) legislation, rules and regulations. I further certify that adequate unencumbered cash and budget expenditure authority exists for this proposed purchase and all other outstanding purchase commitments and accounts payable.

AGENCY AUTHORIZED SIGNATURE | TITLE | DATE

APPROVAL 1 | DATE | APPROVAL 2 | DATE

MM LN	QUANTITY	UNIT	COMMODITY CODE	ACCT LN	ARTICLE AND DESCRIPTION	UNIT COST	TOTAL COST
01	1	ea			major cations and anions	108.0000	108.00
02	1	ea			nitrate & nitrite	14.0000	14.00
03	1	ea			Voc's by gc/ms	150.0000	150.00
04	1	ea			ICAP metals	65.0000	65.00
						TOTAL	337.00

SPD - 101A (05/96) COPY 3 DISTRIBUTION: AGENCY COPY 2

VENDOR CODE: 665 A

VENDOR NAME AND ORDER ADDRESS:
SCIENTIFIC LABORATORY
NM DEPARTMENT OF HEALTH
PO BOX 4700
ALBUQUERQUE, NM 89196 SC0001

STATE OF NEW MEXICO PURCHASE DOCUMENT

BUDGET FY	DATE	PAGE
02	12/21/2001	1 OF 1

AGENCY CODE	DOCUMENT NUMBER
521	02-311-004772

TERMS	DELIVERY DATE	FOB
	/ /	

SHIP TO:
Support Services
Energy, Minerals, & Natural Res.
1220 South St. Francis Dr.
Santa Fe, NM 87505

BILL TO:
same

AGENCY CONTACT: Penny Clark

PHONE NUMBER: (505) 476-3259

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(Bids must be requested for items over $1500.00)

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N	FUND	AGCY	ORG/PROG	APPR UNIT	DIVISION	OBJECT	AMOUNT	FOR AGENCY USE
								4421 2501 337.00
TOTAL								

NOT FOR DFA

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Pursuant to Section _____ NMSA,1978

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Pursuant to Section _____ NMSA,1978

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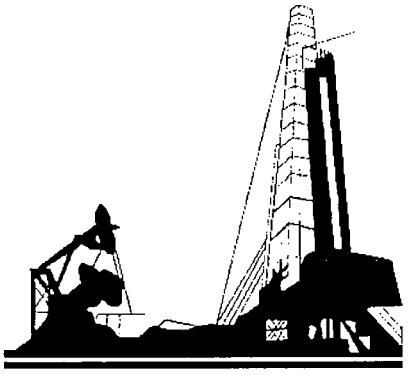
AGENCY AUTHORIZED SIGNATURE | TITLE | DATE

APPROVAL 1	DATE	APPROVAL 2	DATE

MMM LN	QUANTITY	UNIT	COMMODITY CODE	ACCT LN	ARTICLE AND DESCRIPTION	UNIT COST	TOTAL COST
01	1	ea			major cations and anions	108.0000	108.00
02	1	ea			nitrate & nitrite	14.0000	14.00
03	1	ea			Voc's by gc/ms	150.0000	150.00
04	1	ea			ICAP metals	65.0000	65.00

TOTAL 337.00

SPD - 101A (05/96) COPY 4 DISTRIBUTION: AGENCY COPY 3



TRANSMITTAL COVER SHEET

OIL CONSERVATION DIVISION
1220 S. ST. FRANCIS DRIVE
SANTA FE, NM 87505
(505) 476-3440
(505)476-3462 (Fax)

PLEASE DELIVER THIS FAX:

TO: Leroy Johnson

FROM: Bill Olson

DATE: 12/21/01

PAGES: 4

SUBJECT: Water Well Complaint

IF YOU HAVE TROUBLE RECEIVING THIS FAX, PLEASE CALL THE OFFICE NUMBER ABOVE.

Roger Anderson Fax: 476-3462

NMED - CLOVIS

Fax

To: Fred Kalish	From: Roxanne Johnson
Fax: 827-2965	Pages: 3
Phone:	Date:
Re:	CC:

Urgent For Review Please Comment Please Reply Please Recycle

Fred,

This complaint has made the rounds as you can see from the email. Can you help with this.

Thanks,
Roxanne



Subject: Fw: private water well concerns
Date: Tue, 18 Dec 2001 16:43:55 -0700
From: "Stephen Wust" <stephen_wust@nmenv.state.nm.us>
To: "Rozanne Johnson" <rozanne_johnson@nmenv.state.nm.us>
CC: "Lisa Brown" <lisa_brown@nmenv.state.nm.us>

Rozanne,
Would you please give this woman a call and talk to her about her water? You might check with Lisa first, as I believe she had already done some communication with Hobbs residents on this issue. Please let me know the results, so I can relay the information to Marcy. Thanks.
Steve

---- Original Message ----
From: marcy leavitt
To: stephen_wust@nmenv.state.nm.us
Cc: bill_bertels@nmenv.state.nm.us
Sent: Tuesday, December 18, 2001 4:38 PM
Subject: private water well concerns

Stephen - I have a voice-mail message from a woman whose name I can't understand, regarding her private water well. Her name sounds like sealcup lewis in her voice mail, but I'm sure that isn't it. She lives in Hobbs on West Bender and her water smells like oil/petroleum. Her number is 397-3450 at work or 393-5172 home. Let me know whether you are able to help her. Thanks. Marcy

Marcy Leavitt, Chief
Ground Water Quality Bureau
(505)827-2919
(505)827-2965 fax

NEW MEXICO ENVIRONMENT DEPARTMENT

MEMORANDUM OF COMPLAINT

GARY E. JOHNSON
GOVERNOR

PETER MAGGIORE
SECRETARY
PAUL R. RITZMA
DEPUTY SECRETARY

NO. _____

FIELD OFFICE: Hobbs

COMPLAINANT'S NAME: Hilga Blos TELEPHONE: wk: 397-3450 HO: 393-6172

ADDRESS: 3907 West Bevree (County - Private Well) CITY: Hobbs

SOURCE/RESPONSIBLE PARTY: _____ TELEPHONE: _____

ADDRESS: _____ CITY: _____

PROGRAM: *(Check Appropriate Program)*

Air Quality ☐ Food ☐ Vector ☐ OHS ☐ Noise ☐ Hazardous Waste ☐
Liquid Waste ☐ Radiation ☐ Solid Waste ☐ Ground Water ☒ Drinking Water ☐ Swimming Pool ☐

NATURE OF COMPLAINT: Water has a strong oil/Petroleum smell. It is so strong she gags. She has also developed a rash. She is not using the water for cooking or drinking. -(Foward compliant to ground water - Fred Kalish)

COMPLAINT TAKEN BY: Roxanne Johnson DATE: 12-18-2001

INVESTIGATION REPORT: _____

BY: _____ DATE: _____

ACTION TAKEN: _____

BY: _____ DATE: _____

FOLLOW UP: _____

SATISFACTORY CORRECTION
OF PROBLEM VERIFIED BY: _____ DATE: _____

PLEASE ENSURE THAT APPROPRIATE CENTRAL OFFICE PERSONNEL ARE KEPT INFORMED OF COMPLAINTS RELATED TO THEIR PROGRAMS.

IMPORTANT MESSAGE

FOR

DATE 12/20 TIME 9:54 A.M. / P.M.

M Rosanna Johnson

OF NMED

PHONE 393 - 4302
AREA CODE NUMBER EXTENSION

☐ FAX

☐ MOBILE
AREA CODE NUMBER TIME TO CALL

TELEPHONED		PLEASE CALL	
CAME TO SEE YOU		WILL CALL AGAIN	
WANTS TO SEE YOU		RUSH	
RETURNED YOUR CALL		SPECIAL ATTENTION	

MESSAGE Complaint of O.I. + Petr.
smell in water
3907 Vest @
Hilgo. Blds
smell gas leak
SIGNED service rush from water

TOPS FORM 3002P LITHO IN U.S.A.

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

December 14, 1998

Jan Pfeiffer
4011 W. Bender
Hobbs, NM 88240

Re: Water Well Sampling & Testing

Dear Ms. Pfeiffer:

Please find enclosed the analytical results for your water well sampled by NMOCD on September 28, 1998. I have high lighted the actual results for you, the other information is lab quality control information. Please note this sample was taken from the front yard spigot and at the time of sampling the water was clear and there were no hydrocarbon odors detected. The analytical results did not reflect any water contaminants that exceed the New Mexico ground water standards.

If you experience problems in the future and have your well worked on again please notify NMOCD so we can observe the water taken directly from the well bore. If you require any further information or assistance please do not hesitate to call (505-827-7155) or write this office.

Sincerely Yours,

Wayne Price-Environmental Bureau

cc: Chris Williams-NMOCD District I Supervisor

attachments-yes

computer file: O/wp/pfeiffer
Hard copy file: West Hobbs Pool

NOTE: PUMP SET AT ≈ 180-200' TOP OF REA BED!

PINNACLE LABORATORIES

Remit to: Pinnacle Laboratories, Inc.
P.O. Box 36720
Albuquerque, NM 87176-6720
Phone: (505) 344-3777 Fax: (505) 344-4413

26

Bill To: N.M. Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Client #: 810-134

Date	Invoice
10/23/98	78204

Project Name:Jan Pfeiffer Well
4011 W Bender, Hobbs, NM 88240

Original
BALANCE DUE: 400.00

PO Number	Terms	Project
	Net 30	PIN ALB-810

Quantity	Description	Rate	Amount
1	Aromatic Volatile Organics: Method 8021 BTE	40.00	40.00
1	Item-25: Fl, Br, Ca, K, Mg, Na, Alk, Cl, SO TDS, Cation/Anion Balance (5%), pH Conductivity.	160.00	160.00
1	Item-24: Metals by ICAP Method 6010: Al, Sb As, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Tl, V, Zn	200.00	200.00

OK. Wayne Price JH

Accession #: 809074
Authorized By: Wayne Price

TOTAL: 400.00

A finance charge of 1 1/2% will be charged on balances 30 days past due
DISTRIBUTION: White-Customer, Yellow-File, Pink-Accounting

PINNACLE LABORATORIES

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

26

Pinnacle Lab ID number **809074**
October 23, 1998

NMOCD
2040 S. PACHECO
SANTA FE, NM 87505

Project Name JAN PFEIFFER WELL
Project Number (none)

Attention: WAYNE PRICE

On 9/29/98 Pinnacle Laboratories, Inc., formerly American Environmental Network (NM), Inc., (ADHS License No. AZ0592), received a request to analyze **aqueous** samples.
The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

EPA methods 150.1 and 8021 were performed by Pinnacle Laboratories, Inc., Albuquerque, NM.

All other parameters were performed by ESL (OR) Inc., Portland, OR.

If you have any questions or comments, please do not hesitate to contact us at (505)344-3777.

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph. D.
General Manager

MR: mt

Enclosure

PINNACLE LABORATORIES

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

CLIENT	: NMOCD	PINNACLE ID	: 809074
PROJECT #	: (none)	DATE RECEIVED	: 9/29/98
PROJECT NAME	: JAN PFEIFFER WELL	REPORT DATE	: 10/23/98

AEN ID. #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	9809281030	AQUEOUS	9/28/98

PINNACLE LABORATORIES

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

GAS CHROMOTOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : NMOCD
PROJECT # : (none)
PROJECT NAME : JAN PFEIFFER WELL

PINNACLE I.D.: 809074

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	9809281030	AQUEOUS	9/28/98	NA	9/29/98	1

PARAMETER	DET. LIMIT	UNITS	01
BENZENE	0.5	UG/L	< 0.5
TOLUENE	0.5	UG/L	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5
METHYL-t-BUTYL ETHER	2.5	UG/L	< 2.5

SURROGATE:
BROMOFLUOROBENZENE (%) 100
SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

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

GAS CHROMOTOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 809074
BLANK I. D.	: 092998	DATE EXTRACTED	: NA
CLIENT	: NMOCD	DATE ANALYZED	: 9/29/98
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: JAN PFEIFFER WELL		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5
METHYL-t-BUTYL ETHER	UG/L	<2.5
SURROGATE:		
BROMOFLUOROBENZENE (%)		99
SURROGATE LIMITS:	(80 - 120)	

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

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

GAS CHROMOTOGRAPHY QUALITY CONTROL
MSMSD

TEST	: EPA 8021 MODIFIED		
MSMSD #	: 809068-04	PINNACLE I.D.	: 809074
CLIENT	: NMOCD	DATE EXTRACTED	: NA
PROJECT #	: (none)	DATE ANALYZED	: 9/29/98
PROJECT NAME	: JAN PFEIFFER WELL	SAMPLE MATRIX	: AQUEOUS
		UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	10.0	9.8	98	9.6	96	2	(80 - 120)	20
TOLUENE	<0.5	10.0	9.9	99	10.3	103	4	(80 - 120)	20
ETHYLBENZENE	<0.5	10.0	10.0	100	10.5	105	5	(80 - 120)	20
TOTAL XYLENES	<0.5	30.0	30.2	101	30.7	102	2	(80 - 120)	20
METHYL-t-BUTYL ETHER	<2.5	20.0	17.3	87	17.9	90	3	(70 - 133)	20

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

PINNACLE LABORATORIES

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

GENERAL CHEMISTRY RESULTS

CLIENT	: NMOCD	PINNACLE I.D.	: 809074
PROJECT #	: (none)	DATE RECEIVED	: 9/29/98
PROJECT NAME	: JAN PFEIFFER WELL		

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE ANALYZED
01	PSMW-17-400	AQUEOUS	10/7/98	10/12/98

PARAMETER	UNITS	01
PH (150.1)	UNITS	6.78

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

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

GENERAL CHEMISTRY - QUALITY CONTROL

CLIENT	: NMOCD	PINNACLE I.D.	: 809074
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: JAN PFEIFFER WELL		

PARAMETER	UNITS	PINNACLE I.D.	SAMPLE RESULT	DUP. RESULT	% RPD
PH	UNITS	810029-01	6.57	6.62	1

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

Environmental Services Laboratory, Inc. E S L

17400 SW Upper Boones Ferry Road • Suite 270 • Portland, OR 97224 • (503) 670-8520

Kim McNeill
Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 10/15/1998
ESL Account No.: 90147
ESL Job Number: 98.01915

Project: 809074 / NMOCD
Location: Jan Pfeiffer Well

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample Number	Sample Description	Matrix Type	Date Taken	Date Received
106154	809074 / 9809281030	Water	09/28/1998	09/30/1998
106155	809074 / 200.7 Metals	Water	09/28/1998	09/30/1998

Approved by:

Andi Hoevet
Project Manager
ESL, INC.

Technical Review
ESL, INC.

The results from these samples relate only to the items tested. This report shall not be reproduced, except in full, without the written approval of the laboratory.

ANALYTICAL SERVICES FOR THE ENVIRONMENT

ANALYTICAL REPORT

Kim McNeill
Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107

10/15/1998
Job No.: 98.01915

Project Name: 809074 / NMOCD
Date Received: 09/30/1998

Sample Number	Sample Description
106154	809074 / 9809281030

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Alkalinity, Bicarb. (CaCO3)	SM 2320 B	200	5.0	mg/L	10/02/1998	
Alkalinity, Carb. (CaCO3)	SM 2320 B	ND	5.0	mg/L	10/02/1998	
Bromide	SM 4500-Br	0.17	0.20 mg/L	mg/L	10/02/1998	RD
Chloride	EPA 300.0	30	0.5	mg/L	10/01/1998	
Conductivity	120.1	290	5.0	umho	10/01/1998	
Fluoride, Total	340.2	0.90	0.2	mg/L	10/01/1998	
pH	150.1	7.1	0.1 SU		09/30/1998	X
Silica	370.1	20	0.2 mg/L	mg/L	10/01/1998	DIL,Q
Solids, Total Dissolved	160.1	410	10	mg/L	10/07/1998	
Sulfate	375.4	46	10.0	mg/L	10/01/1998	DIL,Q
ICP/AA Digestion - Water	ICP	-			10/01/1998	
Aluminum, ICP	6010	ND	0.05	mg/L	10/01/1998	
Antimony, ICP	6010	ND	0.005	mg/L	10/01/1998	
Arsenic, ICP	6010	0.007	0.005	mg/L	10/01/1998	
Barium, ICP	6010	0.066	0.005	mg/L	10/01/1998	
Beryilium, ICP	6010	ND	0.002	mg/L	10/01/1998	
Boron, ICP	6010	0.069	0.01	mg/L	10/01/1998	
Cadmium, ICP	6010	ND	0.002	mg/L	10/01/1998	
Calcium, ICP	6010	62	0.05	mg/L	10/01/1998	
Chromium, ICP	6010	ND	0.005	mg/L	10/01/1998	
Cobalt, ICP	6010	ND	0.005	mg/L	10/01/1998	
Copper, ICP	6010	ND	0.005	mg/L	10/01/1998	
Iron, ICP	6010	0.010	0.01	mg/L	10/01/1998	
Lead, ICP	6010	ND	0.005	mg/L	10/01/1998	
Magnesium, ICP	6010	11	0.05	mg/L	10/01/1998	
Manganese, ICP	6010	ND	0.005	mg/L	10/01/1998	
Molybdenum, ICP	6010	ND	0.005	mg/L	10/01/1998	
Nickel, ICP	6010	ND	0.005	mg/L	10/01/1998	
Potassium, ICP	6010	3.4	0.2	mg/L	10/01/1998	
Selenium, ICP	6010	ND	0.005	mg/L	10/01/1998	
Silver, ICP	6010	ND	0.005	mg/L	10/01/1998	
Sodium, ICP	6010	32	0.4	mg/L	10/01/1998	DIL,Q

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

ANALYTICAL REPORT

Kim McNeill
Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107

10/15/1998
Job No.: 98.01915

Project Name: 809074 / NMOCD
Date Received: 09/30/1998

Sample Number	Sample Description
106154	809074 / 9809281030

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Thallium, ICP	6010	ND	0.01	mg/L	10/01/1998	
Vanadium, ICP	6010	0.032	0.005	mg/L	10/01/1998	
Zinc, ICP	6010	0.012	0.005	mg/L	10/01/1998	

Sample Number	Sample Description
106155	809074 / 200.7 Metals

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
ICP/AA Digestion - Water	ICP	-			10/12/1998	
Calcium, ICP 200.7	200.7	63	0.05	mg/L	10/13/1998	
Magnesium, ICP 200.7	200.7	13	0.05	mg/L	10/13/1998	
Potassium, ICP 200.7	200.7	3.5	0.2	mg/L	10/13/1998	
Sodium, ICP 200.7	200.7	35	0.2	mg/L	10/13/1998	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

QUALITY CONTROL REPORT
CONTINUING CALIBRATION VERIFICATION

Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 10/15/1998

Job Number: 98.01915

Contact: Kim McNeill
Project: 809074 / NMOCD

Analyte	CCV True Concentration	Concentration Found	Percent Recovery	Date Analyzed
Alkalinity, Bicarb.(CaCO3)	201	215	107.0	10/02/1998
Chloride	10.0	10.8	108.0	10/01/1998
Conductivity	102.5	108	105.4	10/01/1998
Fluoride, Total	7.0	7.4	105.7	10/01/1998
pH	8.0	7.98	99.8	09/30/1998
Silica	10.0	8.62	86.2	10/01/1998
Sulfate	13.9	12.2	87.8	10/01/1998
Aluminum, ICP	25.0	24.4	97.6	10/01/1998
Antimony, ICP	0.500	0.499	99.8	10/01/1998
Arsenic, ICP	0.500	0.499	99.8	10/01/1998
Barium, ICP	0.500	0.495	99.0	10/01/1998
Beryllium, ICP	0.500	0.511	102.2	10/01/1998
Boron, ICP	0.500	0.491	98.2	10/01/1998
Cadmium, ICP	0.500	0.499	99.8	10/01/1998
Calcium, ICP	25.0	24.2	96.8	10/01/1998
Calcium, ICP 200.7	25.0	24.3	97.2	10/13/1998
Chromium, ICP	0.500	0.496	99.2	10/01/1998
Cobalt, ICP	0.500	0.501	100.2	10/01/1998
Copper, ICP	0.500	0.504	100.8	10/01/1998
Iron, ICP	0.500	0.511	102.2	10/01/1998
Lead, ICP	0.500	0.503	100.6	10/01/1998
Magnesium, ICP	25.0	24.7	98.8	10/01/1998
Magnesium, ICP 200.7	25.0	25.0	100.0	10/13/1998
Manganese, ICP	0.500	0.503	100.6	10/01/1998
Molybdenum, ICP	0.500	0.497	99.4	10/01/1998
Nickel, ICP	0.500	0.500	100.0	10/01/1998
Potassium, ICP	5.00	5.02	100.4	10/01/1998
Potassium, ICP 200.7	5.00	4.99	99.8	10/13/1998
Selenium, ICP	0.500	0.496	99.2	10/01/1998
Silver, ICP	0.500	0.480	96.0	10/01/1998

CCV - Continuing Calibration Verification

Environmental Services Laboratory, Inc. (503)670-8520 (503)670-9243 FAX
17400 SW Upper Boones Ferry Rd., Suite 270, Portland, OR 97224

QUALITY CONTROL REPORT
CONTINUING CALIBRATION VERIFICATION

Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 10/15/1998

Job Number: 98.01915

Contact: Kim McNeill
Project: 809074 / NMOCD

Analyte	CCV True Concentration	Concentration Found	Percent Recovery	Date Analyzed
Sodium, ICP	5.00	4.82	96.4	10/01/1998
Sodium, ICP 200.7	5.00	4.87	97.4	10/13/1998
Thallium, ICP	0.500	0.490	98.0	10/01/1998
Vanadium, ICP	0.500	0.497	99.4	10/01/1998
Zinc, ICP	0.500	0.504	100.8	10/01/1998

CCV - Continuing Calibration Verification

Environmental Services Laboratory, Inc. (503)670-8520 (503)670-9243 FAX
17400 SW Upper Boones Ferry Rd., Suite 270, Portland, OR 97224

QUALITY CONTROL REPORT
LABORATORY CONTROL STANDARD

Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 10/15/1998

Job Number: 98.01915

Contact: Kim McNeill
Project: 809074 / NMOCD

Analyte	LCS True Concentration	Concentration Found	LCS % Recovery	Flags	Date Analyzed
Bromide	0.600	0.631	105.2		10/02/1998
Solids, Total Dissolved	1904	2014	105.8		10/07/1998
Aluminum, ICP	5.00	4.83	96.6		10/01/1998
Antimony, ICP	0.500	0.504	100.8		10/01/1998
Arsenic, ICP	0.500	0.503	100.6		10/01/1998
Barium, ICP	0.500	0.507	101.4		10/01/1998
Beryllium, ICP	0.500	0.501	100.2		10/01/1998
Boron, ICP	0.500	0.498	99.6		10/01/1998
Cadmium, ICP	0.500	0.492	98.4		10/01/1998
Calcium, ICP	5.00	4.89	97.8		10/01/1998
Calcium, ICP 200.7	5.00	5.12	102.4		10/13/1998
Chromium, ICP	0.500	0.501	100.2		10/01/1998
Cobalt, ICP	0.500	0.511	102.2		10/01/1998
Copper, ICP	0.500	0.518	103.6		10/01/1998
Iron, ICP	2.00	2.14	107.0		10/01/1998
Lead, ICP	0.500	0.490	98.0		10/01/1998
Magnesium, ICP	5.00	4.97	99.4		10/01/1998
Magnesium, ICP 200.7	5.00	5.29	105.8		10/13/1998
Manganese, ICP	0.500	0.499	99.8		10/01/1998
Molybdenum, ICP	0.500	0.510	102.0		10/01/1998
Nickel, ICP	0.500	0.492	98.4		10/01/1998
Potassium, ICP	5.00	5.33	106.6		10/01/1998
Potassium, ICP 200.7	5.00	5.27	105.4		10/13/1998
Selenium, ICP	0.500	0.482	96.4		10/01/1998
Silver, ICP	0.500	0.498	99.6		10/01/1998
Sodium, ICP	5.00	4.64	92.8		10/01/1998
Sodium, ICP 200.7	5.00	4.67	93.4		10/13/1998
Thallium, ICP	0.500	0.489	97.8		10/01/1998
Vanadium, ICP	0.500	0.508	101.6		10/01/1998
Zinc, ICP	0.500	0.499	99.8		10/01/1998

LCS - Laboratory Control Standard

Environmental Services Laboratory, Inc. (503)670-8520 (503)670-9243 FAX
17400 SW Upper Boones Ferry Rd., Suite 270, Portland OR 97224

QUALITY CONTROL REPORT
MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 10/15/1998

Job Number: 98.01915

Contact: Kim McNeill
Project: 809074 / NMOCD

Analyte	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD	Flags
Bromide	0.398	0.17	0.200	mg/L	114.0	0.386	0.20	mg/L	108.0	5.4	RD
Chloride	41	30	10.0	mg/L	110.0	41	10.0	mg/L	110.0	0.0	
Fluoride, Total	5.9	1.0	5.0	mg/L	98.0	6.3	5.0	mg/L	106.0	7.7	
Silica	24.0	20	5.0	mg/L	80.0	24.0	5.0	mg/L	80.0	0.0	DIL,Q
Sulfate	93.7	46	50.0	mg/L	95.4	95.2	50.0	mg/L	98.4	3.1	DIL,Q
Aluminum, ICP	4.96	0.0966	5.00	mg/L	97.3	4.92	5.00	mg/L	96.5	0.8	
Antimony, ICP	0.507	ND	0.500	mg/L	101.4	0.508	0.500	mg/L	101.6	0.2	
Arsenic, ICP	0.502	ND	0.500	mg/L	100.4	0.506	0.500	mg/L	101.2	0.8	
Barium, ICP	0.513	0.00512	0.500	mg/L	101.6	0.511	0.500	mg/L	101.2	0.4	
Beryllium, ICP	0.507	ND	0.500	mg/L	101.4	0.510	0.500	mg/L	102.0	0.6	
Boron, ICP	0.522	ND	0.500	mg/L	104.4	0.516	0.500	mg/L	103.2	1.1	
Cadmium, ICP	0.489	ND	0.500	mg/L	97.8	0.493	0.500	mg/L	98.6	0.8	
Calcium, ICP	12.3	7.48	5.00	mg/L	96.4	12.4	5.00	mg/L	98.4	2.1	
Calcium, ICP 200.7	13.6	8.98	5.00	mg/L	92.4	14.2	5.00	mg/L	104.4	12.1	
Chromium, ICP	0.502	ND	0.500	mg/L	100.4	0.504	0.500	mg/L	100.8	0.4	
Cobalt, ICP	0.509	ND	0.500	mg/L	101.8	0.512	0.500	mg/L	102.4	0.6	
Copper, ICP	0.897	0.382	0.500	mg/L	103.0	0.893	0.500	mg/L	102.2	0.8	

QC Sample:
106156

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference
dil.= Diluted Out

Environmental Services Laboratory,Inc. (503)670-8520 (503)670-9243 FAX
17400 SW Upper Boones Ferry Rd., Portland, OR 97224

QUALITY CONTROL REPORT
MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 10/15/1998

Job Number: 98.01915

Contact: Kim McNeill
Project: 809074 / NMOCD

Analyte	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD	Flags
Lead, ICP	0.848	0.375	0.500	mg/L	94.6	0.851	0.500	mg/L	95.2	0.6	
Magnesium, ICP	7.34	2.38	5.00	mg/L	99.2	7.36	5.00	mg/L	99.6	0.4	
Magnesium, ICP 200.7	8.60	3.54	5.00	mg/L	101.2	9.20	5.00	mg/L	113.2	11.2	M,P
Manganese, ICP	0.601	0.113	0.500	mg/L	97.6	0.606	0.500	mg/L	98.6	1.0	
Molybdenum, ICP	0.510	ND	0.500	mg/L	102.0	0.51	0.500	mg/L	102.0	0.0	
Nickel, ICP	0.491	ND	0.500	mg/L	98.2	0.494	0.500	mg/L	98.8	0.6	
Potassium, ICP	6.39	0.519	5.00	mg/L	117.4	6.13	5.00	mg/L	112.2	4.5	M,P
Potassium, ICP 200.7	6.91	0.39	5.00	mg/L	130.4	6.40	5.00	mg/L	120.2	8.1	M,P
Selenium, ICP	0.476	ND	0.500	mg/L	95.2	0.475	0.500	mg/L	95.0	0.2	
Silver, ICP	0.497	ND	0.500	mg/L	99.4	0.497	0.500	mg/L	99.4	0.0	
Sodium, ICP	14.4	9.91	5.00	mg/L	89.8	14.0	5.00	mg/L	81.8	9.3	
Sodium, ICP 200.7	13.7	9.00	5.00	mg/L	94.0	13.7	5.00	mg/L	94.0	0.0	
Thallium, ICP	0.487	ND	0.500	mg/L	97.4	0.489	0.500	mg/L	97.8	0.4	
Vanadium, ICP	0.512	ND	0.500	mg/L	102.4	0.514	0.500	mg/L	102.8	0.4	
Zinc, ICP	0.519	0.0319	0.500	mg/L	97.4	0.522	0.500	mg/L	98.0	0.6	

QC Sample:

NOTE: Matrix Spike Samples may not be samples from this job.

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference
dil.= Diluted Out

Environmental Services Laboratory, Inc. (503)670-8520 (503)670-9243 FAX
17400 SW Upper Boones Ferry Rd., Portland, OR 97224

QUALITY CONTROL REPORT
BLANKS

Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 10/15/1998

Job Number: 98.01915

Contact: Kim McNeill
Project: 809074 / NMOCD
Location: Jan Pfeiffer Well

Analyte	Blank Analysis	Report Limit	Units	Date Analyzed
Alkalinity, Bicarb.(CaCO3)	ND	5.0	mg/L	10/02/1998
Bromide	ND	0.20	mg/L	10/02/1998
Chloride	ND	0.5	mg/L	10/01/1998
Conductivity	ND	5.0	umho	10/01/1998
Fluoride, Total	ND	0.2	mg/L	10/01/1998
Silica	ND	0.2	mg/L	10/01/1998
Solids, Total Dissolved	ND	10	mg/L	10/07/1998
Sulfate	ND	5.0	mg/L	10/01/1998
Aluminum, ICP	ND	0.05	mg/L	10/01/1998
Antimony, ICP	ND	0.005	mg/L	10/01/1998
Arsenic, ICP	ND	0.005	mg/L	10/01/1998
Barium, ICP	ND	0.005	mg/L	10/01/1998
Beryllium, ICP	ND	0.002	mg/L	10/01/1998
Cadmium, ICP	ND	0.002	mg/L	10/01/1998
Calcium, ICP	ND	0.05	mg/L	10/01/1998
Calcium, ICP 200.7	ND	0.05	mg/L	10/13/1998
Chromium, ICP	ND	0.005	mg/L	10/01/1998
Cobalt, ICP	ND	0.005	mg/L	10/01/1998
Copper, ICP	ND	0.005	mg/L	10/01/1998
Iron, ICP	ND	0.01	mg/L	10/01/1998
Lead, ICP	ND	0.005	mg/L	10/01/1998
Magnesium, ICP	ND	0.05	mg/L	10/01/1998
Magnesium, ICP 200.7	ND	0.05	mg/L	10/13/1998
Manganese, ICP	ND	0.005	mg/L	10/01/1998
Nickel, ICP	ND	0.005	mg/L	10/01/1998
Potassium, ICP	ND	0.2	mg/L	10/01/1998

Environmental Services Laboratory, Inc.(503)670-8520 (503)670-9243 FAX
17400 SW Upper Boones Ferry Rd., Portland, OR 97224

QUALITY CONTROL REPORT
BLANKS

Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 10/15/1998

Job Number: 98.01915

Contact: Kim McNeill
Project: 809074 / NMOCD
Location: Jan Pfeiffer Well

Analyte	Blank Analysis	Report Limit	Units	Date Analyzed
Potassium, ICP 200.7	ND	0.2	mg/L	10/13/1998
Selenium, ICP	ND	0.005	mg/L	10/01/1998
Silver, ICP	ND	0.005	mg/L	10/01/1998
Sodium, ICP	ND	0.2	mg/L	10/01/1998
Sodium, ICP 200.7	ND	0.2	mg/L	10/13/1998
Thallium, ICP	ND	0.01	mg/L	10/01/1998
Vanadium, ICP	ND	0.005	mg/L	10/01/1998
Zinc, ICP	ND	0.005	mg/L	10/01/1998

QUALITY CONTROL REPORT
DUPLICATES

Pinnacle Laboratories
2709-D Pan American Fwy NE
Albuquerque, NM 87107

Date: 10/15/1998

Job Number: 98.01915

Contact: Kim McNeill
Project: 809074 / NMOCD

Analyte	Original Analysis	Duplicate Analysis	Units	RPD	Date Analyzed	Flag
Alkalinity, Bicarb.(CaCO3)	200	190	mg/L	5.1	10/02/1998	
Alkalinity, Bicarb.(CaCO3)	ND	ND	mg/L		10/02/1998	
Alkalinity, Carb. (CaCO3)	200	190	mg/L	5.1	10/02/1998	
Alkalinity, Carb. (CaCO3)	ND	ND	mg/L		10/02/1998	
Bromide	0.17	0.12	mg/L	34.5	10/02/1998	RD
Chloride	30	31	mg/L	3.3	10/01/1998	
Conductivity	ND	ND	umho		10/01/1998	
Fluoride, Total	1.0	0.98	mg/L	2.0	10/01/1998	
pH	6.8	6.9		1.5	09/30/1998	
Silica	20	20	mg/L	0.0	10/01/1998	
Solids, Total Dissolved	410	380	mg/L	7.6	10/07/1998	
Sulfate	46	47	mg/L	2.2	10/01/1998	DIL,Q

NOTE: Duplicates may not be samples from this job.

RPD - Relative Percent Difference

FLAG GLOSSARY

A	This sample does not have a typical gasoline pattern.
B1	This sample does not have a typical diesel pattern.
B	Analyte found in the associated blank as well as the sample.
C	The sample contains a lighter hydrocarbon than gasoline.
CN	See case narrative
CS	Outside control limits or unusual matrix; see case narrative.
D	The sample extends to a heavier hydrocarbon range than gasoline.
d	Results on a dry weight basis
DIL	Result was calculated from dilution.
E	The sample extends to a lighter hydrocarbon range than diesel.
F	The sample extends to a heavier hydrocarbon range than diesel.
G	The positive result for gasoline is due to single component comtamination.
I	The oil pattern for this sample is not typical.
J	The result for this compound is an estimated concentration.
L	The LCS recovery exceeded control limits. See the LCS page of this report.
LM	The LCS recovery exeeded control limits; the MS/MSD were in control validating the batch.
M	MS and/or MSD percent recovery exceeds control limits.
MD	Unable to calculate MS/MSD recovery due to high amount of analyte; greater than 4 times spike level.
MR	The MS/MSD RPD is greater than method critera. The sample was re-extracted and re-analyzed with similar results indicating a non-homogeneous sample.
MM	The Matrix Spike exceeded control limits; LCS was in control validating the batch.
MI	Outside control limits due to matrix interference.
N	Manual integration performed on sample for quantification.
N/A	Not Applicable.
NC	Not calcuable.
NO	Not Analyzed.
P	A post digestion spike was analyzed, and recoveries were within control limits.
Q	Detection limits elevated due to sample matrix.
Q1	Detection limits elevated due to high levels of non-target compounds. Sample(s) run at a dilution.
R	The duplicate RPD was greater than 20%. The sample was re-extracted and re-analyzed with similar results. This indicates a matrix interference in the sample, likely a non-homogeneity of the sample.
R1	The duplicate RPD was greater than 20%. Visual inspection showed the sample to be non-homogeneous.
RD	RPD not applicable for results less than five times the reporting limit.
RH	The Relative Percent Difference (RPD) between two columns was greater than 40%, the higher result was reported.
RL	The Relative Percent Difference (RPD) between two columns was greater than 40%, the lower result was reported due to obvious interference with the higher result.
RP	MS/MSD RPD is greater than 20%
SR	Surrogate recovery outside control limits. See the surrogate page of the report.
SD	Unable to quantitate surrogate due to sample dilution.
SC	Sample not provided to laboratory in proper sampling container.
V	Volatile analysis was requested, sample container received with headspace.
X1	The duplicate RPD was greater than 20%. Due to insufficient sample, re-analysis was not possible.
X	Sample was analyzed outside recommended holding times.
Y	The result for this parameter was greater than the TCLP regulatory limit.
Z	The pattern seen for the parameter being analyzed is not typical.

Pinnacle Laboratories, Inc. **Interlab Chain of Custody** Date: 9/29/98 Page: 1 of 1

Network Project Manager: Kimberly D. McNeill

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

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Metals (8) RCRA	RCRA TCLP METALS	Metals-13 PP List	Metals-TAL OCD List Item 24		TOX	TOC	Gen Chemistry: OCD List Item 25		Oil and Grease	Volatile Organics GC/MS (8260)	BOD	COD	PESTICIDES/PCB (608/8080)	8270 BY GC/MS	PNA (8310)	8240 (TCLP 1311) ZHE	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	URANIUM	RADIUM 226+228	Gross Alpha/Beta	TO-14	NUMBER OF CONTAINERS
809074	9/28	1030	AQ	106154				X				X																

PROJECT INFORMATION	SAMPLE RECEIPT	SAMPLES SENT TO:	RELINQUISHED BY: 1.	RELINQUISHED BY: 2
PROJECT #: 809074	Total Number of Containers	PENSACOLA - STL-FL	Signature: — Time:	Signature: Time:
PROJ. NAME: NMOCD	Chain of Custody Seals	PORTLAND - ESL-OR X	Printed Name: Francine Torivio Date: 9/29/98	Printed Name: Date:
QC LEVEL: (STD) IV	Received Intact?	STL - CT	Pinnacle Laboratories, Inc.	Company
QC REQUIRED: (STD) MS MSD BLANK	Received Good Cond./Cold	STL- NEW JERSEY	RECEIVED BY: 1.	RECEIVED BY: 2
TAT: (STANDARD) RUSH!!	LAB NUMBER: 98.01915	N. CREEK	Signature: Time: 1000	Signature: Time:
DUE DATE: 10/13	COMMENTS:	BARRINGER	Printed Name: Date: 9/30/98	Printed Name: Date:
RUSH SURCHARGE: —		SEQUOIA	Company	Company
CLIENT DISCOUNT: —				
SPECIAL CERTIFICATION REQUIRED: YES (NO)				

American Environmental Network (NM), Inc.

CHAIN OF CUSTODY

DATE: 9/28/98 PAGE: 1 OF 1

AEN(NM) Accession #: 809074

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER:

COMPANY: NMOCD - WAYNE PRICE
ADDRESS: 2040 S PACHECO ST
SANTA FE, NM 87505
PHONE: 505-827-7155
FAX: " " -8177

BILL TO: SAB
COMPANY:
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct Inject	(M8015) Gas/Purge & Trap	8021 (BTEX)/8015 (Gasoline)	8021 (BTEX) ☐ MTBE ☐ TMB ☐ PCE	8021 (TCL)	8021 (EDX)	8021 (HALO)	8021 (CUST)	504.1 EDB ☐ / DBCP ☐	8260 (TCL) Volatile Organics	8260 (Full) Volatile Organics	8260 (CUST) Volatile Organics	8260 (Landfill) Volatile Organics	Pesticides /PCB (608/8081)	Herbicides (615/8151)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Polynuclear Aromatics (610/8310)	General Chemistry: - OCD LIST			Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals: OCD LIST		NUMBER OF CONTAINERS
980928/1030	9/28/98	10:30 AM	WATER	01					X													X	X							X		8

PROJECT INFORMATION

PROJ. NO:
PROJ. NAME: JAN PFEIFFER WELL
P.O. NO.: 9011 & BENDER
SHIPPED VIA: HOBBS NM 88240

SAMPLE RECEIPT

NO. CONTAINERS	8
CUSTODY SEALS	Y / N / NA
RECEIVED INTACT	YES
BLUE ICE/ICE	1.8°C

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) X

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

HOLD 8310, IF BTEX IS (+) THEN RUN 8310!
TOOK SAMPLE FROM SPIGOT FROM WATER WELL. LET RUN 10 MIN BEFORE SAMPLING. TOOK PICTURES.
1x1L Amber Iced in shipment

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature:	Signature: Time: 1:15 PM
Printed Name: WAYNE PRICE Date: 9/28/98	Printed Name: Date:
Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: (LAB) 2.**
Signature: Time:	Signature: Time: 1630
Printed Name: Date:	Printed Name: Francine Torivio Date: 9/29/98
Company:	American Enviromental Network (NM), Inc.

American Environmental Network (NM), Inc.

CHAIN OF CUSTODY

DATE: 9/28/98 PAGE: 1 OF 1

AEN(NM) Accession #: 809074

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER:

COMPANY: NMOCD - WAYNE PRICE
ADDRESS: 2040 S PACHECO ST
SANTA FE, NM 87505
PHONE: 505-827-7155
FAX: " " -8177
BILL TO: SAB
COMPANY:
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.
980928/030	9/28/98	10:30 AM	WATER	-01

	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct Inject	(M8015) Gas/Purge & Trap	8021 (BTEX)/8015 (Gasoline)	8021 (BTEX) ☐ MTBE ☐ TMB ☐ PCE	8021 (TCL)	8021 (EDX)	8021 (HALO)	8021 (CUST)	504.1 EDB ☐ / DBCP ☐	8260 (TCL) Volatile Organics	8260 (Full) Volatile Organics	8260 (CUST) Volatile Organics	8260 (Landfill) Volatile Organics	Pesticides /PCB (608/8081)	Herbicides (615/8151)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Polynuclear Aromatics (610/8310)	General Chemistry: - OCD LIST			Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals: OCD LIST		NUMBER OF CONTAINERS
980928/030					X													X	X							X		8

PROJECT INFORMATION

~~PROJ NO.~~
PROJ NAME: JAN PFEIFFER WELL
~~PO NO.~~: 9011 & BENDER
~~SHIPPED VIA~~: HOBBS NM 88240

SAMPLE RECEIPT

NO. CONTAINERS	8
CUSTODY SEALS	(Y) N / NA
RECEIVED INTACT	YES
BLUE ICE/ICE	1.8°C

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) [ ] 24hr [ ] 48hr [ ] 72hr [ ] 1 WEEK (NORMAL) X

CERTIFICATION REQUIRED: [ ] NM [ ] SDWA [ ] OTHER

METHANOL PRESERVATION [ ]

COMMENTS: FIXED FEE [ ]

HOLD 8310, IF BTEX IS (+) THEN RUN 8310!

TOOK SAMPLE FROM SPIGOT FROM WATER WELL. LET RUN 10 MIN BEFORE SAMPLING. TOOK PICTURES.

1 x 1L Amber broken in shipment

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature:	Signature:
Time: 1:15 PM	Time:
Printed Name: WAYNE PRICE	Printed Name:
Date: 9/28/98	Date:
Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: (LAB) 2.**
Signature:	Signature:
Time:	Time: 1035
Printed Name:	Printed Name: Francine Torivio
Date:	Date: 9/29/98
Company:	American Enviromental Network (NM), Inc.

cc: OCD SANTA Fe
CHRIS WILLIAMS

MILEAGE

UIC: _____
OTHER: _____

OIL CONSERVATION DIVISION
COMPLAINT FORM

PERSON COMPLAINING:
NAME: JAN PFEIFFER
ADDRESS: 4011 W BENDER
HOBBS N.M. 88240

PHONE: 397-4171 / 393-2564

INFORMATION TAKEN BY:
TAKEN BY: W PRICE
DATE: 8/27/98 TIME: ≈ 1 PM
IN PERSON: _____ BY PHONE: ✓

COMPLAINT: WATER WELL DRILLED (1) YEAR AGO HAS CRUDE OIL IN it! WATER HAS BEEN GOOD UNTIL A WEEK AGO!

COMMENTS: WOULD LIKE FOR OCD TO SAMPLE & INVESTIGATE!

- INVESTIGATION -

INVESTIGATOR: W PRICE
DATE: 9/28/98
TIME: ≈ 10:30 AM

DESCRIBE INVESTIGATION AND FINDINGS:

TOOK SAMPLE FROM SPIGOT ON WEST SIDE of HOUSE. PER MS PFEIFFER THIS COMES DIRECTLY off WELL. SEE COC. TOOK PICTURES.

CHECKED SAMPLE (WATER) IN HOUSE SINK & SPIGOT OUTSIDE CLEAR WATER, NO ODORS AT THIS TIME!

- FOLLOW-UP -

DATE: _____
TIME: _____
ACTION TAKEN: _____

*ATTACH ADDITIONAL SHEETS, IF NECESSARY

Pinnacle Laboratori ., Inc. 2709-D Pan American Freeway, NE, Alb ɜque, NM 87107 (505) 344-3777
Fax (505) 344-4413

Client: NMOCD
Phone:
Address:
Attention: Wayne

Date Needed: 9/25 Time: ____ am (pm)
☒ Pick up by Client
☐ Deliver to Client
Kit Prepared by: ☒ Francine
☐ Other

SAMPLE KIT

	PARAMETER	HOLDING TIME	BOTTLE DESCRIPTION			
			WATER-PERSERVATIVE		SOIL-PERSERVATIVE	
Volatiles	624 (8260) 601/602 8010/8020 8021 504	14 DAYS	___ 2x40ML VOA ___ 2X40ML VOA ___ 2X40ML VOA 1 2X40ML VOA ___ 2X40ML VOA	HCL/$HgCl_2$ HCL/$HgCl_2$ HCL/$HgCl_2$ HCL (HgCl) $Na2S2O3$	___ 1X 4 oz Jar ___ 1X 4 oz Jar ___ 1X 4 oz Jar ___ 1X 4 oz Jar ___ NA	4°c 4°c 4°c 4°c NA
Fuels	8015 (TPH) 8015/8020 418.1	14 DAYS 14 DAYS 28 DAYS	___ 2X40ML VOA ___ 2X40ML VOA ___ 2X500ML AMB.	$HCL/HgCl_2$ $HCL/HgCl_2$ H_2SO_4	___ ___ 1X 4 oz Jar ___	4°c
Organics	625 (8270) 608 (8080) 615 (8150) 610 (8310) ___	7 DAYS	___ ___ ___ 2 X 1L 1 AMBER ___	4°c	___ ___ ___ 1X4 oz Jar ___ ___	4°c
	TOC TOX	28 DAYS 7 DAYS	___ 1X250ML AMB. ___ 1X250ML AMB.	H_2SO_4 H_2SO_4	___ 1X 4 oz. Jar ___	4°c
Metals	___ Metals ___ ___	6 MONTHS	___ 1X ____ ML PL 1 1X 1000 ML PL ___ 1X ____ ML PL	HNO_3	___ ___ 1X 4 oz. Jar ___	4°c
Gen. Chem.	Gen Chem TDS Br ___	14 DAYS	1 1X 1000 ML PL 1 1X 500 ML PL 1 1X 500 ML PL	4°c	___ ___ 1X 4 oz. Jar ___	4°c
	pH		1 1X125 ML.PL	4°C		
	TRIP BLANK	14 DAYS	___ 1x 40ML VOA	$HCL/HgCl_2$	NA	NA
	AIR: ___	3 DAYS	___ 1 X 1L. TEDLAR AIR BAG VALVE: STAINLESS STEEL/POLYPROPYLENE			
Meth.	METHANOL PRESERVED		___ 2 X 60 ML Amber Preweighed; 2 X 10ML Methanol Vials; 1 X 2 oz Jar (4-oz Jar for Diesel)			

☒ COC — 2 COC
☒ BLUE ICE
☒ LABELS — 3 pairs of Gloves
☒ SEALS
☒ GLOVES

Wayne Price

From:	Wayne Price
To:	Roger Anderson
Cc:	Jerry Sexton; Bill Olson; Gary Wink
Subject:	Ground Water Contamination
Date:	Friday, April 18, 1997 2:47PM
Priority:	High

Dear Roger,

Eades Water Well drilling Co. requested I witness well drilling of new water well at a Jan Pfeiffer's residence located at 4011 W. Bender. According to Eades and Ms Pheiffer's father their existing well had become contaminated with oil & gas. I believe this location is at the northern edge of the West Hobbs Pool historical crude oil contamination of the water table.

The new well was drilled with no noticeable contamination.. They drilled it to 188' and just tagged the top of the Red Bed. This well was screened 20' at the bottom.

Please note Eades pointed out that they have performed quite a bit of work in this area and it appears the red beds might be dipping to the north and east. The new well drilled is north of existing wells that have become contaminated. The old Windmill Oil co. area lies mostly to the south and west of this location. The ground water gradient normally is to the SE however it appears there might be a localized gradient to the north or east. This was also experienced at the Dowell location just east about 1/2-3/4 mi.

It might be that all these years the contamination plume is moving in a direction that would not normally be expected giving us a false sense of security thinking that the plume is stationary. Obviously there must be more scientific information than what I am giving you here but maybe we have been looking in the wrong direction. I have not investigated what lies ahead of this plume if it were heading in the N or NE direction.

Please note I understand that Channel 7 KOAT was going to be on site later that day they were with Gary earlier in the day.

I am going to set up a file on this for tracking purposes. Please let me know if you require any further information, sampling testing etc.

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Jennifer A. Salisbury
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

September 8, 2000

Mr. Ricky Williams
3719 West Bender
Hobbs, New Mexico 88240

RE: WATER WELL SAMPLE ANALYSES

Dear Mr. Williams:

Enclosed you will find a copy of the laboratory analytical results of the water samples that the New Mexico Oil Conservation Division (OCD) obtained from your private water well on June 7, 2000. The sample analyses did not detect any oil or natural gas related contaminants in your water well. However, fluoride was found to be present at a concentration in excess of the New Mexico Water Quality Control Commission health standard of 1.6 mg/l for drinking water. Since this is not an oilfield-related constituent, I recommend that you contact Dennis McQuillan of the New Mexico Environment Department at (505) 827-2831 regarding the occurrence of fluoride in the area and possible effects of fluoride on human health.

The OCD is continuing to investigate oilfield ground water contamination in your area. If you have any questions regarding the laboratory analyses of your water or the OCD's investigations, please feel free to call me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrologist
Environmental Bureau

Enclosure

xc w/ enclosure: Chris Williams, OCD Hobbs District Supervisor
Dennis McQuillan, NMED Ground Water Quality Bureau

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Bill Olson
OCD
2040 S. Pacheco
Santa Fe, NM 87505

Report Date: June 25, 2000

Order ID Number: A00060923

Project Number: Ricky Williams
Project Name: Windmill Oil
Project Location: Ricky Williams

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
147706	0006071950 Ricky Williams	Water	6/7/00	19:50	6/9/00

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 24 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

RECEIVED
JUN 29 2000
ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Cation-Anion Balance Sheet

Sample # 107706 Date: 6/27/00

Cations

	ppm	meq/L
Calcium	74	3.6926
Magnesium	13	1.06977
Sodium	48	2.088
Potassium	2.4	0.061392

Total Cations 6.91176 in meq/L

Anions

	ppm	meq/L
Alkalinity	172	3.44
Sulfate	57	1.18674
Chloride	59	1.66439
Nitrate as N	4.7	0.335533
Fluoride	1.7	0.089488

Total Anions 6.71615 in meq/L

Percentage Error
2.87074 %
(needs to be <10%)

OTHER INFORMATION

TDS	0
EC	0

Measure EC and Cation Sums	691.1762	Range should be:	0	to	0
Measure EC and Anion Sums	671.6151	Range should be:	0	to	0
Calculated TDS/Conductivity	#DIV/0!	Range should be:	0.55	to	0.77
Measure TDS and Cation Sums	0	Range should be:	0.55	to	0.77
Measure TDS and Anion Sums	0	Range should be:	0.55	to	0.77

Analytical and Quality Control Report

Sample: 147706 - 0006071950 Ricky Williams

Analysis:	8260	Analytical Method:	S 8260B	QC Batch:	QC03195	Date Analyzed:	6/13/00
Analyst:	JG	Preparation Method:	E 5030B	Prep Batch:	PB02746	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Bromochloromethane		<2.00	µg/L	1	2
Dichlorodifluoromethane		<2.00	µg/L	1	2
Chloromethane (methyl chloride)		<2.00	µg/L	1	2
Vinyl Chloride		<2.00	µg/L	1	2
Bromomethane (methyl bromide)		<5.00	µg/L	1	5
Chloroethane		<2.00	µg/L	1	2
Trichlorofluoromethane		<2.00	µg/L	1	2
Acetone		<10.00	µg/L	1	10
Iodomethane (methyl iodide)		<2.00	µg/L	1	2
Carbon Disulfide		<2.00	µg/L	1	2
Acrylonitrile		<2.00	µg/L	1	2
2-Butanone (MEK)		<2.00	µg/L	1	2
4-methyl-2-pentanone (MIBK)		<10.00	µg/L	1	10
2-hexanone		<2.00	µg/L	1	2
trans 1,4-Dichloro-2-butene		<10.00	µg/L	1	10
1,1-Dichloroethene		<2.00	µg/L	1	2
Methylene chloride		<5.00	µg/L	1	5
MTBE		<2.00	µg/L	1	2
trans-1,2-Dichloroethene		<2.00	µg/L	1	2
1,1-Dichloroethane		<2.00	µg/L	1	2
cis-1,2-dichloroethene		<2.00	µg/L	1	2
2,2-Dichloropropane		<2.00	µg/L	1	2
1,2-Dichloroethane (EDC)		<2.00	µg/L	1	2
Chloroform		<2.00	µg/L	1	2
1,1,1-Trichloroethane		<2.00	µg/L	1	2
1,1-Dichloropropene		<2.00	µg/L	1	2
Benzene		<2.00	µg/L	1	2
Carbon Tetrachloride		<2.00	µg/L	1	2
1,2-Dichloropropane		<2.00	µg/L	1	2
Trichloroethene (TCE)		<2.00	µg/L	1	2
Dibromomethane (methylene bromide)		<2.00	µg/L	1	2
Bromodichloromethane		<2.00	µg/L	1	2
2-Chloroethyl vinyl ether		<10.00	µg/L	1	10
cis-1,3-Dichloropropene		<2.00	µg/L	1	2
trans-1,3-Dichloropropene		<2.00	µg/L	1	2
Toluene		<2.00	µg/L	1	2
1,1,2-Trichloroethane		<2.00	µg/L	1	2
1,3-Dichloropropane		<2.00	µg/L	1	2
Dibromochloromethane		<2.00	µg/L	1	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	1	2
Tetrachloroethene (PCE)		<2.00	µg/L	1	2
Chlorobenzene		<2.00	µg/L	1	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	1	2
Ethylbenzene		<2.00	µg/L	1	2
m,p-Xylene		<2.00	µg/L	1	2

Continued ...

... *Continued* Sample: 147706 Analysis: 8260

Param	Flag	Result	Units	Dilution	RDL
Bromoform		<2.00	µg/L	1	2
Styrene		<2.00	µg/L	1	2
o-Xylene		<2.00	µg/L	1	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	1	2
2-Chlorotoluene		<2.00	µg/L	1	2
1,2,3-Trichloropropane		<2.00	µg/L	1	2
Isopropylbenzene		<2.00	µg/L	1	2
Bromobenzene		<2.00	µg/L	1	2
n-Propylbenzene		<2.00	µg/L	1	2
1,3,5-Trimethylbenzene		<2.00	µg/L	1	2
tert-Butylbenzene		<2.00	µg/L	1	2
1,2,4-Trimethylbenzene		<2.00	µg/L	1	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	1	2
sec-Butylbenzene		<2.00	µg/L	1	2
1,3-Dichlorobenzene		<2.00	µg/L	1	2
p-Isopropyltoluene		<2.00	µg/L	1	2
4-Chlorotoluene		<2.00	µg/L	1	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	1	2
n-Butylbenzene		<2.00	µg/L	1	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5
Naphthalene		<2.00	µg/L	1	2
Hexachlorobutadiene		<5.00	µg/L	1	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		52.49	µg/L	1	50	104	84 - 116
Toluene-d8		51.68	µg/L	1	50	103	92 - 108
4-Bromofluorobenzene		43.50	µg/L	1	50	87	80 - 110

Sample: 147706 - 0006071950 Ricky Williams

Analysis:	8270	Analytical Method:	S 8270C	QC Batch:	QC03142	Date Analyzed:	6/12/00
Analyst:	MA	Preparation Method:	E 3510C	Prep Batch:	PB02699	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Pyridine		<0.005	mg/L	1	0.005
n-Nitrosodimethylamine		<0.005	mg/L	1	0.005
2-Picoline		<0.005	mg/L	1	0.005
Methyl methanesulfonate		<0.005	mg/L	1	0.005
Ethyl methanesulfonate		<0.005	mg/L	1	0.005
Phenol		<0.005	mg/L	1	0.005
Aniline		<0.005	mg/L	1	0.005
bis (2-chloroethyl) ether		<0.005	mg/L	1	0.005
2-Chlorophenol		<0.005	mg/L	1	0.005
1,3-Dichlorobenzene		<0.005	mg/L	1	0.005
1,4-Dichlorobenzene		<0.005	mg/L	1	0.005
Benzyl alcohol		<0.005	mg/L	1	0.005

Continued ...

... *Continued* Sample: 147706 Analysis: 8270

Param	Flag	Result	Units	Dilution	R.D.L.
1,2-Dichlorobenzene		<0.005	mg/L	1	0.005
2-Methylphenol		<0.005	mg/L	1	0.005
bis (2-chloroisopropyl) ether		<0.005	mg/L	1	0.005
4-Methylphenol/3-Methylphenol		<0.005	mg/L	1	0.005
Acetophenone		<0.005	mg/L	1	0.005
n-Nitrosodi-n-propylamine		<0.005	mg/L	1	0.005
Hexachloroethane		<0.005	mg/L	1	0.005
Nitrobenzene		<0.005	mg/L	1	0.005
n-Nitrosopiperidine		<0.005	mg/L	1	0.005
Isophorone		<0.005	mg/L	1	0.005
2-Nitrophenol		<0.005	mg/L	1	0.005
2,4-Dimethylphenol		<0.005	mg/L	1	0.005
bis (2-chloroethoxy) methane		<0.005	mg/L	1	0.005
Benzoic acid		<0.005	mg/L	1	0.005
2,4-Dichlorophenol		<0.005	mg/L	1	0.005
1,2,4-Trichlorobenzene		<0.005	mg/L	1	0.005
a,a-Dimethylphenethylamine		<0.005	mg/L	1	0.005
Naphthalene		<0.005	mg/L	1	0.005
4-Chloroaniline		<0.005	mg/L	1	0.005
2,6-Dichlorophenol		<0.005	mg/L	1	0.005
Hexachlorobutadiene		<0.005	mg/L	1	0.005
n-Nitroso-di-n-butylamine		<0.005	mg/L	1	0.005
4-Chloro-3-methylphenol		<0.005	mg/L	1	0.005
1-Methylnaphthalene		<0.005	mg/L	1	0.005
2-Methylnaphthalene		<0.005	mg/L	1	0.005
1,2,4,5-Tetrachlorobenzene		<0.005	mg/L	1	0.005
Hexachlorocyclopentadiene		<0.005	mg/L	1	0.005
2,4,6-Trichlorophenol		<0.005	mg/L	1	0.005
2,4,5-Trichlorophenol		<0.005	mg/L	1	0.005
2-Chloronaphthalene		<0.005	mg/L	1	0.005
1-Chloronaphthalene		<0.005	mg/L	1	0.005
2-Nitroaniline		<0.005	mg/L	1	0.005
Dimethylphthalate		<0.005	mg/L	1	0.005
Acenaphthylene		<0.005	mg/L	1	0.005
2,6-Dinitrotoluene		<0.005	mg/L	1	0.005
3-Nitroaniline		<0.005	mg/L	1	0.005
Acenaphthene		<0.005	mg/L	1	0.005
2,4-Dinitrophenol		<0.005	mg/L	1	0.005
Dibenzofuran		<0.005	mg/L	1	0.005
Pentachlorobenzene		<0.005	mg/L	1	0.005
4-Nitrophenol		<0.005	mg/L	1	0.005
1-Napthylamine		<0.005	mg/L	1	0.005
2,4-Dinitrotoluene		<0.005	mg/L	1	0.005
2-Napthylamine		<0.005	mg/L	1	0.005
2,3,4,6-Tetrachlorophenol		<0.005	mg/L	1	0.005
Fluorene		<0.005	mg/L	1	0.005
Diethylphthalate		<0.005	mg/L	1	0.005
4-Chlorophenyl-phenylether		<0.005	mg/L	1	0.005
4-Nitroaniline		<0.005	mg/L	1	0.005
4,6-Dinitro-2-methylphenol		<0.005	mg/L	1	0.005
Diphenylamine		<0.005	mg/L	1	0.005

Continued ...

... *Continued* Sample: 147706 Analysis: 8270

Param	Flag	Result	Units	Dilution	RDL
Diphenylhydrazine		<0.005	mg/L	1	0.005
4-Bromophenyl-phenylether		<0.005	mg/L	1	0.005
Phenacetin		<0.005	mg/L	1	0.005
Hexachlorobenzene		<0.005	mg/L	1	0.005
4-Aminobiphenyl		<0.005	mg/L	1	0.005
Pentachlorophenol		<0.005	mg/L	1	0.005
Pentachloronitrobenzene		<0.005	mg/L	1	0.005
Pronamide		<0.005	mg/L	1	0.005
Phenanthrene		<0.005	mg/L	1	0.005
Anthracene		<0.005	mg/L	1	0.005
Di-n-butylphthalate		<0.005	mg/L	1	0.005
Fluoranthene		<0.005	mg/L	1	0.005
Benzidine		<0.005	mg/L	1	0.005
Pyrene		<0.005	mg/L	1	0.005
p-Dimethylaminoazobenzene		<0.005	mg/L	1	0.005
Butylbenzylphthalate		<0.005	mg/L	1	0.005
Benzo(a)anthracene		<0.005	mg/L	1	0.005
3,3-Dichlorobenzidine		<0.005	mg/L	1	0.005
Chrysene		<0.005	mg/L	1	0.005
Bis (2-ethylhexyl) phthalate		<0.005	mg/L	1	0.005
Di-n-octylphthalate		<0.005	mg/L	1	0.005
Benzo(b)fluoranthene		<0.005	mg/L	1	0.005
7,12-Dimethylbenz(a)anthracene		<0.005	mg/L	1	0.005
Benzo(k)fluoranthene		<0.005	mg/L	1	0.005
Benzo(a)pyrene		<0.005	mg/L	1	0.005
3-Methylcholanthrene		<0.005	mg/L	1	0.005
Dibenzo(a,j)acridine		<0.005	mg/L	1	0.005
Indeno(1,2,3-cd)pyrene		<0.005	mg/L	1	0.005
Dibenzo(a,h)anthracene		<0.005	mg/L	1	0.005
Benzo(g,h,i)perylene		<0.005	mg/L	1	0.005

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		22.65	mg/L	1	80	28	8 - 73
Nitrobenzene-d5		54.24	mg/L	1	80	67	44 - 109
2-Fluorobiphenyl		55.37	mg/L	1	80	69	45 - 109
2,4,6-Tribromophenol		48.84	mg/L	1	80	61	39 - 132
Terphenyl-d14		50.30	mg/L	1	80	62	46 - 121

Sample: 147706 - 0006071950 Ricky Williams

Analysis:	Alkalinity	Analytical Method:	E 310.1	QC Batch:	QC03238	Date Analyzed:	6/13/00
Analyst:	LD	Preparation Method:	N/A	Prep Batch:	PB02792	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		172	mg/L as CaCo3	1	1
Total Alkalinity		172	mg/L as CaCo3	1	1

Sample: 147706 - 0006071950 Ricky Williams

Analysis:	Conductivity	Analytical Method:	SM 2510B	QC Batch:	QC03138	Date Analyzed:	6/12/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02696	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Specific Conductance		680	uMHOS/cm	1	

Sample: 147706 - 0006071950 Ricky Williams

Analysis:	Dissolved Metals	Analytical Method:	E 200.7	QC Batch:	QC03374	Date Analyzed:	6/20/00
Analyst:	RR	Preparation Method:	E 3005A	Prep Batch:	PB02731	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		74	mg/L	1	0.50
Dissolved Magnesium		13	mg/L	1	0.50
Dissolved Potassium		2.4	mg/L	1	0.50
Dissolved Sodium		48	mg/L	1	0.50

Sample: 147706 - 0006071950 Ricky Williams

Analysis:	Hg, Total	Analytical Method:	S 7470A	QC Batch:	QC03373	Date Analyzed:	6/22/00
Analyst:	JM	Preparation Method:	N/A	Prep Batch:	PB02908	Date Prepared:	6/19/00

Param	Flag	Result	Units	Dilution	RDL
Total Mercury		<0.0002	mg/L	1	0.0002

Sample: 147706 - 0006071950 Ricky Williams

Analysis:	Ion Chromatography (IC)	Analytical Method:	E 300.0	QC Batch:	QC03102	Date Analyzed:	6/9/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02661	Date Prepared:	6/9/00

Param	Flag	Result	Units	Dilution	RDL
CL		59	mg/L	1	0.50
Fluoride		1.7	mg/L	1	0.20
Nitrate-N		4.7	mg/L	1	0.20
Sulfate		57	mg/L	1	0.50

Sample: 147706 - 0006071950 Ricky Williams

Analysis:	TDS	Analytical Method:	E 160.1	QC Batch:	QC03180	Date Analyzed:	6/12/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02733	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Total Dissolved Solids		440	mg/L	1	10

Sample: 147706 - 0006071950 Ricky Williams

Analysis:	Total Metals	Analytical Method:	S 6010B	QC Batch:	QC03370	Date Analyzed:	6/16/00
Analyst:	RR	Preparation Method:	E 3010A	Prep Batch:	PB02676	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Total Aluminum		<0.10	mg/L	1	0.10
Total Arsenic		<0.10	mg/L	1	0.10
Total Barium		<0.10	mg/L	1	0.10
Total Boron		<0.50	mg/L	1	0.50
Total Cadmium		<0.01	mg/L	1	0.01
Total Chromium		<0.05	mg/L	1	0.05
Total Cobalt		<0.05	mg/L	1	0.05
Total Copper		<0.10	mg/L	1	0.10
Total Iron		<0.10	mg/L	1	0.10
Total Lead		<0.05	mg/L	1	0.05
Total Manganese		<0.10	mg/L	1	0.10
Total Molybdenum		<0.10	mg/L	1	0.10
Total Nickel		<0.10	mg/L	1	0.10
Total Selenium		<0.05	mg/L	1	0.05
Total Silica		93	mg/L	1	0.50
Total Silver		<0.05	mg/L	1	0.05
Total Zinc		<0.10	mg/L	1	0.10

Sample: 147706 - 0006071950 Ricky Williams

Analysis:	pH	Analytical Method:	E 150.1	QC Batch:	QC03169	Date Analyzed:	6/9/00
Analyst:	RS	Preparation Method:	N/A	Prep Batch:	PB02721	Date Prepared:	6/9/00

Param	Flag	Result	Units	Dilution	RDL
pH	[1]	7.5	s.u.	1	1

Quality Control Report
Method Blank

Sample: Method Blank QCBatch: QC03102

Param	Flag	Results	Units	Reporting Limit
Cl		<0.5	mg/L	0.50
Fluoride		<0.2	mg/L	0.20
Nitrate-N		<0.2	mg/L	0.20
Sulfate		<0.5	mg/L	0.50

Sample: Method Blank QCBatch: QC03138

Param	Flag	Results	Units	Reporting Limit
Specific Conductance		2.8	uMHOS/cm	

[1] Out of holding time.

Sample: Method Blank

QCBatch: QC03142

Param	Flag	Results	Units	Reporting Limit
Pyridine		<0.005	mg/L	0.005
n-Nitrosodimethylamine		<0.005	mg/L	0.005
2-Picoline		<0.005	mg/L	0.005
Methyl methanesulfonate		<0.005	mg/L	0.005
Ethyl methanesulfonate		<0.005	mg/L	0.005
Phenol		<0.005	mg/L	0.005
Aniline		<0.005	mg/L	0.005
bis (2-chloroethyl) ether		<0.005	mg/L	0.005
2-Chlorophenol		<0.005	mg/L	0.005
1,3-Dichlorobenzene		<0.005	mg/L	0.005
1,4-Dichlorobenzene		<0.005	mg/L	0.005
Benzyl alcohol		<0.005	mg/L	0.005
1,2-Dichlorobenzene		<0.005	mg/L	0.005
2-Methylphenol		<0.005	mg/L	0.005
bis (2-chloroisopropyl) ether		<0.005	mg/L	0.005
4-Methylphenol/3-Methylphenol		<0.005	mg/L	0.005
Acetophenone		<0.005	mg/L	0.005
n-Nitrosodi-n-propylamine		<0.005	mg/L	0.005
Hexachloroethane		<0.005	mg/L	0.005
Nitrobenzene		<0.005	mg/L	0.005
n-Nitrosopiperidine		<0.005	mg/L	0.005
Isophorone		<0.005	mg/L	0.005
2-Nitrophenol		<0.005	mg/L	0.005
2,4-Dimethylphenol		<0.005	mg/L	0.005
bis (2-chloroethoxy) methane		<0.005	mg/L	0.005
Benzoic acid		<0.005	mg/L	0.005
2,4-Dichlorophenol		<0.005	mg/L	0.005
1,2,4-Trichlorobenzene		<0.005	mg/L	0.005
a,a-Dimethylphenethylamine		<0.005	mg/L	0.005
Naphthalene		<0.005	mg/L	0.005
4-Chloroaniline		<0.005	mg/L	0.005
2,6-Dichlorophenol		<0.005	mg/L	0.005
Hexachlorobutadiene		<0.005	mg/L	0.005
n-Nitroso-di-n-butylamine		<0.005	mg/L	0.005
4-Chloro-3-methylphenol		<0.005	mg/L	0.005
1-Methylnaphthalene		<0.005	mg/L	0.005
2-Methylnaphthalene		<0.005	mg/L	0.005
1,2,4,5-Tetrachlorobenzene		<0.005	mg/L	0.005
Hexachlorocyclopentadiene		<0.005	mg/L	0.005
2,4,6-Trichlorophenol		<0.005	mg/L	0.005
2,4,5-Trichlorophenol		<0.005	mg/L	0.005
2-Chloronaphthalene		<0.005	mg/L	0.005
1-Chloronaphthalene		<0.005	mg/L	0.005
2-Nitroaniline		<0.005	mg/L	0.005
Dimethylphthalate		<0.005	mg/L	0.005
Acenaphthylene		<0.005	mg/L	0.005
2,6-Dinitrotoluene		<0.005	mg/L	0.005
3-Nitroaniline		<0.005	mg/L	0.005
Acenaphthene		<0.005	mg/L	0.005

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Param	Flag	Results	Units	Reporting Limit
2,4-Dinitrophenol		<0.005	mg/L	0.005
Dibenzofuran		<0.005	mg/L	0.005
Pentachlorobenzene		<0.005	mg/L	0.005
4-Nitrophenol		<0.005	mg/L	0.005
1-Napthylamine		<0.005	mg/L	0.005
2,4-Dinitrotoluene		<0.005	mg/L	0.005
2-Napthylamine		<0.005	mg/L	0.005
2,3,4,6-Tetrachlorophenol		<0.005	mg/L	0.005
Fluorene		<0.005	mg/L	0.005
Diethylphthalate		<0.005	mg/L	0.005
4-Chlorophenyl-phenylether		<0.005	mg/L	0.005
4-Nitroaniline		<0.005	mg/L	0.005
4,6-Dinitro-2-methylphenol		<0.005	mg/L	0.005
Diphenylamine		<0.005	mg/L	0.005
Diphenylhydrazine		<0.005	mg/L	0.005
4-Bromophenyl-phenylether		<0.005	mg/L	0.005
Phenacetin		<0.005	mg/L	0.005
Hexachlorobenzene		<0.005	mg/L	0.005
4-Aminobiphenyl		<0.005	mg/L	0.005
Pentachlorophenol		<0.005	mg/L	0.005
Pentachloronitrobenzene		<0.005	mg/L	0.005
Pronamide		<0.005	mg/L	0.005
Phenanthrene		<0.005	mg/L	0.005
Anthracene		<0.005	mg/L	0.005
Di-n-butylphthalate		<0.005	mg/L	0.005
Fluoranthene		<0.005	mg/L	0.005
Benzidine		<0.005	mg/L	0.005
Pyrene		<0.005	mg/L	0.005
p-Dimethylaminoazobenzene		<0.005	mg/L	0.005
Butylbenzylphthalate		<0.005	mg/L	0.005
Benzo(a)anthracene		<0.005	mg/L	0.005
3,3-Dichlorobenzidine		<0.005	mg/L	0.005
Chrysene		<0.005	mg/L	0.005
Bis (2-ethylhexyl) phthalate		<0.005	mg/L	0.005
Di-n-octylphthalate		<0.005	mg/L	0.005
Benzo(b)fluoranthene		<0.005	mg/L	0.005
7,12-Dimethylbenz(a)anthracene		<0.005	mg/L	0.005
Benzo(k)fluoranthene		<0.005	mg/L	0.005
Benzo(a)pyrene		<0.005	mg/L	0.005
3-Methylcholanthrene		<0.005	mg/L	0.005
Dibenzo(a,j)acridine		<0.005	mg/L	0.005
Indeno(1,2,3-cd)pyrene		<0.005	mg/L	0.005
Dibenzo(a,h)anthracene		<0.005	mg/L	0.005
Benzo(g,h,i)perylene		<0.005	mg/L	0.005

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
2-Fluorophenol		25.50	mg/L	80	31	8 - 73
Nitrobenzene-d5		59.91	mg/L	80	74	44 - 109
2-Fluorobiphenyl		58.24	mg/L	80	72	45 - 109

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Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
2,4,6-Tribromophenol		57.84	mg/L	80	72	39 - 132
Terphenyl-d14		53.99	mg/L	80	67	46 - 121

Sample: Method Blank

QCBatch: QC03180

Param	Flag	Results	Units	Reporting Limit
Total Dissolved Solids		<10	mg/L	10

Sample: Method Blank

QCBatch: QC03195

Param	Flag	Results	Units	Reporting Limit
Bromochloromethane		<2.00	µg/L	2
Dichlorodifluoromethane		<2.00	µg/L	2
Chloromethane (methyl chloride)		<2.00	µg/L	2
Vinyl Chloride		<2.00	µg/L	2
Bromomethane (methyl bromide)		<5.00	µg/L	5
Chloroethane		<2.00	µg/L	2
Trichlorofluoromethane		<2.00	µg/L	2
Acetone		<10.00	µg/L	10
Iodomethane (methyl iodide)		<2.00	µg/L	2
Carbon Disulfide		<2.00	µg/L	2
Acrylonitrile		<2.00	µg/L	2
2-Butanone (MEK)		<2.00	µg/L	2
4-methyl-2-pentanone (MIBK)		<10.00	µg/L	10
2-hexanone		<2.00	µg/L	2
trans 1,4-Dichloro-2-butene		<10.00	µg/L	10
1,1-Dichloroethene		<2.00	µg/L	2
Methylene chloride		<5.00	µg/L	5
MTBE		<2.00	µg/L	2
trans-1,2-Dichloroethene		<2.00	µg/L	2
1,1-Dichloroethane		<2.00	µg/L	2
cis-1,2-dichloroethene		<2.00	µg/L	2
2,2-Dichloropropane		<2.00	µg/L	2
1,2-Dichloroethane (EDC)		<2.00	µg/L	2
Chloroform		<2.00	µg/L	2
1,1,1-Trichloroethane		<2.00	µg/L	2
1,1-Dichloropropene		<2.00	µg/L	2
Benzene		<2.00	µg/L	2
Carbon Tetrachloride		<2.00	µg/L	2
1,2-Dichloropropane		<2.00	µg/L	2
Trichloroethene (TCE)		<2.00	µg/L	2
Dibromomethane (methylene bromide)		<2.00	µg/L	2
Bromodichloromethane		<2.00	µg/L	2
2-Chloroethyl vinyl ether		<10.00	µg/L	10

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Param	Flag	Results	Units	Reporting Limit
cis-1,3-Dichloropropene		<2.00	µg/L	2
trans-1,3-Dichloropropene		<2.00	µg/L	2
Toluene		<2.00	µg/L	2
1,1,2-Trichloroethane		<2.00	µg/L	2
1,3-Dichloropropane		<2.00	µg/L	2
Dibromochloromethane		<2.00	µg/L	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	2
Tetrachloroethene (PCE)		<2.00	µg/L	2
Chlorobenzene		<2.00	µg/L	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	2
Ethylbenzene		<2.00	µg/L	2
m,p-Xylene		<2.00	µg/L	2
Bromoform		<2.00	µg/L	2
Styrene		<2.00	µg/L	2
o-Xylene		<2.00	µg/L	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	2
2-Chlorotoluene		<2.00	µg/L	2
1,2,3-Trichloropropane		<2.00	µg/L	2
Isopropylbenzene		<2.00	µg/L	2
Bromobenzene		<2.00	µg/L	2
n-Propylbenzene		<2.00	µg/L	2
1,3,5-Trimethylbenzene		<2.00	µg/L	2
tert-Butylbenzene		<2.00	µg/L	2
1,2,4-Trimethylbenzene		<2.00	µg/L	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	2
sec-Butylbenzene		<2.00	µg/L	2
1,3-Dichlorobenzene		<2.00	µg/L	2
p-Isopropyltoluene		<2.00	µg/L	2
4-Chlorotoluene		<2.00	µg/L	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	2
n-Butylbenzene		<2.00	µg/L	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5
1,2,3-Trichlorobenzene		<5.00	µg/L	5
1,2,4-Trichlorobenzene		<5.00	µg/L	5
Naphthalene		<2.00	µg/L	2
Hexachlorobutadiene		<5.00	µg/L	5

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
Dibromofluoromethane		51.65	µg/L	50	103	84 - 116
Toluene-d8		51.61	µg/L	50	103	92 - 108
4-Bromofluorobenzene		43.93	µg/L	50	87	80 - 110

Sample: Method Blank

QCBatch: QC03238

Param	Flag	Results	Units	Reporting Limit
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1

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Param	Flag	Results	Units	Reporting Limit
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1
Bicarbonate Alkalinity		<4.0	mg/L as CaCo3	1
Total Alkalinity		<4.0	mg/L as CaCo3	1

Sample: Method Blank QCBatch: QC03370

Param	Flag	Results	Units	Reporting Limit
Total Aluminum		<0.10	mg/L	0.10
Total Arsenic		<0.10	mg/L	0.10
Total Barium		<0.10	mg/L	0.10
Total Boron		<0.50	mg/L	0.50
Total Cadmium		<0.01	mg/L	0.01
Total Chromium		<0.05	mg/L	0.05
Total Cobalt		<0.05	mg/L	0.05
Total Copper		<0.10	mg/L	0.10
Total Iron		<0.10	mg/L	0.10
Total Lead		<0.05	mg/L	0.05
Total Manganese		<0.10	mg/L	0.10
Total Molybdenum		<0.10	mg/L	0.10
Total Nickel		<0.10	mg/L	0.10
Total Selenium		<0.05	mg/L	0.05
Total Silica		<0.50	mg/L	0.50
Total Silver		<0.05	mg/L	0.05
Total Zinc		<0.10	mg/L	0.10

Sample: Method Blank QCBatch: QC03373

Param	Flag	Results	Units	Reporting Limit
Total Mercury		<0.0002	mg/L	0.0002

Sample: Method Blank QCBatch: QC03374

Param	Flag	Results	Units	Reporting Limit
Dissolved Calcium		<0.50	mg/L	0.50
Dissolved Magnesium		<0.50	mg/L	0.50
Dissolved Potassium		<0.50	mg/L	0.50
Dissolved Sodium		<0.50	mg/L	0.50

Quality Control Report

Lab Control Spikes and Duplicate Spikes

Sample: LCS QC Batch: QC03102

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
CL		11.62	mg/L	1	12.50	<0.5	92		80 - 120	20
Fluoride		2.48	mg/L	1	2.50	<0.2	99		80 - 120	20
Nitrate-N	[2]	4.80	mg/L	1	5	<0.2	96		80 - 120	20
Sulfate		12.02	mg/L	1	12.50	<0.5	96		80 - 120	20

Sample: LCSD QC Batch: QC03102

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
CL		11.59	mg/L	1	12.50	<0.5	92	0.25	80 - 120	20
Fluoride		2.56	mg/L	1	2.50	<0.2	102	3.17	80 - 120	20
Nitrate-N	[3]	4.76	mg/L	1	5	<0.2	95	0.83	80 - 120	20
Sulfate		12.04	mg/L	1	12.50	<0.5	96	0.16	80 - 120	20

Sample: LCS QC Batch: QC03142

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Phenol		42.824	mg/L	1	80	<0.005	53		5 - 57	20
2-Chlorophenol		43.416	mg/L	1	80	<0.005	54		29 - 110	20
1,4-Dichlorobenzene		54.708	mg/L	1	80	<0.005	68		25 - 94	20
n-Nitrosodi-n-propylamine		58.916	mg/L	1	80	<0.005	73		36 - 119	20
1,2,4-Trichlorobenzene		56.070	mg/L	1	80	<0.005	70		28 - 110	20
4-Chloro-3-methylphenol		49.008	mg/L	1	80	<0.005	61		40 - 126	20
Acenaphthene		50.649	mg/L	1	80	<0.005	63		47 - 118	20
4-Nitrophenol		38.123	mg/L	1	80	<0.005	47		0 - 69	20
2,4-Dinitrotoluene		62.227	mg/L	1	80	<0.005	77		46 - 133	20
Pentachlorophenol		33.291	mg/L	1	80	<0.005	41		21 - 131	20
Pyrene		49.127	mg/L	1	80	<0.005	61		44 - 125	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
2-Fluorophenol		49.05	mg/L	1	80	61	8 - 73
Phenol-d5		53.54	mg/L	1	80	66	8 - 62
Nitrobenzene-d5		53.51	mg/L	1	80	66	44 - 109

Continued ...

[2] Blank spikes used because the electricity went off during the duplicate spike.
[3] Blank spikes used because the electricity went off during the duplicate spike.

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Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
2-Fluorobiphenyl		53.68	mg/L	1	80	67	45 - 109
2,4,6-Tribromophenol		51.74	mg/L	1	80	64	39 - 132
Terphenyl-d14		53.77	mg/L	1	80	67	46 - 121

Sample: LCSD QC Batch: QC03142

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Phenol		45.977	mg/L	1	80	<0.005	57	7.10	5 - 57	20
2-Chlorophenol		46.473	mg/L	1	80	<0.005	58	6.80	29 - 110	20
1,4-Dichlorobenzene		56.488	mg/L	1	80	<0.005	70	3.20	25 - 94	20
n-Nitrosodi-n-propylamine		61.484	mg/L	1	80	<0.005	76	4.26	36 - 119	20
1,2,4-Trichlorobenzene		57.925	mg/L	1	80	<0.005	72	3.25	28 - 110	20
4-Chloro-3-methylphenol		54.881	mg/L	1	80	<0.005	68	11.30	40 - 126	20
Acenaphthene		53.894	mg/L	1	80	<0.005	67	6.20	47 - 118	20
4-Nitrophenol		43.909	mg/L	1	80	<0.005	54	14.10	0 - 69	20
2,4-Dinitrotoluene		68.147	mg/L	1	80	<0.005	85	9.08	46 - 133	20
Pentachlorophenol		38.058	mg/L	1	80	<0.005	47	13.36	21 - 131	20
Pyrene		45.151	mg/L	1	80	<0.005	56	8.43	44 - 125	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
2-Fluorophenol		51.82	mg/L	1	80	64	8 - 73
Phenol-d5		56.70	mg/L	1	80	70	8 - 62
Nitrobenzene-d5		55.67	mg/L	1	80	69	44 - 109
2-Fluorobiphenyl		58.17	mg/L	1	80	72	45 - 109
2,4,6-Tribromophenol		54.87	mg/L	1	80	68	39 - 132
Terphenyl-d14		50.62	mg/L	1	80	63	46 - 121

Sample: LCS QC Batch: QC03195

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
1,1-Dichloroethene		100	µg/L	1	100	<2.00	100		73 - 154	20
Benzene		98	µg/L	1	100	<2.00	98		84 - 126	20
Trichloroethene (TCE)		98	µg/L	1	100	<2.00	98		82 - 123	20
Toluene		97	µg/L	1	100	<2.00	97		81 - 122	20
Chlorobenzene		103	µg/L	1	100	<2.00	103		86 - 121	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Dibromofluoromethane		50.92	µg/L	1	50	101	84 - 116

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Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Toluene-d8		50.07	µg/L	1	50	100	92 - 108
4-Bromofluorobenzene		44.30	µg/L	1	50	88	80 - 110

Sample: LCSD QC Batch: QC03195

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
1,1-Dichloroethene		100	µg/L	1	100	<2.00	100	0.00	73 - 154	20
Benzene		99	µg/L	1	100	<2.00	99	1.01	84 - 126	20
Trichloroethene (TCE)		98	µg/L	1	100	<2.00	98	0.00	82 - 123	20
Toluene		99	µg/L	1	100	<2.00	99	2.04	81 - 122	20
Chlorobenzene		105	µg/L	1	100	<2.00	105	1.92	86 - 121	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Dibromofluoromethane		51.22	µg/L	1	50	102	84 - 116
Toluene-d8		49.81	µg/L	1	50	99	92 - 108
4-Bromofluorobenzene		45.19	µg/L	1	50	90	80 - 110

Sample: LCS QC Batch: QC03370

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		1.93	mg/L	1	2	<0.10	96		75 - 125	20
Total Arsenic		1.85	mg/L	1	2	<0.10	92		75 - 125	20
Total Barium		2.01	mg/L	1	2	<0.10	100		75 - 125	20
Total Boron		1.87	mg/L	1	2	<0.50	93		75 - 125	20
Total Cadmium		1.97	mg/L	1	2	<0.01	98		75 - 125	20
Total Chromium		2.02	mg/L	1	2	<0.05	101		75 - 125	20
Total Cobalt		2.09	mg/L	1	2	<0.05	104		75 - 125	20
Total Copper		2.04	mg/L	1	2	<0.10	102		75 - 125	20
Total Iron		2.02	mg/L	1	2	<0.10	101		75 - 125	20
Total Lead		1.96	mg/L	1	2	<0.05	98		75 - 125	20
Total Manganese		2.05	mg/L	1	2	<0.10	102		75 - 125	20
Total Molybdenum		2.08	mg/L	1	2	<0.10	104		75 - 125	20
Total Nickel		1.98	mg/L	1	2	<0.10	99		75 - 125	20
Total Selenium		1.64	mg/L	1	2	<0.05	82		75 - 125	20
Total Silica		10.4	mg/L	1	10	<0.50	104		75 - 125	20
Total Silver		0.36	mg/L	1	0.40	<0.05	90		75 - 125	20
Total Zinc		2.01	mg/L	1	2	<0.10	100		75 - 125	20

Sample: LCSD QC Batch: QC03370

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		1.94	mg/L	1	2	<0.10	97	0.51	75 - 125	20
Total Arsenic		1.88	mg/L	1	2	<0.10	94	1.60	75 - 125	20
Total Barium		2.03	mg/L	1	2	<0.10	101	0.99	75 - 125	20
Total Boron		1.88	mg/L	1	2	<0.50	94	0.53	75 - 125	20
Total Cadmium		2.00	mg/L	1	2	<0.01	100	1.51	75 - 125	20
Total Chromium		2.04	mg/L	1	2	<0.05	102	0.98	75 - 125	20
Total Cobalt		2.11	mg/L	1	2	<0.05	105	0.95	75 - 125	20
Total Copper		2.05	mg/L	1	2	<0.10	102	0.48	75 - 125	20
Total Iron		2.04	mg/L	1	2	<0.10	102	0.98	75 - 125	20
Total Lead		1.99	mg/L	1	2	<0.05	99	1.51	75 - 125	20
Total Manganese		2.07	mg/L	1	2	<0.10	103	0.97	75 - 125	20
Total Molybdenum		2.09	mg/L	1	2	<0.10	104	0.47	75 - 125	20
Total Nickel		2.01	mg/L	1	2	<0.10	100	1.50	75 - 125	20
Total Selenium		1.68	mg/L	1	2	<0.05	84	2.40	75 - 125	20
Total Silica		10.6	mg/L	1	10	<0.50	106	1.90	75 - 125	20
Total Silver		0.36	mg/L	1	0.40	<0.05	98	0.00	75 - 125	20
Total Zinc		2.03	mg/L	1	2	<0.10	101	0.99	75 - 125	20

Sample: LCS QC Batch: QC03373

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00103	mg/L	1	0.001	<0.0002	103		80 - 120	20

Sample: LCSD QC Batch: QC03373

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00111	mg/L	1	0.001	<0.0002	111	7.47	80 - 120	20

Sample: LCS QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1063	mg/L	1	1000	<0.50	106		75 - 125	20
Dissolved Magnesium		982	mg/L	1	1000	<0.50	98		75 - 125	20
Dissolved Potassium		968	mg/L	1	1000	<0.50	97		75 - 125	20
Dissolved Sodium		955	mg/L	1	1000	<0.50	96		75 - 125	20

Sample: LCSD QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1077	mg/L	1	1000	<0.50	108	1.30	75 - 125	20
Dissolved Magnesium		992	mg/L	1	1000	<0.50	99	1.01	75 - 125	20
Dissolved Potassium		951	mg/L	1	1000	<0.50	95	1.77	75 - 125	20
Dissolved Sodium		960	mg/L	1	1000	<0.50	96	0.52	75 - 125	20

Quality Control Report
Matrix Spikes and Duplicate Spikes

Sample: MS QC Batch: QC03370

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		2.11	mg/L	1	2	<0.10	105		75 - 125	20
Total Arsenic		1.91	mg/L	1	2	<0.10	95		75 - 125	20
Total Barium		2.05	mg/L	1	2	0.10	97		75 - 125	20
Total Boron		2.14	mg/L	1	2	<0.50	107		75 - 125	20
Total Cadmium		1.87	mg/L	1	2	<0.01	93		75 - 125	20
Total Chromium		1.92	mg/L	1	2	<0.05	96		75 - 125	20
Total Cobalt		1.97	mg/L	1	2	<0.05	98		75 - 125	20
Total Copper		1.96	mg/L	1	2	<0.10	98		75 - 125	20
Total Iron		2.62	mg/L	1	2	0.70	96		75 - 125	20
Total Lead		1.88	mg/L	1	2	<0.05	94		75 - 125	20
Total Manganese		1.98	mg/L	1	2	<0.10	99		75 - 125	20
Total Molybdenum		2.02	mg/L	1	2	<0.10	101		75 - 125	20
Total Nickel		1.91	mg/L	1	2	<0.10	96		75 - 125	20
Total Selenium		1.68	mg/L	1	2	<0.05	84		75 - 125	20
Total Silica		136	mg/L	1	10	125	110		75 - 125	20
Total Silver		0.35	mg/L	1	0.40	<0.05	88		75 - 125	20
Total Zinc		1.91	mg/L	1	2	<0.10	95		75 - 125	20

Sample: MSD QC Batch: QC03370

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		2.14	mg/L	1	2	<0.10	107	1.41	75 - 125	20
Total Arsenic		1.88	mg/L	1	2	<0.10	94	1.58	75 - 125	20
Total Barium		2.04	mg/L	1	2	0.10	97	0.51	75 - 125	20
Total Boron		2.15	mg/L	1	2	<0.50	107	0.46	75 - 125	20
Total Cadmium		1.84	mg/L	1	2	<0.01	92	1.61	75 - 125	20
Total Chromium		1.90	mg/L	1	2	<0.05	95	1.04	75 - 125	20
Total Cobalt		1.94	mg/L	1	2	<0.05	97	1.53	75 - 125	20
Total Copper		1.98	mg/L	1	2	<0.10	99	1.01	75 - 125	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Iron		2.60	mg/L	1	2	0.70	95	1.04	75 - 125	20
Total Lead		1.85	mg/L	1	2	<0.05	92	1.60	75 - 125	20
Total Manganese		1.97	mg/L	1	2	<0.10	98	0.50	75 - 125	20
Total Molybdenum		1.99	mg/L	1	2	<0.10	99	1.49	75 - 125	20
Total Nickel		1.89	mg/L	1	2	<0.10	96	1.05	75 - 125	20
Total Selenium		1.66	mg/L	1	2	<0.05	83	1.19	75 - 125	20
Total Silica		136	mg/L	1	10	125	110	0.00	75 - 125	20
Total Silver		0.33	mg/L	1	0.40	<0.05	83	5.88	75 - 125	20
Total Zinc		1.87	mg/L	1	2	<0.10	93	2.11	75 - 125	20

Sample: MS QC Batch: QC03373

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00111	mg/L	1	0.001	<0.0002	111		80 - 120	20

Sample: MSD QC Batch: QC03373

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00117	mg/L	1	0.001	<0.0002	117	5.26	80 - 120	20

Sample: MS QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1275	mg/L	1	1000	162	111		75 - 125	20
Dissolved Magnesium		1032	mg/L	1	1000	26	101		75 - 125	20
Dissolved Potassium		934	mg/L	1	1000	2.9	93		75 - 125	20
Dissolved Sodium		1000	mg/L	1	1000	66	93		75 - 125	20

Sample: MSD QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1272	mg/L	1	1000	162	111	0.26	75 - 125	20
Dissolved Magnesium		1059	mg/L	1	1000	26	103	2.64	75 - 125	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Potassium		976	mg/L	1	1000	2.9	97	4.41	75 - 125	20
Dissolved Sodium		1032	mg/L	1	1000	66	97	3.36	75 - 125	20

Quality Control Report
Duplicate Samples

Sample: Duplicate QC Batch: QC03138

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Specific Conductance		1222	1200	uMHOS/cm	1	1.81	20

Sample: Duplicate QC Batch: QC03169

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH		8.7	8.7	s.u.	1	0.00	20

Sample: Duplicate QC Batch: QC03180

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids		1648	1600	mg/L	1	2.95	20

Sample: Duplicate QC Batch: QC03238

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Hydroxide Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0.00	20
Carbonate Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0.00	20
Bicarbonate Alkalinity		180	172	mg/L as CaCo3	1	4.54	20
Total Alkalinity		180	172	mg/L as CaCo3	1	4.54	20

Quality Control Report
Continuing Calibration Verification Standards

Sample: CCV (1) QC Batch: QC03102

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
CL		mg/L	12.50	11.60	92	80 - 120	6/9/00
Fluoride		mg/L	2.50	2.48	99	80 - 120	6/9/00
Nitrate-N		mg/L	5	4.79	95	80 - 120	6/9/00
Sulfate		mg/L	12.50	12.03	96	80 - 120	6/9/00

Sample: ICV (1) QC Batch: QC03102

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
CL		mg/L	12.50	11.40	91	80 - 120	6/9/00
Fluoride		mg/L	2.50	2.56	102	80 - 120	6/9/00
Nitrate-N		mg/L	5	4.72	94	80 - 120	6/9/00
Sulfate		mg/L	12.50	11.84	94	80 - 120	6/9/00

Sample: CCV (1) QC Batch: QC03138

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1413	1419	100	80 - 120	6/12/00

Sample: ICV (1) QC Batch: QC03138

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1413	1406	99	80 - 120	6/12/00

Sample: CCV (1) QC Batch: QC03142

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Phenol		mg/L	60	63.48	105	5 - 57	6/12/00
1,4-Dichlorobenzene		mg/L	60	58.75	97	25 - 94	6/12/00
2-Nitrophenol		mg/L	60	59.98	99	80 - 120	6/12/00
2,4-Dichlorophenol		mg/L	60	62.59	104	80 - 120	6/12/00
Hexachlorobutadiene		mg/L	60	55.74	92	80 - 120	6/12/00
4-Chloro-3-methylphenol		mg/L	60	62.67	104	40 - 126	6/12/00

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
2,4,6-Trichlorophenol		mg/L	60	57.22	95	80 - 120	6/12/00
Acenaphthene		mg/L	60	58.12	96	47 - 118	6/12/00
Diphenylamine		mg/L	60	58.17	96	80 - 120	6/12/00
Pentachlorophenol		mg/L	60	58.45	97	21 - 131	6/12/00
Fluoranthene		mg/L	60	59.51	99	80 - 120	6/12/00
Di-n-octylphthalate		mg/L	60	60.38	100	80 - 120	6/12/00
Benzo(a)pyrene		mg/L	60	55.79	92	80 - 120	6/12/00
2-Fluorophenol		mg/L	60	59.39	98	8 - 73	6/12/00
Phenol-d5		mg/L	60	63.57	105	8 - 62	6/12/00
Nitrobenzene-d5		mg/L	60	59.40	99	44 - 109	6/12/00
2-Fluorobiphenyl		mg/L	60	57.74	96	45 - 109	6/12/00
2,4,6-Tribromophenol		mg/L	60	54.22	90	39 - 132	6/12/00
Terphenyl-d14		mg/L	60	53.41	89	46 - 121	6/12/00

Sample: CCV (1)

QC Batch: QC03169

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.0	100	80 - 120	6/9/00

Sample: ICV (1)

QC Batch: QC03169

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.0	100	80 - 120	6/9/00

Sample: CCV (1)

QC Batch: QC03180

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	991	99	80 - 120	6/12/00

Sample: ICV (1)

QC Batch: QC03180

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	987	98	80 - 120	6/12/00

Sample: CCV (1)

QC Batch: QC03195

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Vinyl Chloride		µg/L	100	96	96	80 - 120	6/13/00
1,1-Dichloroethene		µg/L	100	99	99	73 - 154	6/13/00
Chloroform		µg/L	100	100	100	80 - 120	6/13/00
1,2-Dichloropropane		µg/L	100	101	101	80 - 120	6/13/00
Toluene		µg/L	100	100	100	81 - 122	6/13/00
Chlorobenzene		µg/L	100	102	102	86 - 121	6/13/00
Ethylbenzene		µg/L	100	106	106	80 - 120	6/13/00
Dibromofluoromethane		µg/L	50	50.44	100	80 - 120	6/13/00
Toluene-d8		µg/L	50	49.03	98	80 - 120	6/13/00
4-Bromofluorobenzene		µg/L	50	50.36	100	80 - 120	6/13/00

Sample: CCV (1)

QC Batch: QC03238

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	80 - 120	6/13/00
Carbonate Alkalinity		mg/L as CaCo3	0	204	0	80 - 120	6/13/00
Bicarbonate Alkalinity		mg/L as CaCo3	0	32	0	80 - 120	6/13/00
Total Alkalinity		mg/L as CaCo3	250	236	94	80 - 120	6/13/00

Sample: ICV (1)

QC Batch: QC03238

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	80 - 120	6/13/00
Carbonate Alkalinity		mg/L as CaCo3	0	220	0	80 - 120	6/13/00
Bicarbonate Alkalinity		mg/L as CaCo3	0	31	0	80 - 120	6/13/00
Total Alkalinity		mg/L as CaCo3	250	251	100	80 - 120	6/13/00

Sample: CCV (1)

QC Batch: QC03370

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	5	5.33	106	75 - 125	6/16/00
Total Arsenic		mg/L	2.50	2.62	104	75 - 125	6/16/00
Total Barium		mg/L	5	5.31	106	75 - 125	6/16/00
Total Boron		mg/L	2.50	2.66	106	75 - 125	6/16/00
Total Cadmium		mg/L	0.50	0.52	104	75 - 125	6/16/00
Total Chromium		mg/L	1	1.05	105	75 - 125	6/16/00

Continued . . .

... Continued

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Cobalt		mg/L	2.50	2.64	105	75 - 125	6/16/00
Total Copper		mg/L	1	1.07	107	75 - 125	6/16/00
Total Iron		mg/L	5	5.26	105	75 - 125	6/16/00
Total Lead		mg/L	2.50	2.64	105	75 - 125	6/16/00
Total Manganese		mg/L	0.50	0.53	106	75 - 125	6/16/00
Total Molybdenum		mg/L	2.50	2.60	104	75 - 125	6/16/00
Total Nickel		mg/L	2.50	2.60	104	75 - 125	6/16/00
Total Selenium		mg/L	2.50	2.60	104	75 - 125	6/16/00
Total Silica		mg/L	2.50	2.70	108	75 - 125	6/16/00
Total Silver		mg/L	0.50	0.53	106	75 - 125	6/16/00
Total Zinc		mg/L	0.50	0.52	104	75 - 125	6/16/00

Sample: ICV (1) QC Batch: QC03370

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	5	4.99	99	75 - 125	6/16/00
Total Arsenic		mg/L	2.50	2.53	101	75 - 125	6/16/00
Total Barium		mg/L	5	5.11	102	75 - 125	6/16/00
Total Boron		mg/L	2.50	2.54	101	75 - 125	6/16/00
Total Cadmium		mg/L	0.50	0.52	104	75 - 125	6/16/00
Total Chromium		mg/L	1	1.02	102	75 - 125	6/16/00
Total Cobalt		mg/L	2.50	2.56	102	75 - 125	6/16/00
Total Copper		mg/L	1	1.00	100	75 - 125	6/16/00
Total Iron		mg/L	5	5.2	104	75 - 125	6/16/00
Total Lead		mg/L	2.50	2.56	102	75 - 125	6/16/00
Total Manganese		mg/L	0.50	0.51	102	75 - 125	6/16/00
Total Molybdenum		mg/L	2.50	2.55	102	75 - 125	6/16/00
Total Nickel		mg/L	2.50	2.54	101	75 - 125	6/16/00
Total Selenium		mg/L	2.50	2.53	101	75 - 125	6/16/00
Total Silica		mg/L	2.50	2.43	97	75 - 125	6/16/00
Total Silver		mg/L	0.50	0.55	110	75 - 125	6/16/00
Total Zinc		mg/L	0.50	0.52	104	75 - 125	6/16/00

Sample: CCV (1) QC Batch: QC03373

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.001	0.00105	100	80 - 120	6/22/00

Sample: ICV (1) QC Batch: QC03373

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.001	0.00092	92	80 - 120	6/22/00

Sample: CCV (1)

QC Batch: QC03374

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	20	20.8	104	75 - 125	6/20/00
Dissolved Magnesium		mg/L	20	20.2	101	75 - 125	6/20/00
Dissolved Potassium		mg/L	20	19.6	98	75 - 125	6/20/00
Dissolved Sodium		mg/L	20	18.5	93	75 - 125	6/20/00

Sample: ICV (1)

QC Batch: QC03374

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	20	21.6	108	75 - 125	6/20/00
Dissolved Magnesium		mg/L	20	21.2	106	75 - 125	6/20/00
Dissolved Potassium		mg/L	20	20.9	105	75 - 125	6/20/00
Dissolved Sodium		mg/L	20	19.5	98	75 - 125	6/20/00

147706

Page ____ of ____

6701 Aberdeen Avenue, Ste. 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

TraceAnalysis, Inc.

4725 Ripley Dr., Ste A
El Paso, Texas 79922-1028
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # 10006092 3

Company Name: NM Oil Conservation Division
Phone #: (505) 827-7154

Address: (Street, City, Zip) 2040 S. Pacheco, Santa Fe, NM 87505
Fax #: (505) 827-8177

Contact Person: Bill Olson

Invoice to: (If different from above)

Project #:
Project Name: Windmill Oil

Project Location: Ricky Williams
Sampler Signature: Bill Olson

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	NaHSO4	H2SO4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
147706	000607 1950 (Ricky Williams)	2	40ml	✓				✓					✓		6/7/00	1950
	000607 1950 (Ricky Williams)	1	liter	✓									✓		6/7/00	1950
	000607 1950 (Ricky Williams)	1	liter	✓									✓		6/7/00	1950
	000607 1950 (Ricky Williams)	1	500ml	✓					✓				✓		6/7/00	1950

ANALYSIS REQUEST (Circle or Specify Method No.)

MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC-MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	Gen Chem (OCD contract item #24)	OCD metals (OCD contract item #23)	Turn Around Time if different from standard	Hold
		MISSING								2								
											1							
														1				
															1			

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Bill Olson	6/8/00	1020			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by: Vicki Hensley	6-9-00	10:00

LAB USE ONLY
Intact Y / N
Headspace Y / N
Temp 1 °
Log-in Review

REMARKS:

Carrier # TNMO 902-421359-4

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.

ORIGINAL COPY

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Jennifer A. Salisbury
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

September 8, 2000

Mr. Ricky Williams
3719 West Bender
Hobbs, New Mexico 88240

RE: WATER WELL SAMPLE ANALYSES

Dear Mr. Williams:

Enclosed you will find a copy of the laboratory analytical results of the water samples that the New Mexico Oil Conservation Division (OCD) obtained from your private water well on June 7, 2000. The sample analyses did not detect any oil or natural gas related contaminants in your water well. However, fluoride was found to be present at a concentration in excess of the New Mexico Water Quality Control Commission health standard of 1.6 mg/l for drinking water. Since this is not an oilfield-related constituent, I recommend that you contact Dennis McQuillan of the New Mexico Environment Department at (505) 827-2831 regarding the occurrence of fluoride in the area and possible effects of fluoride on human health.

The OCD is continuing to investigate oilfield ground water contamination in your area. If you have any questions regarding the laboratory analyses of your water or the OCD's investigations, please feel free to call me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrologist
Environmental Bureau

Enclosure

xc w/ enclosure: Chris Williams, OCD Hobbs District Supervisor
Dennis McQuillan, NMED Ground Water Quality Bureau

TRACEANALYSIS, INC.

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4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Bill Olson
OCD
2040 S. Pacheco
Santa Fe, NM 87505

Report Date: June 25, 2000

Order ID Number: A00060923

Project Number: Ricky Williams
Project Name: Windmill Oil
Project Location: Ricky Williams

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
147706	0006071950 Ricky Williams	Water	6/7/00	19:50	6/9/00

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 24 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

RECEIVED
JUN 29 2000
ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Cation-Anion Balance Sheet

Sample # 107706 Date: 6/27/00

Cations	ppm	meq/L
Calcium	74	3.6926
Magnesium	13	1.06977
Sodium	48	2.088
Potassium	2.4	0.061392

Total Cations 6.91176 in meq/L

Anions	ppm	meq/L
Alkalinity	172	3.44
Sulfate	57	1.18674
Chloride	59	1.66439
Nitrate as N	4.7	0.335533
Fluoride	1.7	0.089488

Total Anions 6.71615 in meq/L

Percentage Error
2.87074 %
(needs to be <10%)

OTHER INFORMATION

TDS	0
EC	0

Measure EC and Cation Sums	691.1762	Range should be:	0	to	0
Measure EC and Anion Sums	671.6151	Range should be:	0	to	0
Calculated TDS/Conductivity	#DIV/0!	Range should be:	0.55	to	0.77
Measure TDS and Cation Sums	0	Range should be:	0.55	to	0.77
Measure TDS and Anion Sums	0	Range should be:	0.55	to	0.77

Analytical and Quality Control Report

Sample: 147706 - 0006071950 Ricky Williams

Analysis:	8260	Analytical Method:	S 8260B	QC Batch:	QC03195	Date Analyzed:	6/13/00
Analyst:	JG	Preparation Method:	E 5030B	Prep Batch:	PB02746	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Bromochloromethane		<2.00	µg/L	1	2
Dichlorodifluoromethane		<2.00	µg/L	1	2
Chloromethane (methyl chloride)		<2.00	µg/L	1	2
Vinyl Chloride		<2.00	µg/L	1	2
Bromomethane (methyl bromide)		<5.00	µg/L	1	5
Chloroethane		<2.00	µg/L	1	2
Trichlorofluoromethane		<2.00	µg/L	1	2
Acetone		<10.00	µg/L	1	10
Iodomethane (methyl iodide)		<2.00	µg/L	1	2
Carbon Disulfide		<2.00	µg/L	1	2
Acrylonitrile		<2.00	µg/L	1	2
2-Butanone (MEK)		<2.00	µg/L	1	2
4-methyl-2-pentanone (MIBK)		<10.00	µg/L	1	10
2-hexanone		<2.00	µg/L	1	2
trans 1,4-Dichloro-2-butene		<10.00	µg/L	1	10
1,1-Dichloroethene		<2.00	µg/L	1	2
Methylene chloride		<5.00	µg/L	1	5
MTBE		<2.00	µg/L	1	2
trans-1,2-Dichloroethene		<2.00	µg/L	1	2
1,1-Dichloroethane		<2.00	µg/L	1	2
cis-1,2-dichloroethene		<2.00	µg/L	1	2
2,2-Dichloropropane		<2.00	µg/L	1	2
1,2-Dichloroethane (EDC)		<2.00	µg/L	1	2
Chloroform		<2.00	µg/L	1	2
1,1,1-Trichloroethane		<2.00	µg/L	1	2
1,1-Dichloropropene		<2.00	µg/L	1	2
Benzene		<2.00	µg/L	1	2
Carbon Tetrachloride		<2.00	µg/L	1	2
1,2-Dichloropropane		<2.00	µg/L	1	2
Trichloroethene (TCE)		<2.00	µg/L	1	2
Dibromomethane (methylene bromide)		<2.00	µg/L	1	2
Bromodichloromethane		<2.00	µg/L	1	2
2-Chloroethyl vinyl ether		<10.00	µg/L	1	10
cis-1,3-Dichloropropene		<2.00	µg/L	1	2
trans-1,3-Dichloropropene		<2.00	µg/L	1	2
Toluene		<2.00	µg/L	1	2
1,1,2-Trichloroethane		<2.00	µg/L	1	2
1,3-Dichloropropane		<2.00	µg/L	1	2
Dibromochloromethane		<2.00	µg/L	1	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	1	2
Tetrachloroethene (PCE)		<2.00	µg/L	1	2
Chlorobenzene		<2.00	µg/L	1	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	1	2
Ethylbenzene		<2.00	µg/L	1	2
m,p-Xylene		<2.00	µg/L	1	2

Continued ...

... *Continued* Sample: 147706 Analysis: 8260

Param	Flag	Result	Units	Dilution	RDL
Bromoform		<2.00	µg/L	1	2
Styrene		<2.00	µg/L	1	2
o-Xylene		<2.00	µg/L	1	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	1	2
2-Chlorotoluene		<2.00	µg/L	1	2
1,2,3-Trichloropropane		<2.00	µg/L	1	2
Isopropylbenzene		<2.00	µg/L	1	2
Bromobenzene		<2.00	µg/L	1	2
n-Propylbenzene		<2.00	µg/L	1	2
1,3,5-Trimethylbenzene		<2.00	µg/L	1	2
tert-Butylbenzene		<2.00	µg/L	1	2
1,2,4-Trimethylbenzene		<2.00	µg/L	1	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	1	2
sec-Butylbenzene		<2.00	µg/L	1	2
1,3-Dichlorobenzene		<2.00	µg/L	1	2
p-Isopropyltoluene		<2.00	µg/L	1	2
4-Chlorotoluene		<2.00	µg/L	1	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	1	2
n-Butylbenzene		<2.00	µg/L	1	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5
Naphthalene		<2.00	µg/L	1	2
Hexachlorobutadiene		<5.00	µg/L	1	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		52.49	µg/L	1	50	104	84 - 116
Toluene-d8		51.68	µg/L	1	50	103	92 - 108
4-Bromofluorobenzene		43.50	µg/L	1	50	87	80 - 110

Sample: 147706 - 0006071950 Ricky Williams

Analysis:	8270	Analytical Method:	S 8270C	QC Batch:	QC03142	Date Analyzed:	6/12/00
Analyst:	MA	Preparation Method:	E 3510C	Prep Batch:	PB02699	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Pyridine		<0.005	mg/L	1	0.005
n-Nitrosodimethylamine		<0.005	mg/L	1	0.005
2-Picoline		<0.005	mg/L	1	0.005
Methyl methanesulfonate		<0.005	mg/L	1	0.005
Ethyl methanesulfonate		<0.005	mg/L	1	0.005
Phenol		<0.005	mg/L	1	0.005
Aniline		<0.005	mg/L	1	0.005
bis (2-chloroethyl) ether		<0.005	mg/L	1	0.005
2-Chlorophenol		<0.005	mg/L	1	0.005
1,3-Dichlorobenzene		<0.005	mg/L	1	0.005
1,4-Dichlorobenzene		<0.005	mg/L	1	0.005
Benzyl alcohol		<0.005	mg/L	1	0.005

Continued ...

...*Continued* Sample: 147706 Analysis: 8270

Param	Flag	Result	Units	Dilution	RDL
1,2-Dichlorobenzene		<0.005	mg/L	1	0.005
2-Methylphenol		<0.005	mg/L	1	0.005
bis (2-chloroisopropyl) ether		<0.005	mg/L	1	0.005
4-Methylphenol/3-Methylphenol		<0.005	mg/L	1	0.005
Acetophenone		<0.005	mg/L	1	0.005
n-Nitrosodi-n-propylamine		<0.005	mg/L	1	0.005
Hexachloroethane		<0.005	mg/L	1	0.005
Nitrobenzene		<0.005	mg/L	1	0.005
n-Nitrosopiperidine		<0.005	mg/L	1	0.005
Isophorone		<0.005	mg/L	1	0.005
2-Nitrophenol		<0.005	mg/L	1	0.005
2,4-Dimethylphenol		<0.005	mg/L	1	0.005
bis (2-chloroethoxy) methane		<0.005	mg/L	1	0.005
Benzoic acid		<0.005	mg/L	1	0.005
2,4-Dichlorophenol		<0.005	mg/L	1	0.005
1,2,4-Trichlorobenzene		<0.005	mg/L	1	0.005
a,a-Dimethylphenethylamine		<0.005	mg/L	1	0.005
Naphthalene		<0.005	mg/L	1	0.005
4-Chloroaniline		<0.005	mg/L	1	0.005
2,6-Dichlorophenol		<0.005	mg/L	1	0.005
Hexachlorobutadiene		<0.005	mg/L	1	0.005
n-Nitroso-di-n-butylamine		<0.005	mg/L	1	0.005
4-Chloro-3-methylphenol		<0.005	mg/L	1	0.005
1-Methylnaphthalene		<0.005	mg/L	1	0.005
2-Methylnaphthalene		<0.005	mg/L	1	0.005
1,2,4,5-Tetrachlorobenzene		<0.005	mg/L	1	0.005
Hexachlorocyclopentadiene		<0.005	mg/L	1	0.005
2,4,6-Trichlorophenol		<0.005	mg/L	1	0.005
2,4,5-Trichlorophenol		<0.005	mg/L	1	0.005
2-Chloronaphthalene		<0.005	mg/L	1	0.005
1-Chloronaphthalene		<0.005	mg/L	1	0.005
2-Nitroaniline		<0.005	mg/L	1	0.005
Dimethylphthalate		<0.005	mg/L	1	0.005
Acenaphthylene		<0.005	mg/L	1	0.005
2,6-Dinitrotoluene		<0.005	mg/L	1	0.005
3-Nitroaniline		<0.005	mg/L	1	0.005
Acenaphthene		<0.005	mg/L	1	0.005
2,4-Dinitrophenol		<0.005	mg/L	1	0.005
Dibenzofuran		<0.005	mg/L	1	0.005
Pentachlorobenzene		<0.005	mg/L	1	0.005
4-Nitrophenol		<0.005	mg/L	1	0.005
1-Napthylamine		<0.005	mg/L	1	0.005
2,4-Dinitrotoluene		<0.005	mg/L	1	0.005
2-Napthylamine		<0.005	mg/L	1	0.005
2,3,4,6-Tetrachlorophenol		<0.005	mg/L	1	0.005
Fluorene		<0.005	mg/L	1	0.005
Diethylphthalate		<0.005	mg/L	1	0.005
4-Chlorophenyl-phenylether		<0.005	mg/L	1	0.005
4-Nitroaniline		<0.005	mg/L	1	0.005
4,6-Dinitro-2-methylphenol		<0.005	mg/L	1	0.005
Diphenylamine		<0.005	mg/L	1	0.005

Continued ...

... *Continued* Sample: 147706 Analysis: 8270

Param	Flag	Result	Units	Dilution	RDL
Diphenylhydrazine		<0.005	mg/L	1	0.005
4-Bromophenyl-phenylether		<0.005	mg/L	1	0.005
Phenacetin		<0.005	mg/L	1	0.005
Hexachlorobenzene		<0.005	mg/L	1	0.005
4-Aminobiphenyl		<0.005	mg/L	1	0.005
Pentachlorophenol		<0.005	mg/L	1	0.005
Pentachloronitrobenzene		<0.005	mg/L	1	0.005
Pronamide		<0.005	mg/L	1	0.005
Phenanthrene		<0.005	mg/L	1	0.005
Anthracene		<0.005	mg/L	1	0.005
Di-n-butylphthalate		<0.005	mg/L	1	0.005
Fluoranthene		<0.005	mg/L	1	0.005
Benzidine		<0.005	mg/L	1	0.005
Pyrene		<0.005	mg/L	1	0.005
p-Dimethylaminoazobenzene		<0.005	mg/L	1	0.005
Butylbenzylphthalate		<0.005	mg/L	1	0.005
Benzo(a)anthracene		<0.005	mg/L	1	0.005
3,3-Dichlorobenzidine		<0.005	mg/L	1	0.005
Chrysene		<0.005	mg/L	1	0.005
Bis (2-ethylhexyl) phthalate		<0.005	mg/L	1	0.005
Di-n-octylphthalate		<0.005	mg/L	1	0.005
Benzo(b)fluoranthene		<0.005	mg/L	1	0.005
7,12-Dimethylbenz(a)anthracene		<0.005	mg/L	1	0.005
Benzo(k)fluoranthene		<0.005	mg/L	1	0.005
Benzo(a)pyrene		<0.005	mg/L	1	0.005
3-Methylcholanthrene		<0.005	mg/L	1	0.005
Dibenzo(a,j)acridine		<0.005	mg/L	1	0.005
Indeno(1,2,3-cd)pyrene		<0.005	mg/L	1	0.005
Dibenzo(a,h)anthracene		<0.005	mg/L	1	0.005
Benzo(g,h,i)perylene		<0.005	mg/L	1	0.005

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		22.65	mg/L	1	80	28	8 - 73
Nitrobenzene-d5		54.24	mg/L	1	80	67	44 - 109
2-Fluorobiphenyl		55.37	mg/L	1	80	69	45 - 109
2,4,6-Tribromophenol		48.84	mg/L	1	80	61	39 - 132
Terphenyl-d14		50.30	mg/L	1	80	62	46 - 121

Sample: 147706 - 0006071950 Ricky Williams

Analysis:	Alkalinity	Analytical Method:	E 310.1	QC Batch:	QC03238	Date Analyzed:	6/13/00
Analyst:	LD	Preparation Method:	N/A	Prep Batch:	PB02792	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		172	mg/L as CaCo3	1	1
Total Alkalinity		172	mg/L as CaCo3	1	1

Sample: 147706 - 0006071950 Ricky Williams

Analysis:	Conductivity	Analytical Method:	SM 2510B	QC Batch:	QC03138	Date Analyzed:	6/12/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02696	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Specific Conductance		680	uMHOS/cm	1	

Sample: 147706 - 0006071950 Ricky Williams

Analysis:	Dissolved Metals	Analytical Method:	E 200.7	QC Batch:	QC03374	Date Analyzed:	6/20/00
Analyst:	RR	Preparation Method:	E 3005A	Prep Batch:	PB02731	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		74	mg/L	1	0.50
Dissolved Magnesium		13	mg/L	1	0.50
Dissolved Potassium		2.4	mg/L	1	0.50
Dissolved Sodium		48	mg/L	1	0.50

Sample: 147706 - 0006071950 Ricky Williams

Analysis:	Hg, Total	Analytical Method:	S 7470A	QC Batch:	QC03373	Date Analyzed:	6/22/00
Analyst:	JM	Preparation Method:	N/A	Prep Batch:	PB02908	Date Prepared:	6/19/00

Param	Flag	Result	Units	Dilution	RDL
Total Mercury		<0.0002	mg/L	1	0.0002

Sample: 147706 - 0006071950 Ricky Williams

Analysis:	Ion Chromatography (IC)	Analytical Method:	E 300.0	QC Batch:	QC03102	Date Analyzed:	6/9/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02661	Date Prepared:	6/9/00

Param	Flag	Result	Units	Dilution	RDL
CL		59	mg/L	1	0.50
Fluoride		1.7	mg/L	1	0.20
Nitrate-N		4.7	mg/L	1	0.20
Sulfate		57	mg/L	1	0.50

Sample: 147706 - 0006071950 Ricky Williams

Analysis:	TDS	Analytical Method:	E 160.1	QC Batch:	QC03180	Date Analyzed:	6/12/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02733	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Total Dissolved Solids		440	mg/L	1	10

Sample: 147706 - 0006071950 Ricky Williams

Analysis:	Total Metals	Analytical Method:	S 6010B	QC Batch:	QC03370	Date Analyzed:	6/16/00
Analyst:	RR	Preparation Method:	E 3010A	Prep Batch:	PB02676	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Total Aluminum		<0.10	mg/L	1	0.10
Total Arsenic		<0.10	mg/L	1	0.10
Total Barium		<0.10	mg/L	1	0.10
Total Boron		<0.50	mg/L	1	0.50
Total Cadmium		<0.01	mg/L	1	0.01
Total Chromium		<0.05	mg/L	1	0.05
Total Cobalt		<0.05	mg/L	1	0.05
Total Copper		<0.10	mg/L	1	0.10
Total Iron		<0.10	mg/L	1	0.10
Total Lead		<0.05	mg/L	1	0.05
Total Manganese		<0.10	mg/L	1	0.10
Total Molybdenum		<0.10	mg/L	1	0.10
Total Nickel		<0.10	mg/L	1	0.10
Total Selenium		<0.05	mg/L	1	0.05
Total Silica		93	mg/L	1	0.50
Total Silver		<0.05	mg/L	1	0.05
Total Zinc		<0.10	mg/L	1	0.10

Sample: 147706 - 0006071950 Ricky Williams

Analysis:	pH	Analytical Method:	E 150.1	QC Batch:	QC03169	Date Analyzed:	6/9/00
Analyst:	RS	Preparation Method:	N/A	Prep Batch:	PB02721	Date Prepared:	6/9/00

Param	Flag	Result	Units	Dilution	RDL
pH	[1]	7.5	s.u.	1	1

Quality Control Report
Method Blank

Sample: Method Blank QCBatch: QC03102

Param	Flag	Results	Units	Reporting Limit
CL		<0.5	mg/L	0.50
Fluoride		<0.2	mg/L	0.20
Nitrate-N		<0.2	mg/L	0.20
Sulfate		<0.5	mg/L	0.50

Sample: Method Blank QCBatch: QC03138

Param	Flag	Results	Units	Reporting Limit
Specific Conductance		2.8	uMHOS/cm	

[1] Out of holding time.

Sample: Method Blank

QCBatch: QC03142

Param	Flag	Results	Units	Reporting Limit
Pyridine		<0.005	mg/L	0.005
n-Nitrosodimethylamine		<0.005	mg/L	0.005
2-Picoline		<0.005	mg/L	0.005
Methyl methanesulfonate		<0.005	mg/L	0.005
Ethyl methanesulfonate		<0.005	mg/L	0.005
Phenol		<0.005	mg/L	0.005
Aniline		<0.005	mg/L	0.005
bis (2-chloroethyl) ether		<0.005	mg/L	0.005
2-Chlorophenol		<0.005	mg/L	0.005
1,3-Dichlorobenzene		<0.005	mg/L	0.005
1,4-Dichlorobenzene		<0.005	mg/L	0.005
Benzyl alcohol		<0.005	mg/L	0.005
1,2-Dichlorobenzene		<0.005	mg/L	0.005
2-Methylphenol		<0.005	mg/L	0.005
bis (2-chloroisopropyl) ether		<0.005	mg/L	0.005
4-Methylphenol/3-Methylphenol		<0.005	mg/L	0.005
Acetophenone		<0.005	mg/L	0.005
n-Nitrosodi-n-propylamine		<0.005	mg/L	0.005
Hexachloroethane		<0.005	mg/L	0.005
Nitrobenzene		<0.005	mg/L	0.005
n-Nitrosopiperidine		<0.005	mg/L	0.005
Isophorone		<0.005	mg/L	0.005
2-Nitrophenol		<0.005	mg/L	0.005
2,4-Dimethylphenol		<0.005	mg/L	0.005
bis (2-chloroethoxy) methane		<0.005	mg/L	0.005
Benzoic acid		<0.005	mg/L	0.005
2,4-Dichlorophenol		<0.005	mg/L	0.005
1,2,4-Trichlorobenzene		<0.005	mg/L	0.005
a,a-Dimethylphenethylamine		<0.005	mg/L	0.005
Naphthalene		<0.005	mg/L	0.005
4-Chloroaniline		<0.005	mg/L	0.005
2,6-Dichlorophenol		<0.005	mg/L	0.005
Hexachlorobutadiene		<0.005	mg/L	0.005
n-Nitroso-di-n-butylamine		<0.005	mg/L	0.005
4-Chloro-3-methylphenol		<0.005	mg/L	0.005
1-Methylnaphthalene		<0.005	mg/L	0.005
2-Methylnaphthalene		<0.005	mg/L	0.005
1,2,4,5-Tetrachlorobenzene		<0.005	mg/L	0.005
Hexachlorocyclopentadiene		<0.005	mg/L	0.005
2,4,6-Trichlorophenol		<0.005	mg/L	0.005
2,4,5-Trichlorophenol		<0.005	mg/L	0.005
2-Chloronaphthalene		<0.005	mg/L	0.005
1-Chloronaphthalene		<0.005	mg/L	0.005
2-Nitroaniline		<0.005	mg/L	0.005
Dimethylphthalate		<0.005	mg/L	0.005
Acenaphthylene		<0.005	mg/L	0.005
2,6-Dinitrotoluene		<0.005	mg/L	0.005
3-Nitroaniline		<0.005	mg/L	0.005
Acenaphthene		<0.005	mg/L	0.005

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Param	Flag	Results	Units	Reporting Limit
2,4-Dinitrophenol		<0.005	mg/L	0.005
Dibenzofuran		<0.005	mg/L	0.005
Pentachlorobenzene		<0.005	mg/L	0.005
4-Nitrophenol		<0.005	mg/L	0.005
1-Napthylamine		<0.005	mg/L	0.005
2,4-Dinitrotoluene		<0.005	mg/L	0.005
2-Napthylamine		<0.005	mg/L	0.005
2,3,4,6-Tetrachlorophenol		<0.005	mg/L	0.005
Fluorene		<0.005	mg/L	0.005
Diethylphthalate		<0.005	mg/L	0.005
4-Chlorophenyl-phenylether		<0.005	mg/L	0.005
4-Nitroaniline		<0.005	mg/L	0.005
4,6-Dinitro-2-methylphenol		<0.005	mg/L	0.005
Diphenylamine		<0.005	mg/L	0.005
Diphenylhydrazine		<0.005	mg/L	0.005
4-Bromophenyl-phenylether		<0.005	mg/L	0.005
Phenacetin		<0.005	mg/L	0.005
Hexachlorobenzene		<0.005	mg/L	0.005
4-Aminobiphenyl		<0.005	mg/L	0.005
Pentachlorophenol		<0.005	mg/L	0.005
Pentachloronitrobenzene		<0.005	mg/L	0.005
Pronamide		<0.005	mg/L	0.005
Phenanthrene		<0.005	mg/L	0.005
Anthracene		<0.005	mg/L	0.005
Di-n-butylphthalate		<0.005	mg/L	0.005
Fluoranthene		<0.005	mg/L	0.005
Benzidine		<0.005	mg/L	0.005
Pyrene		<0.005	mg/L	0.005
p-Dimethylaminoazobenzene		<0.005	mg/L	0.005
Butylbenzylphthalate		<0.005	mg/L	0.005
Benzo(a)anthracene		<0.005	mg/L	0.005
3,3-Dichlorobenzidine		<0.005	mg/L	0.005
Chrysene		<0.005	mg/L	0.005
Bis (2-ethylhexyl) phthalate		<0.005	mg/L	0.005
Di-n-octylphthalate		<0.005	mg/L	0.005
Benzo(b)fluoranthene		<0.005	mg/L	0.005
7,12-Dimethylbenz(a)anthracene		<0.005	mg/L	0.005
Benzo(k)fluoranthene		<0.005	mg/L	0.005
Benzo(a)pyrene		<0.005	mg/L	0.005
3-Methylcholanthrene		<0.005	mg/L	0.005
Dibenzo(a,j)acridine		<0.005	mg/L	0.005
Indeno(1,2,3-cd)pyrene		<0.005	mg/L	0.005
Dibenzo(a,h)anthracene		<0.005	mg/L	0.005
Benzo(g,h,i)perylene		<0.005	mg/L	0.005

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
2-Fluorophenol		25.50	mg/L	80	31	8 - 73
Nitrobenzene-d5		59.91	mg/L	80	74	44 - 109
2-Fluorobiphenyl		58.24	mg/L	80	72	45 - 109

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Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
2,4,6-Tribromophenol		57.84	mg/L	80	72	39 - 132
Terphenyl-d14		53.99	mg/L	80	67	46 - 121

Sample: Method Blank

QCBatch: QC03180

Param	Flag	Results	Units	Reporting Limit
Total Dissolved Solids		<10	mg/L	10

Sample: Method Blank

QCBatch: QC03195

Param	Flag	Results	Units	Reporting Limit
Bromochloromethane		<2.00	µg/L	2
Dichlorodifluoromethane		<2.00	µg/L	2
Chloromethane (methyl chloride)		<2.00	µg/L	2
Vinyl Chloride		<2.00	µg/L	2
Bromomethane (methyl bromide)		<5.00	µg/L	5
Chloroethane		<2.00	µg/L	2
Trichlorofluoromethane		<2.00	µg/L	2
Acetone		<10.00	µg/L	10
Iodomethane (methyl iodide)		<2.00	µg/L	2
Carbon Disulfide		<2.00	µg/L	2
Acrylonitrile		<2.00	µg/L	2
2-Butanone (MEK)		<2.00	µg/L	2
4-methyl-2-pentanone (MIBK)		<10.00	µg/L	10
2-hexanone		<2.00	µg/L	2
trans 1,4-Dichloro-2-butene		<10.00	µg/L	10
1,1-Dichloroethene		<2.00	µg/L	2
Methylene chloride		<5.00	µg/L	5
MTBE		<2.00	µg/L	2
trans-1,2-Dichloroethene		<2.00	µg/L	2
1,1-Dichloroethane		<2.00	µg/L	2
cis-1,2-dichloroethene		<2.00	µg/L	2
2,2-Dichloropropane		<2.00	µg/L	2
1,2-Dichloroethane (EDC)		<2.00	µg/L	2
Chloroform		<2.00	µg/L	2
1,1,1-Trichloroethane		<2.00	µg/L	2
1,1-Dichloropropene		<2.00	µg/L	2
Benzene		<2.00	µg/L	2
Carbon Tetrachloride		<2.00	µg/L	2
1,2-Dichloropropane		<2.00	µg/L	2
Trichloroethene (TCE)		<2.00	µg/L	2
Dibromomethane (methylene bromide)		<2.00	µg/L	2
Bromodichloromethane		<2.00	µg/L	2
2-Chloroethyl vinyl ether		<10.00	µg/L	10

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Param	Flag	Results	Units	Reporting Limit
cis-1,3-Dichloropropene		<2.00	µg/L	2
trans-1,3-Dichloropropene		<2.00	µg/L	2
Toluene		<2.00	µg/L	2
1,1,2-Trichloroethane		<2.00	µg/L	2
1,3-Dichloropropane		<2.00	µg/L	2
Dibromochloromethane		<2.00	µg/L	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	2
Tetrachloroethene (PCE)		<2.00	µg/L	2
Chlorobenzene		<2.00	µg/L	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	2
Ethylbenzene		<2.00	µg/L	2
m,p-Xylene		<2.00	µg/L	2
Bromoform		<2.00	µg/L	2
Styrene		<2.00	µg/L	2
o-Xylene		<2.00	µg/L	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	2
2-Chlorotoluene		<2.00	µg/L	2
1,2,3-Trichloropropane		<2.00	µg/L	2
Isopropylbenzene		<2.00	µg/L	2
Bromobenzene		<2.00	µg/L	2
n-Propylbenzene		<2.00	µg/L	2
1,3,5-Trimethylbenzene		<2.00	µg/L	2
tert-Butylbenzene		<2.00	µg/L	2
1,2,4-Trimethylbenzene		<2.00	µg/L	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	2
sec-Butylbenzene		<2.00	µg/L	2
1,3-Dichlorobenzene		<2.00	µg/L	2
p-Isopropyltoluene		<2.00	µg/L	2
4-Chlorotoluene		<2.00	µg/L	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	2
n-Butylbenzene		<2.00	µg/L	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5
1,2,3-Trichlorobenzene		<5.00	µg/L	5
1,2,4-Trichlorobenzene		<5.00	µg/L	5
Naphthalene		<2.00	µg/L	2
Hexachlorobutadiene		<5.00	µg/L	5

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
Dibromofluoromethane		51.65	µg/L	50	103	84 - 116
Toluene-d8		51.61	µg/L	50	103	92 - 108
4-Bromofluorobenzene		43.93	µg/L	50	87	80 - 110

Sample: Method Blank

QCBatch: QC03238

Param	Flag	Results	Units	Reporting Limit
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1

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Param	Flag	Results	Units	Reporting Limit
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1
Bicarbonate Alkalinity		<4.0	mg/L as CaCo3	1
Total Alkalinity		<4.0	mg/L as CaCo3	1

Sample: Method Blank QCBatch: QC03370

Param	Flag	Results	Units	Reporting Limit
Total Aluminum		<0.10	mg/L	0.10
Total Arsenic		<0.10	mg/L	0.10
Total Barium		<0.10	mg/L	0.10
Total Boron		<0.50	mg/L	0.50
Total Cadmium		<0.01	mg/L	0.01
Total Chromium		<0.05	mg/L	0.05
Total Cobalt		<0.05	mg/L	0.05
Total Copper		<0.10	mg/L	0.10
Total Iron		<0.10	mg/L	0.10
Total Lead		<0.05	mg/L	0.05
Total Manganese		<0.10	mg/L	0.10
Total Molybdenum		<0.10	mg/L	0.10
Total Nickel		<0.10	mg/L	0.10
Total Selenium		<0.05	mg/L	0.05
Total Silica		<0.50	mg/L	0.50
Total Silver		<0.05	mg/L	0.05
Total Zinc		<0.10	mg/L	0.10

Sample: Method Blank QCBatch: QC03373

Param	Flag	Results	Units	Reporting Limit
Total Mercury		<0.0002	mg/L	0.0002

Sample: Method Blank QCBatch: QC03374

Param	Flag	Results	Units	Reporting Limit
Dissolved Calcium		<0.50	mg/L	0.50
Dissolved Magnesium		<0.50	mg/L	0.50
Dissolved Potassium		<0.50	mg/L	0.50
Dissolved Sodium		<0.50	mg/L	0.50

Quality Control Report

Lab Control Spikes and Duplicate Spikes

Sample: LCS QC Batch: QC03102

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
CL		11.62	mg/L	1	12.50	<0.5	92		80 - 120	20
Fluoride		2.48	mg/L	1	2.50	<0.2	99		80 - 120	20
Nitrate-N	[2]	4.80	mg/L	1	5	<0.2	96		80 - 120	20
Sulfate		12.02	mg/L	1	12.50	<0.5	96		80 - 120	20

Sample: LCSD QC Batch: QC03102

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
CL		11.59	mg/L	1	12.50	<0.5	92	0.25	80 - 120	20
Fluoride		2.56	mg/L	1	2.50	<0.2	102	3.17	80 - 120	20
Nitrate-N	[3]	4.76	mg/L	1	5	<0.2	95	0.83	80 - 120	20
Sulfate		12.04	mg/L	1	12.50	<0.5	96	0.16	80 - 120	20

Sample: LCS QC Batch: QC03142

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Phenol		42.824	mg/L	1	80	<0.005	53		5 - 57	20
2-Chlorophenol		43.416	mg/L	1	80	<0.005	54		29 - 110	20
1,4-Dichlorobenzene		54.708	mg/L	1	80	<0.005	68		25 - 94	20
n-Nitrosodi-n-propylamine		58.916	mg/L	1	80	<0.005	73		36 - 119	20
1,2,4-Trichlorobenzene		56.070	mg/L	1	80	<0.005	70		28 - 110	20
4-Chloro-3-methylphenol		49.008	mg/L	1	80	<0.005	61		40 - 126	20
Acenaphthene		50.649	mg/L	1	80	<0.005	63		47 - 118	20
4-Nitrophenol		38.123	mg/L	1	80	<0.005	47		0 - 69	20
2,4-Dinitrotoluene		62.227	mg/L	1	80	<0.005	77		46 - 133	20
Pentachlorophenol		33.291	mg/L	1	80	<0.005	41		21 - 131	20
Pyrene		49.127	mg/L	1	80	<0.005	61		44 - 125	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
2-Fluorophenol		49.05	mg/L	1	80	61	8 - 73
Phenol-d5		53.54	mg/L	1	80	66	8 - 62
Nitrobenzene-d5		53.51	mg/L	1	80	66	44 - 109

Continued ...

[2] Blank spikes used because the electricity went off during the duplicate spike.
[3] Blank spikes used because the electricity went off during the duplicate spike.

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Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
2-Fluorobiphenyl		53.68	mg/L	1	80	67	45 - 109
2,4,6-Tribromophenol		51.74	mg/L	1	80	64	39 - 132
Terphenyl-d14		53.77	mg/L	1	80	67	46 - 121

Sample: LCSD

QC Batch: QC03142

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Phenol		45.977	mg/L	1	80	<0.005	57	7.10	5 - 57	20
2-Chlorophenol		46.473	mg/L	1	80	<0.005	58	6.80	29 - 110	20
1,4-Dichlorobenzene		56.488	mg/L	1	80	<0.005	70	3.20	25 - 94	20
n-Nitrosodi-n-propylamine		61.484	mg/L	1	80	<0.005	76	4.26	36 - 119	20
1,2,4-Trichlorobenzene		57.925	mg/L	1	80	<0.005	72	3.25	28 - 110	20
4-Chloro-3-methylphenol		54.881	mg/L	1	80	<0.005	68	11.30	40 - 126	20
Acenaphthene		53.894	mg/L	1	80	<0.005	67	6.20	47 - 118	20
4-Nitrophenol		43.909	mg/L	1	80	<0.005	54	14.10	0 - 69	20
2,4-Dinitrotoluene		68.147	mg/L	1	80	<0.005	85	9.08	46 - 133	20
Pentachlorophenol		38.058	mg/L	1	80	<0.005	47	13.36	21 - 131	20
Pyrene		45.151	mg/L	1	80	<0.005	56	8.43	44 - 125	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
2-Fluorophenol		51.82	mg/L	1	80	64	8 - 73
Phenol-d5		56.70	mg/L	1	80	70	8 - 62
Nitrobenzene-d5		55.67	mg/L	1	80	69	44 - 109
2-Fluorobiphenyl		58.17	mg/L	1	80	72	45 - 109
2,4,6-Tribromophenol		54.87	mg/L	1	80	68	39 - 132
Terphenyl-d14		50.62	mg/L	1	80	63	46 - 121

Sample: LCS

QC Batch: QC03195

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
1,1-Dichloroethene		100	µg/L	1	100	<2.00	100		73 - 154	20
Benzene		98	µg/L	1	100	<2.00	98		84 - 126	20
Trichloroethene (TCE)		98	µg/L	1	100	<2.00	98		82 - 123	20
Toluene		97	µg/L	1	100	<2.00	97		81 - 122	20
Chlorobenzene		103	µg/L	1	100	<2.00	103		86 - 121	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Dibromofluoromethane		50.92	µg/L	1	50	101	84 - 116

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Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Toluene-d8		50.07	µg/L	1	50	100	92 - 108
4-Bromofluorobenzene		44.30	µg/L	1	50	88	80 - 110

Sample: LCSD QC Batch: QC03195

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
1,1-Dichloroethene		100	µg/L	1	100	<2.00	100	0.00	73 - 154	20
Benzene		99	µg/L	1	100	<2.00	99	1.01	84 - 126	20
Trichloroethene (TCE)		98	µg/L	1	100	<2.00	98	0.00	82 - 123	20
Toluene		99	µg/L	1	100	<2.00	99	2.04	81 - 122	20
Chlorobenzene		105	µg/L	1	100	<2.00	105	1.92	86 - 121	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Dibromofluoromethane		51.22	µg/L	1	50	102	84 - 116
Toluene-d8		49.81	µg/L	1	50	99	92 - 108
4-Bromofluorobenzene		45.19	µg/L	1	50	90	80 - 110

Sample: LCS QC Batch: QC03370

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		1.93	mg/L	1	2	<0.10	96		75 - 125	20
Total Arsenic		1.85	mg/L	1	2	<0.10	92		75 - 125	20
Total Barium		2.01	mg/L	1	2	<0.10	100		75 - 125	20
Total Boron		1.87	mg/L	1	2	<0.50	93		75 - 125	20
Total Cadmium		1.97	mg/L	1	2	<0.01	98		75 - 125	20
Total Chromium		2.02	mg/L	1	2	<0.05	101		75 - 125	20
Total Cobalt		2.09	mg/L	1	2	<0.05	104		75 - 125	20
Total Copper		2.04	mg/L	1	2	<0.10	102		75 - 125	20
Total Iron		2.02	mg/L	1	2	<0.10	101		75 - 125	20
Total Lead		1.96	mg/L	1	2	<0.05	98		75 - 125	20
Total Manganese		2.05	mg/L	1	2	<0.10	102		75 - 125	20
Total Molybdenum		2.08	mg/L	1	2	<0.10	104		75 - 125	20
Total Nickel		1.98	mg/L	1	2	<0.10	99		75 - 125	20
Total Selenium		1.64	mg/L	1	2	<0.05	82		75 - 125	20
Total Silica		10.4	mg/L	1	10	<0.50	104		75 - 125	20
Total Silver		0.36	mg/L	1	0.40	<0.05	90		75 - 125	20
Total Zinc		2.01	mg/L	1	2	<0.10	100		75 - 125	20

Sample: LCSD QC Batch: QC03370

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		1.94	mg/L	1	2	<0.10	97	0.51	75 - 125	20
Total Arsenic		1.88	mg/L	1	2	<0.10	94	1.60	75 - 125	20
Total Barium		2.03	mg/L	1	2	<0.10	101	0.99	75 - 125	20
Total Boron		1.88	mg/L	1	2	<0.50	94	0.53	75 - 125	20
Total Cadmium		2.00	mg/L	1	2	<0.01	100	1.51	75 - 125	20
Total Chromium		2.04	mg/L	1	2	<0.05	102	0.98	75 - 125	20
Total Cobalt		2.11	mg/L	1	2	<0.05	105	0.95	75 - 125	20
Total Copper		2.05	mg/L	1	2	<0.10	102	0.48	75 - 125	20
Total Iron		2.04	mg/L	1	2	<0.10	102	0.98	75 - 125	20
Total Lead		1.99	mg/L	1	2	<0.05	99	1.51	75 - 125	20
Total Manganese		2.07	mg/L	1	2	<0.10	103	0.97	75 - 125	20
Total Molybdenum		2.09	mg/L	1	2	<0.10	104	0.47	75 - 125	20
Total Nickel		2.01	mg/L	1	2	<0.10	100	1.50	75 - 125	20
Total Selenium		1.68	mg/L	1	2	<0.05	84	2.40	75 - 125	20
Total Silica		10.6	mg/L	1	10	<0.50	106	1.90	75 - 125	20
Total Silver		0.36	mg/L	1	0.40	<0.05	98	0.00	75 - 125	20
Total Zinc		2.03	mg/L	1	2	<0.10	101	0.99	75 - 125	20

Sample: LCS QC Batch: QC03373

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00103	mg/L	1	0.001	<0.0002	103		80 - 120	20

Sample: LCSD QC Batch: QC03373

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00111	mg/L	1	0.001	<0.0002	111	7.47	80 - 120	20

Sample: LCS QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1063	mg/L	1	1000	<0.50	106		75 - 125	20
Dissolved Magnesium		982	mg/L	1	1000	<0.50	98		75 - 125	20
Dissolved Potassium		968	mg/L	1	1000	<0.50	97		75 - 125	20
Dissolved Sodium		955	mg/L	1	1000	<0.50	96		75 - 125	20

Sample: LCSD QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1077	mg/L	1	1000	<0.50	108	1.30	75 - 125	20
Dissolved Magnesium		992	mg/L	1	1000	<0.50	99	1.01	75 - 125	20
Dissolved Potassium		951	mg/L	1	1000	<0.50	95	1.77	75 - 125	20
Dissolved Sodium		960	mg/L	1	1000	<0.50	96	0.52	75 - 125	20

Quality Control Report
Matrix Spikes and Duplicate Spikes

Sample: MS QC Batch: QC03370

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		2.11	mg/L	1	2	<0.10	105		75 - 125	20
Total Arsenic		1.91	mg/L	1	2	<0.10	95		75 - 125	20
Total Barium		2.05	mg/L	1	2	0.10	97		75 - 125	20
Total Boron		2.14	mg/L	1	2	<0.50	107		75 - 125	20
Total Cadmium		1.87	mg/L	1	2	<0.01	93		75 - 125	20
Total Chromium		1.92	mg/L	1	2	<0.05	96		75 - 125	20
Total Cobalt		1.97	mg/L	1	2	<0.05	98		75 - 125	20
Total Copper		1.96	mg/L	1	2	<0.10	98		75 - 125	20
Total Iron		2.62	mg/L	1	2	0.70	96		75 - 125	20
Total Lead		1.88	mg/L	1	2	<0.05	94		75 - 125	20
Total Manganese		1.98	mg/L	1	2	<0.10	99		75 - 125	20
Total Molybdenum		2.02	mg/L	1	2	<0.10	101		75 - 125	20
Total Nickel		1.91	mg/L	1	2	<0.10	96		75 - 125	20
Total Selenium		1.68	mg/L	1	2	<0.05	84		75 - 125	20
Total Silica		136	mg/L	1	10	125	110		75 - 125	20
Total Silver		0.35	mg/L	1	0.40	<0.05	88		75 - 125	20
Total Zinc		1.91	mg/L	1	2	<0.10	95		75 - 125	20

Sample: MSD QC Batch: QC03370

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		2.14	mg/L	1	2	<0.10	107	1.41	75 - 125	20
Total Arsenic		1.88	mg/L	1	2	<0.10	94	1.58	75 - 125	20
Total Barium		2.04	mg/L	1	2	0.10	97	0.51	75 - 125	20
Total Boron		2.15	mg/L	1	2	<0.50	107	0.46	75 - 125	20
Total Cadmium		1.84	mg/L	1	2	<0.01	92	1.61	75 - 125	20
Total Chromium		1.90	mg/L	1	2	<0.05	95	1.04	75 - 125	20
Total Cobalt		1.94	mg/L	1	2	<0.05	97	1.53	75 - 125	20
Total Copper		1.98	mg/L	1	2	<0.10	99	1.01	75 - 125	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Iron		2.60	mg/L	1	2	0.70	95	1.04	75 - 125	20
Total Lead		1.85	mg/L	1	2	<0.05	92	1.60	75 - 125	20
Total Manganese		1.97	mg/L	1	2	<0.10	98	0.50	75 - 125	20
Total Molybdenum		1.99	mg/L	1	2	<0.10	99	1.49	75 - 125	20
Total Nickel		1.89	mg/L	1	2	<0.10	96	1.05	75 - 125	20
Total Selenium		1.66	mg/L	1	2	<0.05	83	1.19	75 - 125	20
Total Silica		136	mg/L	1	10	125	110	0.00	75 - 125	20
Total Silver		0.33	mg/L	1	0.40	<0.05	83	5.88	75 - 125	20
Total Zinc		1.87	mg/L	1	2	<0.10	93	2.11	75 - 125	20

Sample: MS QC Batch: QC03373

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00111	mg/L	1	0.001	<0.0002	111		80 - 120	20

Sample: MSD QC Batch: QC03373

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00117	mg/L	1	0.001	<0.0002	117	5.26	80 - 120	20

Sample: MS QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1275	mg/L	1	1000	162	111		75 - 125	20
Dissolved Magnesium		1032	mg/L	1	1000	26	101		75 - 125	20
Dissolved Potassium		934	mg/L	1	1000	2.9	93		75 - 125	20
Dissolved Sodium		1000	mg/L	1	1000	66	93		75 - 125	20

Sample: MSD QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1272	mg/L	1	1000	162	111	0.26	75 - 125	20
Dissolved Magnesium		1059	mg/L	1	1000	26	103	2.64	75 - 125	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Potassium		976	mg/L	1	1000	2.9	97	4.41	75 - 125	20
Dissolved Sodium		1032	mg/L	1	1000	66	97	3.36	75 - 125	20

Quality Control Report
Duplicate Samples

Sample: Duplicate QC Batch: QC03138

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Specific Conductance		1222	1200	uMHOS/cm	1	1.81	20

Sample: Duplicate QC Batch: QC03169

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH		8.7	8.7	s.u.	1	0.00	20

Sample: Duplicate QC Batch: QC03180

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids		1648	1600	mg/L	1	2.95	20

Sample: Duplicate QC Batch: QC03238

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Hydroxide Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0.00	20
Carbonate Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0.00	20
Bicarbonate Alkalinity		180	172	mg/L as CaCo3	1	4.54	20
Total Alkalinity		180	172	mg/L as CaCo3	1	4.54	20

Quality Control Report
Continuing Calibration Verification Standards

Sample: CCV (1) QC Batch: QC03102

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
CL		mg/L	12.50	11.60	92	80 - 120	6/9/00
Fluoride		mg/L	2.50	2.48	99	80 - 120	6/9/00
Nitrate-N		mg/L	5	4.79	95	80 - 120	6/9/00
Sulfate		mg/L	12.50	12.03	96	80 - 120	6/9/00

Sample: ICV (1) QC Batch: QC03102

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
CL		mg/L	12.50	11.40	91	80 - 120	6/9/00
Fluoride		mg/L	2.50	2.56	102	80 - 120	6/9/00
Nitrate-N		mg/L	5	4.72	94	80 - 120	6/9/00
Sulfate		mg/L	12.50	11.84	94	80 - 120	6/9/00

Sample: CCV (1) QC Batch: QC03138

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1413	1419	100	80 - 120	6/12/00

Sample: ICV (1) QC Batch: QC03138

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1413	1406	99	80 - 120	6/12/00

Sample: CCV (1) QC Batch: QC03142

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Phenol		mg/L	60	63.48	105	5 - 57	6/12/00
1,4-Dichlorobenzene		mg/L	60	58.75	97	25 - 94	6/12/00
2-Nitrophenol		mg/L	60	59.98	99	80 - 120	6/12/00
2,4-Dichlorophenol		mg/L	60	62.59	104	80 - 120	6/12/00
Hexachlorobutadiene		mg/L	60	55.74	92	80 - 120	6/12/00
4-Chloro-3-methylphenol		mg/L	60	62.67	104	40 - 126	6/12/00

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
2,4,6-Trichlorophenol		mg/L	60	57.22	95	80 - 120	6/12/00
Acenaphthene		mg/L	60	58.12	96	47 - 118	6/12/00
Diphenylamine		mg/L	60	58.17	96	80 - 120	6/12/00
Pentachlorophenol		mg/L	60	58.45	97	21 - 131	6/12/00
Fluoranthene		mg/L	60	59.51	99	80 - 120	6/12/00
Di-n-octylphthalate		mg/L	60	60.38	100	80 - 120	6/12/00
Benzo(a)pyrene		mg/L	60	55.79	92	80 - 120	6/12/00
2-Fluorophenol		mg/L	60	59.39	98	8 - 73	6/12/00
Phenol-d5		mg/L	60	63.57	105	8 - 62	6/12/00
Nitrobenzene-d5		mg/L	60	59.40	99	44 - 109	6/12/00
2-Fluorobiphenyl		mg/L	60	57.74	96	45 - 109	6/12/00
2,4,6-Tribromophenol		mg/L	60	54.22	90	39 - 132	6/12/00
Terphenyl-d14		mg/L	60	53.41	89	46 - 121	6/12/00

Sample: CCV (1)

QC Batch: QC03169

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.0	100	80 - 120	6/9/00

Sample: ICV (1)

QC Batch: QC03169

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.0	100	80 - 120	6/9/00

Sample: CCV (1)

QC Batch: QC03180

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	991	99	80 - 120	6/12/00

Sample: ICV (1)

QC Batch: QC03180

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	987	98	80 - 120	6/12/00

Sample: CCV (1)

QC Batch: QC03195

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Vinyl Chloride		µg/L	100	96	96	80 - 120	6/13/00
1,1-Dichloroethene		µg/L	100	99	99	73 - 154	6/13/00
Chloroform		µg/L	100	100	100	80 - 120	6/13/00
1,2-Dichloropropane		µg/L	100	101	101	80 - 120	6/13/00
Toluene		µg/L	100	100	100	81 - 122	6/13/00
Chlorobenzene		µg/L	100	102	102	86 - 121	6/13/00
Ethylbenzene		µg/L	100	106	106	80 - 120	6/13/00
Dibromofluoromethane		µg/L	50	50.44	100	80 - 120	6/13/00
Toluene-d8		µg/L	50	49.03	98	80 - 120	6/13/00
4-Bromofluorobenzene		µg/L	50	50.36	100	80 - 120	6/13/00

Sample: CCV (1)

QC Batch: QC03238

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	80 - 120	6/13/00
Carbonate Alkalinity		mg/L as CaCo3	0	204	0	80 - 120	6/13/00
Bicarbonate Alkalinity		mg/L as CaCo3	0	32	0	80 - 120	6/13/00
Total Alkalinity		mg/L as CaCo3	250	236	94	80 - 120	6/13/00

Sample: ICV (1)

QC Batch: QC03238

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	80 - 120	6/13/00
Carbonate Alkalinity		mg/L as CaCo3	0	220	0	80 - 120	6/13/00
Bicarbonate Alkalinity		mg/L as CaCo3	0	31	0	80 - 120	6/13/00
Total Alkalinity		mg/L as CaCo3	250	251	100	80 - 120	6/13/00

Sample: CCV (1)

QC Batch: QC03370

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	5	5.33	106	75 - 125	6/16/00
Total Arsenic		mg/L	2.50	2.62	104	75 - 125	6/16/00
Total Barium		mg/L	5	5.31	106	75 - 125	6/16/00
Total Boron		mg/L	2.50	2.66	106	75 - 125	6/16/00
Total Cadmium		mg/L	0.50	0.52	104	75 - 125	6/16/00
Total Chromium		mg/L	1	1.05	105	75 - 125	6/16/00

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Cobalt		mg/L	2.50	2.64	105	75 - 125	6/16/00
Total Copper		mg/L	1	1.07	107	75 - 125	6/16/00
Total Iron		mg/L	5	5.26	105	75 - 125	6/16/00
Total Lead		mg/L	2.50	2.64	105	75 - 125	6/16/00
Total Manganese		mg/L	0.50	0.53	106	75 - 125	6/16/00
Total Molybdenum		mg/L	2.50	2.60	104	75 - 125	6/16/00
Total Nickel		mg/L	2.50	2.60	104	75 - 125	6/16/00
Total Selenium		mg/L	2.50	2.60	104	75 - 125	6/16/00
Total Silica		mg/L	2.50	2.70	108	75 - 125	6/16/00
Total Silver		mg/L	0.50	0.53	106	75 - 125	6/16/00
Total Zinc		mg/L	0.50	0.52	104	75 - 125	6/16/00

Sample: ICV (1) QC Batch: QC03370

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	5	4.99	99	75 - 125	6/16/00
Total Arsenic		mg/L	2.50	2.53	101	75 - 125	6/16/00
Total Barium		mg/L	5	5.11	102	75 - 125	6/16/00
Total Boron		mg/L	2.50	2.54	101	75 - 125	6/16/00
Total Cadmium		mg/L	0.50	0.52	104	75 - 125	6/16/00
Total Chromium		mg/L	1	1.02	102	75 - 125	6/16/00
Total Cobalt		mg/L	2.50	2.56	102	75 - 125	6/16/00
Total Copper		mg/L	1	1.00	100	75 - 125	6/16/00
Total Iron		mg/L	5	5.2	104	75 - 125	6/16/00
Total Lead		mg/L	2.50	2.56	102	75 - 125	6/16/00
Total Manganese		mg/L	0.50	0.51	102	75 - 125	6/16/00
Total Molybdenum		mg/L	2.50	2.55	102	75 - 125	6/16/00
Total Nickel		mg/L	2.50	2.54	101	75 - 125	6/16/00
Total Selenium		mg/L	2.50	2.53	101	75 - 125	6/16/00
Total Silica		mg/L	2.50	2.43	97	75 - 125	6/16/00
Total Silver		mg/L	0.50	0.55	110	75 - 125	6/16/00
Total Zinc		mg/L	0.50	0.52	104	75 - 125	6/16/00

Sample: CCV (1) QC Batch: QC03373

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.001	0.00105	100	80 - 120	6/22/00

Sample: ICV (1) QC Batch: QC03373

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.001	0.00092	92	80 - 120	6/22/00

Sample: CCV (1)

QC Batch: QC03374

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	20	20.8	104	75 - 125	6/20/00
Dissolved Magnesium		mg/L	20	20.2	101	75 - 125	6/20/00
Dissolved Potassium		mg/L	20	19.6	98	75 - 125	6/20/00
Dissolved Sodium		mg/L	20	18.5	93	75 - 125	6/20/00

Sample: ICV (1)

QC Batch: QC03374

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	20	21.6	108	75 - 125	6/20/00
Dissolved Magnesium		mg/L	20	21.2	106	75 - 125	6/20/00
Dissolved Potassium		mg/L	20	20.9	105	75 - 125	6/20/00
Dissolved Sodium		mg/L	20	19.5	98	75 - 125	6/20/00

147706

Page ____ of ____

6701 Aberdeen Avenue, Ste. 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1295

TraceAnalysis, Inc.

4725 Ripley Dr., Ste A
El Paso, Texas 79922-1028
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # H000 60923

Company Name: NM Oil Conservation Division Phone #: (505) 827-7154

Address: (Street, City, Zip) 2040 S. Pacheco, Santa Fe, NM 87505 Fax #: (505) 827-8177

Contact Person: Bill Olson

Invoice to: (If different from above)

Project #: Project Name: Windmill Oil

Project Location: Ricky Williams Sampler Signature: Bill Olson

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	NaHSO4	H2SO4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
147706	000607 1950 (Ricky Williams)	2	40 ml	✓				✓					✓		6/7/00	1950
	000607 1950 (Ricky Williams)	1	liter	✓									✓		6/7/00	1950
	000607 1950 (Ricky Williams)	1	liter	✓									✓		6/7/00	1950
	000607 1950 (Ricky Williams)	1	500 ml	✓					✓				✓		6/7/00	1950

ANALYSIS REQUEST (Circle or Specify Method No.)

MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC-MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	Gen Chem (OCD contract item #24)	OCD metals (OCD contract item #23)		Turn Around Time if different from standard	Hold
	MISSING									2									
											1								
															1				
																1			

Relinquished by: Bill Olson Date: 6/8/00 Time: 1020 Received by: Date: Time:

Relinquished by: Date: Time: Received by: Date: Time:

Relinquished by: Date: Time: Received at Laboratory by: Vicki Crosby Date: 6-9-00 Time: 10:00

LAB USE ONLY

Intact Y / N

Headspace Y / N

Temp 1 °

Log-in Review

REMARKS:

Carrier # TNMO 902-421-359-4

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.

ORIGINAL COPY

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

GARY E. JOHNSON
Governor
Jennifer A. Salisbury
Cabinet Secretary

Lori Wrotenbery
Director
Oil Conservation Division

September 13, 2000

Mrs. Robert Owings
3515 West Bender
Hobbs, New Mexico 88240

RE: WATER WELL SAMPLE ANALYSES

Dear Mrs. Owings:

Enclosed you will find a copy of the laboratory analytical results of the water samples that the New Mexico Oil Conservation Division (OCD) obtained from your private water well on June 8, 2000. The sample analyses did not detect any petroleum contaminants in your water well. However, elevated levels of chloride and total dissolved solids were found to be present in the water. The chloride levels, while at an elevated concentration compared to normal ground water in the area, are below the New Mexico Water Quality Control Commission (WQCC) drinking water standard of 250 mg/l. Total dissolved solids were found to be present in concentrations just above the WQCC standard of 1000 mg/l for drinking water. It is possible that these salts are a result of oilfield activities since brine waters are generated during the production of oil and natural gas.

The OCD is continuing to investigate oilfield ground water contamination in your area. If you have any questions regarding the laboratory analyses of your water or the OCD's investigations, please feel free to call me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrologist
Environmental Bureau

Enclosure

xc w/ enclosure: Chris Williams, OCD Hobbs District Supervisor

TRACEANALYSIS, INC.

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E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

RECEIVED
JUN 30 2000
ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Bill Olson
OCD
2040 S. Pacheco
Santa Fe, NM 87505

Report Date: June 27, 2000

Order ID Number: A00061014

Project Number: Mrs.Robert Owings
Project Name: Windmill
Project Location: Mrs.Robert Owings

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
147773	0006081545 (Owings)	Water	6/8/00	15:45	6/10/00

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 24 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Cation-Anion Balance Sheet

Sample # 147773 Date: 6/27/00

Cations	ppm	meq/L
Calcium	198	9.8802
Magnesium	31	2.55099
Sodium	78	3.393
Potassium	3.2	0.081856

Total Cations 15.906 in meq/L

Anions	ppm	meq/L
Alkalinity	312	6.24
Sulfate	130	2.7066
Chloride	220	6.2062
Nitrate as N	6	0.42834
Fluoride	1.5	0.07896

Total Anions 15.6601 in meq/L

Percentage Error
1.55829 %
(needs to be <10%)

OTHER INFORMATION

TDS	0
EC	0

Measure EC and Cation Sums	1590.6046	Range should be:	0	to	0
Measure EC and Anion Sums	1566.01	Range should be:	0	to	0
Calculated TDS/Conductivity	#DIV/0!	Range should be:	0.55	to	0.77
Measure TDS and Cation Sums	0	Range should be:	0.55	to	0.77
Measure TDS and Anion Sums	0	Range should be:	0.55	to	0.77

Analytical and Quality Control Report

Sample: 147773 - 0006081545 (Owings)

Analysis:	8260	Analytical Method:	S 8260B	QC Batch:	QC03195	Date Analyzed:	6/13/00
Analyst:	JG	Preparation Method:	E 5030B	Prep Batch:	PB02746	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Bromochloromethane		<2.00	µg/L	1	2
Dichlorodifluoromethane		<2.00	µg/L	1	2
Chloromethane (methyl chloride)		<2.00	µg/L	1	2
Vinyl Chloride		<2.00	µg/L	1	2
Bromomethane (methyl bromide)		<5.00	µg/L	1	5
Chloroethane		<2.00	µg/L	1	2
Trichlorofluoromethane		<2.00	µg/L	1	2
Acetone		<10.00	µg/L	1	10
Iodomethane (methyl iodide)		<2.00	µg/L	1	2
Carbon Disulfide		<2.00	µg/L	1	2
Acrylonitrile		<2.00	µg/L	1	2
2-Butanone (MEK)		<2.00	µg/L	1	2
4-methyl-2-pentanone (MIBK)		<10.00	µg/L	1	10
2-hexanone		<2.00	µg/L	1	2
trans 1,4-Dichloro-2-butene		<10.00	µg/L	1	10
1,1-Dichloroethene		<2.00	µg/L	1	2
Methylene chloride		<5.00	µg/L	1	5
MTBE		<2.00	µg/L	1	2
trans-1,2-Dichloroethene		<2.00	µg/L	1	2
1,1-Dichloroethane		<2.00	µg/L	1	2
cis-1,2-dichlorocthene		<2.00	µg/L	1	2
2,2-Dichloropropane		<2.00	µg/L	1	2
1,2-Dichloroethane (EDC)		<2.00	µg/L	1	2
Chloroform		<2.00	µg/L	1	2
1,1,1-Trichloroethane		<2.00	µg/L	1	2
1,1-Dichloropropene		<2.00	µg/L	1	2
Benzene		<2.00	µg/L	1	2
Carbon Tetrachloride		<2.00	µg/L	1	2
1,2-Dichloropropane		<2.00	µg/L	1	2
Trichloroethene (TCE)		<2.00	µg/L	1	2
Dibromomethane (methylene bromide)		<2.00	µg/L	1	2
Bromodichloromethane		<2.00	µg/L	1	2
2-Chloroethyl vinyl ether		<10.00	µg/L	1	10
cis-1,3-Dichloropropene		<2.00	µg/L	1	2
trans-1,3-Dichloropropene		<2.00	µg/L	1	2
Toluene		<2.00	µg/L	1	2
1,1,2-Trichloroethane		<2.00	µg/L	1	2
1,3-Dichloropropane		<2.00	µg/L	1	2
Dibromochloromethane		<2.00	µg/L	1	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	1	2
Tetrachloroethene (PCE)		<2.00	µg/L	1	2
Chlorobenzene		<2.00	µg/L	1	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	1	2
Ethylbenzene		<2.00	µg/L	1	2
m,p-Xylene		<2.00	µg/L	1	2

Continued ...

... *Continued* Sample: 147773 Analysis: 8260

Param	Flag	Result	Units	Dilution	RDL
Bromoform		<2.00	µg/L	1	2
Styrene		<2.00	µg/L	1	2
o-Xylene		<2.00	µg/L	1	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	1	2
2-Chlorotoluene		<2.00	µg/L	1	2
1,2,3-Trichloropropane		<2.00	µg/L	1	2
Isopropylbenzene		<2.00	µg/L	1	2
Bromobenzene		<2.00	µg/L	1	2
n-Propylbenzene		<2.00	µg/L	1	2
1,3,5-Trimethylbenzene		<2.00	µg/L	1	2
tert-Butylbenzene		<2.00	µg/L	1	2
1,2,4-Trimethylbenzene		<2.00	µg/L	1	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	1	2
sec-Butylbenzene		<2.00	µg/L	1	2
1,3-Dichlorobenzene		<2.00	µg/L	1	2
p-Isopropyltoluene		<2.00	µg/L	1	2
4-Chlorotoluene		<2.00	µg/L	1	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	1	2
n-Butylbenzene		<2.00	µg/L	1	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5
Naphthalene		<2.00	µg/L	1	2
Hexachlorobutadiene		<5.00	µg/L	1	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		53.07	µg/L	1	50	106	84 - 116
Toluene-d8		52.42	µg/L	1	50	104	92 - 108
4-Bromofluorobenzene		42.91	µg/L	1	50	85	80 - 110

Sample: 147773 - 0006081545 (Owings)

Analysis:	8270	Analytical Method:	S 8270C	QC Batch:	QC03142	Date Analyzed:	6/12/00
Analyst:	MA	Preparation Method:	E 3510C	Prep Batch:	PB02699	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Pyridine		<0.005	mg/L	1	0.005
n-Nitrosodimethylamine		<0.005	mg/L	1	0.005
2-Picoline		<0.005	mg/L	1	0.005
Methyl methanesulfonate		<0.005	mg/L	1	0.005
Ethyl methanesulfonate		<0.005	mg/L	1	0.005
Phenol		<0.005	mg/L	1	0.005
Aniline		<0.005	mg/L	1	0.005
bis (2-chloroethyl) ether		<0.005	mg/L	1	0.005
2-Chlorophenol		<0.005	mg/L	1	0.005
1,3-Dichlorobenzene		<0.005	mg/L	1	0.005
1,4-Dichlorobenzene		<0.005	mg/L	1	0.005
Benzyl alcohol		<0.005	mg/L	1	0.005

Continued ...

... *Continued* Sample: 147773 Analysis: 8270

Param	Flag	Result	Units	Dilution	RDL
1,2-Dichlorobenzene		<0.005	mg/L	1	0.005
2-Methylphenol		<0.005	mg/L	1	0.005
bis (2-chloroisopropyl) ether		<0.005	mg/L	1	0.005
4-Methylphenol/3-Methylphenol		<0.005	mg/L	1	0.005
Acetophenone		<0.005	mg/L	1	0.005
n-Nitrosodi-n-propylamine		<0.005	mg/L	1	0.005
Hexachloroethane		<0.005	mg/L	1	0.005
Nitrobenzene		<0.005	mg/L	1	0.005
n-Nitrosopiperidine		<0.005	mg/L	1	0.005
Isophorone		<0.005	mg/L	1	0.005
2-Nitrophenol		<0.005	mg/L	1	0.005
2,4-Dimethylphenol		<0.005	mg/L	1	0.005
bis (2-chloroethoxy) methane		<0.005	mg/L	1	0.005
Benzoic acid		<0.005	mg/L	1	0.005
2,4-Dichlorophenol		<0.005	mg/L	1	0.005
1,2,4-Trichlorobenzene		<0.005	mg/L	1	0.005
a,a-Dimethylphenethylamine		<0.005	mg/L	1	0.005
Naphthalene		<0.005	mg/L	1	0.005
4-Chloroaniline		<0.005	mg/L	1	0.005
2,6-Dichlorophenol		<0.005	mg/L	1	0.005
Hexachlorobutadiene		<0.005	mg/L	1	0.005
n-Nitroso-di-n-butylamine		<0.005	mg/L	1	0.005
4-Chloro-3-methylphenol		<0.005	mg/L	1	0.005
1-Methylnaphthalene		<0.005	mg/L	1	0.005
2-Methylnaphthalene		<0.005	mg/L	1	0.005
1,2,4,5-Tetrachlorobenzene		<0.005	mg/L	1	0.005
Hexachlorocyclopentadiene		<0.005	mg/L	1	0.005
2,4,6-Trichlorophenol		<0.005	mg/L	1	0.005
2,4,5-Trichlorophenol		<0.005	mg/L	1	0.005
2-Chloronaphthalene		<0.005	mg/L	1	0.005
1-Chloronaphthalene		<0.005	mg/L	1	0.005
2-Nitroaniline		<0.005	mg/L	1	0.005
Dimethylphthalate		<0.005	mg/L	1	0.005
Acenaphthylene		<0.005	mg/L	1	0.005
2,6-Dinitrotoluene		<0.005	mg/L	1	0.005
3-Nitroaniline		<0.005	mg/L	1	0.005
Acenaphthene		<0.005	mg/L	1	0.005
2,4-Dinitrophenol		<0.005	mg/L	1	0.005
Dibenzofuran		<0.005	mg/L	1	0.005
Pentachlorobenzene		<0.005	mg/L	1	0.005
4-Nitrophenol		<0.005	mg/L	1	0.005
1-Napthylamine		<0.005	mg/L	1	0.005
2,4-Dinitrotoluene		<0.005	mg/L	1	0.005
2-Napthylamine		<0.005	mg/L	1	0.005
2,3,4,6-Tetrachlorophenol		<0.005	mg/L	1	0.005
Fluorene		<0.005	mg/L	1	0.005
Diethylphthalate		<0.005	mg/L	1	0.005
4-Chlorophenyl-phenylether		<0.005	mg/L	1	0.005
4-Nitroaniline		<0.005	mg/L	1	0.005
4,6-Dinitro-2-methylphenol		<0.005	mg/L	1	0.005
Diphenylamine		<0.005	mg/L	1	0.005

Continued ...

... *Continued* Sample: 147773 Analysis: 8270

Param	Flag	Result	Units	Dilution	RDL
Diphenylhydrazine		<0.005	mg/L	1	0.005
4-Bromophenyl-phenylether		<0.005	mg/L	1	0.005
Phenacetin		<0.005	mg/L	1	0.005
Hexachlorobenzene		<0.005	mg/L	1	0.005
4-Aminobiphenyl		<0.005	mg/L	1	0.005
Pentachlorophenol		<0.005	mg/L	1	0.005
Pentachloronitrobenzene		<0.005	mg/L	1	0.005
Pronamide		<0.005	mg/L	1	0.005
Phenanthrene		<0.005	mg/L	1	0.005
Anthracene		<0.005	mg/L	1	0.005
Di-n-butylphthalate		<0.005	mg/L	1	0.005
Fluoranthene		<0.005	mg/L	1	0.005
Benzidine		<0.005	mg/L	1	0.005
Pyrene		<0.005	mg/L	1	0.005
p-Dimethylaminoazobenzene		<0.005	mg/L	1	0.005
Butylbenzylphthalate		<0.005	mg/L	1	0.005
Benzo(a)anthracene		<0.005	mg/L	1	0.005
3,3-Dichlorobenzidine		<0.005	mg/L	1	0.005
Chrysene		<0.005	mg/L	1	0.005
Bis (2-ethylhexyl) phthalate		<0.005	mg/L	1	0.005
Di-n-octylphthalate		<0.005	mg/L	1	0.005
Benzo(b)fluoranthene		<0.005	mg/L	1	0.005
7,12-Dimethylbenz(a)anthracene		<0.005	mg/L	1	0.005
Benzo(k)fluoranthene		<0.005	mg/L	1	0.005
Benzo(a)pyrene		<0.005	mg/L	1	0.005
3-Methylcholanthrene		<0.005	mg/L	1	0.005
Dibenzo(a,j)acridine		<0.005	mg/L	1	0.005
Indeno(1,2,3-cd)pyrene		<0.005	mg/L	1	0.005
Dibenzo(a,h)anthracene		<0.005	mg/L	1	0.005
Benzo(g,h,i)perylene		<0.005	mg/L	1	0.005

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		19.74	mg/L	1	80	24	8 - 73
Nitrobenzene-d5		50.20	mg/L	1	80	62	44 - 109
2-Fluorobiphenyl		53.68	mg/L	1	80	67	45 - 109
2,4,6-Tribromophenol		55.66	mg/L	1	80	69	39 - 132
Terphenyl-d14		51.68	mg/L	1	80	64	46 - 121

Sample: 147773 - 0006081545 (Owings)

Analysis:	Alkalinity	Analytical Method:	E 310.1	QC Batch:	QC03240	Date Analyzed:	6/16/00
Analyst:	LD	Preparation Method:	N/A	Prep Batch:	PB02794	Date Prepared:	6/16/00

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		312	mg/L as CaCo3	1	1
Total Alkalinity		312	mg/L as CaCo3	1	1

Sample: 147773 - 0006081545 (Owings)

Analysis:	Conductivity	Analytical Method:	SM 2510B	QC Batch:	QC03137	Date Analyzed:	6/12/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02696	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Specific Conductance		1500	uMHOS/cm	1	

Sample: 147773 - 0006081545 (Owings)

Analysis:	Dissolved Metals	Analytical Method:	E 200.7	QC Batch:	QC03374	Date Analyzed:	6/20/00
Analyst:	RR	Preparation Method:	E 3005A	Prep Batch:	PB02731	Date Prepared:	6/13/00

Param	Flag	Result	Units	Dilution	RDL
Dissolved Calcium		198	mg/L	1	0.50
Dissolved Magnesium		31	mg/L	1	0.50
Dissolved Potassium		3.2	mg/L	1	0.50
Dissolved Sodium		78	mg/L	1	0.50

Sample: 147773 - 0006081545 (Owings)

Analysis:	Hg, Total	Analytical Method:	S 7470A	QC Batch:	QC03390	Date Analyzed:	6/22/00
Analyst:	JM	Preparation Method:	N/A	Prep Batch:	PB02918	Date Prepared:	6/19/00

Param	Flag	Result	Units	Dilution	RDL
Total Mercury		<0.0002	mg/L	1	0.0002

Sample: 147773 - 0006081545 (Owings)

Analysis:	Ion Chromatography (IC)	Analytical Method:	E 300.0	QC Batch:	QC03190	Date Analyzed:	6/10/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02742	Date Prepared:	6/10/00

Param	Flag	Result	Units	Dilution	RDL
CL		220	mg/L	1	0.50
Fluoride		1.5	mg/L	1	0.20
Nitrate-N		6.0	mg/L	1	0.20
Sulfate		130	mg/L	1	0.50

Sample: 147773 - 0006081545 (Owings)

Analysis:	TDS	Analytical Method:	E 160.1	QC Batch:	QC03193	Date Analyzed:	6/13/00
Analyst:	JS	Preparation Method:	N/A	Prep Batch:	PB02733	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Total Dissolved Solids		1100	mg/L	1	10

Sample: 147773 - 0006081545 (Owings)

Analysis:	Total Metals	Analytical Method:	S 6010B	QC Batch:	QC03389	Date Analyzed:	6/17/00
Analyst:	RR	Preparation Method:	E 3010A	Prep Batch:	PB02676	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
Total Aluminum		<0.10	mg/L	1	0.10
Total Arsenic		<0.10	mg/L	1	0.10
Total Barium		0.12	mg/L	1	0.10
Total Boron		0.28	mg/L	1	0.10
Total Cadmium		<0.01	mg/L	1	0.01
Total Chromium		<0.05	mg/L	1	0.05
Total Cobalt		<0.05	mg/L	1	0.05
Total Copper		<0.10	mg/L	1	0.10
Total Iron		0.60	mg/L	1	0.10
Total Lead		<0.05	mg/L	1	0.05
Total Manganese		0.12	mg/L	1	0.10
Total Molybdenum		<0.10	mg/L	1	0.10
Total Nickel		<0.10	mg/L	1	0.10
Total Selenium		<0.05	mg/L	1	0.05
Total Silica		120	mg/L	1	0.50
Total Silver		<0.05	mg/L	1	0.05
Total Zinc		0.23	mg/L	1	0.10

Sample: 147773 - 0006081545 (Owings)

Analysis:	pH	Analytical Method:	E 150.1	QC Batch:	QC03271	Date Analyzed:	6/12/00
Analyst:	RS	Preparation Method:	N/A	Prep Batch:	PB02820	Date Prepared:	6/12/00

Param	Flag	Result	Units	Dilution	RDL
pH	[1]	7.1	s.u.	1	1

Quality Control Report
Method Blank

Sample: Method Blank QCBatch: QC03137

Param	Flag	Results	Units	Reporting Limit
Specific Conductance		2.8	uMHOS/cm	

Sample: Method Blank QCBatch: QC03142

Param	Flag	Results	Units	Reporting Limit
Pyridine		<0.005	mg/L	0.005
n-Nitrosodimethylamine		<0.005	mg/L	0.005
2-Picoline		<0.005	mg/L	0.005

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[1] Out of holding time.

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Param	Flag	Results	Units	Reporting Limit
Methyl methanesulfonate		<0.005	mg/L	0.005
Ethyl methanesulfonate		<0.005	mg/L	0.005
Phenol		<0.005	mg/L	0.005
Aniline		<0.005	mg/L	0.005
bis (2-chloroethyl) ether		<0.005	mg/L	0.005
2-Chlorophenol		<0.005	mg/L	0.005
1,3-Dichlorobenzene		<0.005	mg/L	0.005
1,4-Dichlorobenzene		<0.005	mg/L	0.005
Benzyl alcohol		<0.005	mg/L	0.005
1,2-Dichlorobenzene		<0.005	mg/L	0.005
2-Methylphenol		<0.005	mg/L	0.005
bis (2-chloroisopropyl) ether		<0.005	mg/L	0.005
4-Methylphenol/3-Methylphenol		<0.005	mg/L	0.005
Acetophenone		<0.005	mg/L	0.005
n-Nitrosodi-n-propylamine		<0.005	mg/L	0.005
Hexachloroethane		<0.005	mg/L	0.005
Nitrobenzene		<0.005	mg/L	0.005
n-Nitrosopiperidine		<0.005	mg/L	0.005
Isophorone		<0.005	mg/L	0.005
2-Nitrophenol		<0.005	mg/L	0.005
2,4-Dimethylphenol		<0.005	mg/L	0.005
bis (2-chloroethoxy) methane		<0.005	mg/L	0.005
Benzoic acid		<0.005	mg/L	0.005
2,4-Dichlorophenol		<0.005	mg/L	0.005
1,2,4-Trichlorobenzene		<0.005	mg/L	0.005
a,a-Dimethylphenethylamine		<0.005	mg/L	0.005
Naphthalene		<0.005	mg/L	0.005
4-Chloroaniline		<0.005	mg/L	0.005
2,6-Dichlorophenol		<0.005	mg/L	0.005
Hexachlorobutadiene		<0.005	mg/L	0.005
n-Nitroso-di-n-butylamine		<0.005	mg/L	0.005
4-Chloro-3-methylphenol		<0.005	mg/L	0.005
1-Methylnaphthalene		<0.005	mg/L	0.005
2-Methylnaphthalene		<0.005	mg/L	0.005
1,2,4,5-Tetrachlorobenzene		<0.005	mg/L	0.005
Hexachlorocyclopentadiene		<0.005	mg/L	0.005
2,4,6-Trichlorophenol		<0.005	mg/L	0.005
2,4,5-Trichlorophenol		<0.005	mg/L	0.005
2-Chloronaphthalene		<0.005	mg/L	0.005
1-Chloronaphthalene		<0.005	mg/L	0.005
2-Nitroaniline		<0.005	mg/L	0.005
Dimethylphthalate		<0.005	mg/L	0.005
Acenaphthylene		<0.005	mg/L	0.005
2,6-Dinitrotoluene		<0.005	mg/L	0.005
3-Nitroaniline		<0.005	mg/L	0.005
Acenaphthene		<0.005	mg/L	0.005
2,4-Dinitrophenol		<0.005	mg/L	0.005
Dibenzofuran		<0.005	mg/L	0.005
Pentachlorobenzene		<0.005	mg/L	0.005
4-Nitrophenol		<0.005	mg/L	0.005

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Param	Flag	Results	Units	Reporting Limit
1-Napthylamine		<0.005	mg/L	0.005
2,4-Dinitrotoluene		<0.005	mg/L	0.005
2-Napthylamine		<0.005	mg/L	0.005
2,3,4,6-Tetrachlorophenol		<0.005	mg/L	0.005
Fluorene		<0.005	mg/L	0.005
Diethylphthalate		<0.005	mg/L	0.005
4-Chlorophenyl-phenylether		<0.005	mg/L	0.005
4-Nitroaniline		<0.005	mg/L	0.005
4,6-Dinitro-2-methylphenol		<0.005	mg/L	0.005
Diphenylamine		<0.005	mg/L	0.005
Diphenylhydrazine		<0.005	mg/L	0.005
4-Bromophenyl-phenylether		<0.005	mg/L	0.005
Phenacetin		<0.005	mg/L	0.005
Hexachlorobenzene		<0.005	mg/L	0.005
4-Aminobiphenyl		<0.005	mg/L	0.005
Pentachlorophenol		<0.005	mg/L	0.005
Pentachloronitrobenzene		<0.005	mg/L	0.005
Pronamide		<0.005	mg/L	0.005
Phenanthrene		<0.005	mg/L	0.005
Anthracene		<0.005	mg/L	0.005
Di-n-butylphthalate		<0.005	mg/L	0.005
Fluoranthene		<0.005	mg/L	0.005
Benzidine		<0.005	mg/L	0.005
Pyrene		<0.005	mg/L	0.005
p-Dimethylaminoazobenzene		<0.005	mg/L	0.005
Butylbenzylphthalate		<0.005	mg/L	0.005
Benzo(a)anthracene		<0.005	mg/L	0.005
3,3-Dichlorobenzidine		<0.005	mg/L	0.005
Chrysene		<0.005	mg/L	0.005
Bis (2-ethylhexyl) phthalate		<0.005	mg/L	0.005
Di-n-octylphthalate		<0.005	mg/L	0.005
Benzo(b)fluoranthene		<0.005	mg/L	0.005
7,12-Dimethylbenz(a)anthracene		<0.005	mg/L	0.005
Benzo(k)fluoranthene		<0.005	mg/L	0.005
Benzo(a)pyrene		<0.005	mg/L	0.005
3-Methylcholanthrene		<0.005	mg/L	0.005
Dibenzo(a,j)acridine		<0.005	mg/L	0.005
Indeno(1,2,3-cd)pyrene		<0.005	mg/L	0.005
Dibenzo(a,h)anthracene		<0.005	mg/L	0.005
Benzo(g,h,i)perylene		<0.005	mg/L	0.005

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
2-Fluorophenol		25.50	mg/L	80	31	8 - 73
Nitrobenzene-d5		59.91	mg/L	80	74	44 - 109
2-Fluorobiphenyl		58.24	mg/L	80	72	45 - 109
2,4,6-Tribromophenol		57.84	mg/L	80	72	39 - 132
Terphenyl-d14		53.99	mg/L	80	67	46 - 121

Sample: Method Blank QCBatch: QC03190

Param	Flag	Results	Units	Reporting Limit
CL		<0.5	mg/L	0.50
Fluoride		<0.2	mg/L	0.20
Nitrate-N		<0.2	mg/L	0.20
Sulfate		<0.5	mg/L	0.50

Sample: Method Blank QCBatch: QC03193

Param	Flag	Results	Units	Reporting Limit
Total Dissolved Solids		10	mg/L	10

Sample: Method Blank QCBatch: QC03195

Param	Flag	Results	Units	Reporting Limit
Bromochloromethane		<2.00	µg/L	2
Dichlorodifluoromethane		<2.00	µg/L	2
Chloromethane (methyl chloride)		<2.00	µg/L	2
Vinyl Chloride		<2.00	µg/L	2
Bromomethane (methyl bromide)		<5.00	µg/L	5
Chloroethane		<2.00	µg/L	2
Trichlorofluoromethane		<2.00	µg/L	2
Acetone		<10.00	µg/L	10
Iodomethane (methyl iodide)		<2.00	µg/L	2
Carbon Disulfide		<2.00	µg/L	2
Acrylonitrile		<2.00	µg/L	2
2-Butanone (MEK)		<2.00	µg/L	2
4-methyl-2-pentanone (MIBK)		<10.00	µg/L	10
2-hexanone		<2.00	µg/L	2
trans 1,4-Dichloro-2-butene		<10.00	µg/L	10
1,1-Dichloroethene		<2.00	µg/L	2
Methylene chloride		<5.00	µg/L	5
MTBE		<2.00	µg/L	2
trans-1,2-Dichloroethene		<2.00	µg/L	2
1,1-Dichloroethane		<2.00	µg/L	2
cis-1,2-dichloroethene		<2.00	µg/L	2
2,2-Dichloropropane		<2.00	µg/L	2
1,2-Dichloroethane (EDC)		<2.00	µg/L	2
Chloroform		<2.00	µg/L	2
1,1,1-Trichloroethane		<2.00	µg/L	2
1,1-Dichloropropene		<2.00	µg/L	2
Benzene		<2.00	µg/L	2
Carbon Tetrachloride		<2.00	µg/L	2
1,2-Dichloropropane		<2.00	µg/L	2
Trichloroethene (TCE)		<2.00	µg/L	2

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Param	Flag	Results	Units	Reporting Limit
Dibromomethane (methylene bromide)		<2.00	µg/L	2
Bromodichloromethane		<2.00	µg/L	2
2-Chloroethyl vinyl ether		<10.00	µg/L	10
cis-1,3-Dichloropropene		<2.00	µg/L	2
trans-1,3-Dichloropropene		<2.00	µg/L	2
Toluene		<2.00	µg/L	2
1,1,2-Trichloroethane		<2.00	µg/L	2
1,3-Dichloropropane		<2.00	µg/L	2
Dibromochloromethane		<2.00	µg/L	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	2
Tetrachloroethene (PCE)		<2.00	µg/L	2
Chlorobenzene		<2.00	µg/L	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	2
Ethylbenzene		<2.00	µg/L	2
m,p-Xylene		<2.00	µg/L	2
Bromoform		<2.00	µg/L	2
Styrene		<2.00	µg/L	2
o-Xylene		<2.00	µg/L	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	2
2-Chlorotoluene		<2.00	µg/L	2
1,2,3-Trichloropropane		<2.00	µg/L	2
Isopropylbenzene		<2.00	µg/L	2
Bromobenzene		<2.00	µg/L	2
n-Propylbenzene		<2.00	µg/L	2
1,3,5-Trimethylbenzene		<2.00	µg/L	2
tert-Butylbenzene		<2.00	µg/L	2
1,2,4-Trimethylbenzene		<2.00	µg/L	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	2
sec-Butylbenzene		<2.00	µg/L	2
1,3-Dichlorobenzene		<2.00	µg/L	2
p-Isopropyltoluene		<2.00	µg/L	2
4-Chlorotoluene		<2.00	µg/L	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	2
n-Butylbenzene		<2.00	µg/L	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5
1,2,3-Trichlorobenzene		<5.00	µg/L	5
1,2,4-Trichlorobenzene		<5.00	µg/L	5
Naphthalene		<2.00	µg/L	2
Hexachlorobutadiene		<5.00	µg/L	5

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
Dibromofluoromethane		51.65	µg/L	50	103	84 - 116
Toluene-d8		51.61	µg/L	50	103	92 - 108
4-Bromofluorobenzene		43.93	µg/L	50	87	80 - 110

Sample: Method Blank QCBatch: QC03240

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Param	Flag	Results	Units	Reporting Limit
Dibromomethane (methylene bromide)		<2.00	µg/L	2
Bromodichloromethane		<2.00	µg/L	2
2-Chloroethyl vinyl ether		<10.00	µg/L	10
cis-1,3-Dichloropropene		<2.00	µg/L	2
trans-1,3-Dichloropropene		<2.00	µg/L	2
Toluene		<2.00	µg/L	2
1,1,2-Trichloroethane		<2.00	µg/L	2
1,3-Dichloropropane		<2.00	µg/L	2
Dibromochloromethane		<2.00	µg/L	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	2
Tetrachloroethene (PCE)		<2.00	µg/L	2
Chlorobenzene		<2.00	µg/L	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	2
Ethylbenzene		<2.00	µg/L	2
m,p-Xylene		<2.00	µg/L	2
Bromoform		<2.00	µg/L	2
Styrene		<2.00	µg/L	2
o-Xylene		<2.00	µg/L	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	2
2-Chlorotoluene		<2.00	µg/L	2
1,2,3-Trichloropropane		<2.00	µg/L	2
Isopropylbenzene		<2.00	µg/L	2
Bromobenzene		<2.00	µg/L	2
n-Propylbenzene		<2.00	µg/L	2
1,3,5-Trimethylbenzene		<2.00	µg/L	2
tert-Butylbenzene		<2.00	µg/L	2
1,2,4-Trimethylbenzene		<2.00	µg/L	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	2
sec-Butylbenzene		<2.00	µg/L	2
1,3-Dichlorobenzene		<2.00	µg/L	2
p-Isopropyltoluene		<2.00	µg/L	2
4-Chlorotoluene		<2.00	µg/L	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	2
n-Butylbenzene		<2.00	µg/L	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5
1,2,3-Trichlorobenzene		<5.00	µg/L	5
1,2,4-Trichlorobenzene		<5.00	µg/L	5
Naphthalene		<2.00	µg/L	2
Hexachlorobutadiene		<5.00	µg/L	5

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
Dibromofluoromethane		51.65	µg/L	50	103	84 - 116
Toluene-d8		51.61	µg/L	50	103	92 - 108
4-Bromofluorobenzene		43.93	µg/L	50	87	80 - 110

Sample: Method Blank QCBatch: QC03240

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Param	Flag	Results	Units	Reporting Limit
Dibromomethane (methylene bromide)		<2.00	µg/L	2
Bromodichloromethane		<2.00	µg/L	2
2-Chloroethyl vinyl ether		<10.00	µg/L	10
cis-1,3-Dichloropropene		<2.00	µg/L	2
trans-1,3-Dichloropropene		<2.00	µg/L	2
Toluene		<2.00	µg/L	2
1,1,2-Trichloroethane		<2.00	µg/L	2
1,3-Dichloropropane		<2.00	µg/L	2
Dibromochloromethane		<2.00	µg/L	2
1,2-Dibromoethane (EDB)		<2.00	µg/L	2
Tetrachloroethene (PCE)		<2.00	µg/L	2
Chlorobenzene		<2.00	µg/L	2
1,1,1,2-Tetrachloroethane		<2.00	µg/L	2
Ethylbenzene		<2.00	µg/L	2
m,p-Xylene		<2.00	µg/L	2
Bromoform		<2.00	µg/L	2
Styrene		<2.00	µg/L	2
o-Xylene		<2.00	µg/L	2
1,1,2,2-Tetrachloroethane		<2.00	µg/L	2
2-Chlorotoluene		<2.00	µg/L	2
1,2,3-Trichloropropane		<2.00	µg/L	2
Isopropylbenzene		<2.00	µg/L	2
Bromobenzene		<2.00	µg/L	2
n-Propylbenzene		<2.00	µg/L	2
1,3,5-Trimethylbenzene		<2.00	µg/L	2
tert-Butylbenzene		<2.00	µg/L	2
1,2,4-Trimethylbenzene		<2.00	µg/L	2
1,4-Dichlorobenzene (para)		<2.00	µg/L	2
sec-Butylbenzene		<2.00	µg/L	2
1,3-Dichlorobenzene		<2.00	µg/L	2
p-Isopropyltoluene		<2.00	µg/L	2
4-Chlorotoluene		<2.00	µg/L	2
1,2-Dichlorobenzene (ortho)		<2.00	µg/L	2
n-Butylbenzene		<2.00	µg/L	2
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5
1,2,3-Trichlorobenzene		<5.00	µg/L	5
1,2,4-Trichlorobenzene		<5.00	µg/L	5
Naphthalene		<2.00	µg/L	2
Hexachlorobutadiene		<5.00	µg/L	5

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
Dibromofluoromethane		51.65	µg/L	50	103	84 - 116
Toluene-d8		51.61	µg/L	50	103	92 - 108
4-Bromofluorobenzene		43.93	µg/L	50	87	80 - 110

Sample: Method Blank QCBatch: QC03240

Param	Flag	Results	Units	Reporting Limit
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1
Bicarbonate Alkalinity		<2.0	mg/L as CaCo3	1
Total Alkalinity		<2.0	mg/L as CaCo3	1

Sample: Method Blank QCBatch: QC03374

Param	Flag	Results	Units	Reporting Limit
Dissolved Calcium		<0.50	mg/L	0.50
Dissolved Magnesium		<0.50	mg/L	0.50
Dissolved Potassium		<0.50	mg/L	0.50
Dissolved Sodium		<0.50	mg/L	0.50

Sample: Method Blank QCBatch: QC03389

Param	Flag	Results	Units	Reporting Limit
Total Aluminum		<0.10	mg/L	0.10
Total Arsenic		<0.10	mg/L	0.10
Total Barium		<0.10	mg/L	0.10
Total Boron		<0.10	mg/L	0.10
Total Cadmium		<0.01	mg/L	0.01
Total Chromium		<0.05	mg/L	0.05
Total Cobalt		<0.05	mg/L	0.05
Total Copper		<0.10	mg/L	0.10
Total Iron		<0.10	mg/L	0.10
Total Lead		<0.05	mg/L	0.05
Total Manganese		<0.10	mg/L	0.10
Total Molybdenum		<0.10	mg/L	0.10
Total Nickel		<0.10	mg/L	0.10
Total Selenium		<0.05	mg/L	0.05
Total Silica		<0.50	mg/L	0.50
Total Silver		<0.05	mg/L	0.05
Total Zinc		<0.10	mg/L	0.10

Sample: Method Blank QCBatch: QC03390

Param	Flag	Results	Units	Reporting Limit
Total Mercury		<0.0002	mg/L	0.0002

Quality Control Report

Lab Control Spikes and Duplicate Spikes

Sample: LCS

QC Batch: QC03142

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Phenol		42.824	mg/L	1	80	<0.005	53		5 - 57	20
2-Chlorophenol		43.416	mg/L	1	80	<0.005	54		29 - 110	20
1,4-Dichlorobenzene		54.708	mg/L	1	80	<0.005	68		25 - 94	20
n-Nitrosodi-n-propylamine		58.916	mg/L	1	80	<0.005	73		36 - 119	20
1,2,4-Trichlorobenzene		56.070	mg/L	1	80	<0.005	70		28 - 110	20
4-Chloro-3-methylphenol		49.008	mg/L	1	80	<0.005	61		40 - 126	20
Acenaphthene		50.649	mg/L	1	80	<0.005	63		47 - 118	20
4-Nitrophenol		38.123	mg/L	1	80	<0.005	47		0 - 69	20
2,4-Dinitrotoluene		62.227	mg/L	1	80	<0.005	77		46 - 133	20
Pentachlorophenol		33.291	mg/L	1	80	<0.005	41		21 - 131	20
Pyrene		49.127	mg/L	1	80	<0.005	61		44 - 125	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
2-Fluorophenol		49.05	mg/L	1	80	61	8 - 73
Phenol-d5		53.54	mg/L	1	80	66	8 - 62
Nitrobenzene-d5		53.51	mg/L	1	80	66	44 - 109
2-Fluorobiphenyl		53.68	mg/L	1	80	67	45 - 109
2,4,6-Tribromophenol		51.74	mg/L	1	80	64	39 - 132
Terphenyl-d14		53.77	mg/L	1	80	67	46 - 121

Sample: LCSD

QC Batch: QC03142

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Phenol		45.977	mg/L	1	80	<0.005	57	7.10	5 - 57	20
2-Chlorophenol		46.473	mg/L	1	80	<0.005	58	6.80	29 - 110	20
1,4-Dichlorobenzene		56.488	mg/L	1	80	<0.005	70	3.20	25 - 94	20
n-Nitrosodi-n-propylamine		61.484	mg/L	1	80	<0.005	76	4.26	36 - 119	20
1,2,4-Trichlorobenzene		57.925	mg/L	1	80	<0.005	72	3.25	28 - 110	20
4-Chloro-3-methylphenol		54.881	mg/L	1	80	<0.005	68	11.30	40 - 126	20
Acenaphthene		53.894	mg/L	1	80	<0.005	67	6.20	47 - 118	20
4-Nitrophenol		43.909	mg/L	1	80	<0.005	54	14.10	0 - 69	20
2,4-Dinitrotoluene		68.147	mg/L	1	80	<0.005	85	9.08	46 - 133	20
Pentachlorophenol		38.058	mg/L	1	80	<0.005	47	13.36	21 - 131	20
Pyrene		45.151	mg/L	1	80	<0.005	56	8.43	44 - 125	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
2-Fluorophenol		51.82	mg/L	1	80	64	8 - 73

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Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Phenol-d5		56.70	mg/L	1	80	70	8 - 62
Nitrobenzene-d5		55.67	mg/L	1	80	69	44 - 109
2-Fluorobiphenyl		58.17	mg/L	1	80	72	45 - 109
2,4,6-Tribromophenol		54.87	mg/L	1	80	68	39 - 132
Terphenyl-d14		50.62	mg/L	1	80	63	46 - 121

Sample: LCS

QC Batch: QC03195

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
1,1-Dichloroethene		100	µg/L	1	100	<2.00	100		73 - 154	20
Benzene		98	µg/L	1	100	<2.00	98		84 - 126	20
Trichloroethene (TCE)		98	µg/L	1	100	<2.00	98		82 - 123	20
Toluene		97	µg/L	1	100	<2.00	97		81 - 122	20
Chlorobenzene		103	µg/L	1	100	<2.00	103		86 - 121	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Dibromofluoromethane		50.92	µg/L	1	50	101	84 - 116
Toluene-d8		50.07	µg/L	1	50	100	92 - 108
4-Bromofluorobenzene		44.30	µg/L	1	50	88	80 - 110

Sample: LCSD

QC Batch: QC03195

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
1,1-Dichloroethene		100	µg/L	1	100	<2.00	100	0.00	73 - 154	20
Benzene		99	µg/L	1	100	<2.00	99	1.01	84 - 126	20
Trichloroethene (TCE)		98	µg/L	1	100	<2.00	98	0.00	82 - 123	20
Toluene		99	µg/L	1	100	<2.00	99	2.04	81 - 122	20
Chlorobenzene		105	µg/L	1	100	<2.00	105	1.92	86 - 121	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Dibromofluoromethane		51.22	µg/L	1	50	102	84 - 116
Toluene-d8		49.81	µg/L	1	50	99	92 - 108
4-Bromofluorobenzene		45.19	µg/L	1	50	90	80 - 110

Sample: LCS

QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1063	mg/L	1	1000	<0.50	106		75 - 125	20
Dissolved Magnesium		982	mg/L	1	1000	<0.50	98		75 - 125	20
Dissolved Potassium		968	mg/L	1	1000	<0.50	97		75 - 125	20
Dissolved Sodium		955	mg/L	1	1000	<0.50	96		75 - 125	20

Sample: LCSD QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1077	mg/L	1	1000	<0.50	108	1.30	75 - 125	20
Dissolved Magnesium		992	mg/L	1	1000	<0.50	99	1.01	75 - 125	20
Dissolved Potassium		951	mg/L	1	1000	<0.50	95	1.77	75 - 125	20
Dissolved Sodium		960	mg/L	1	1000	<0.50	96	0.52	75 - 125	20

Sample: LCS QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		1.95	mg/L	1	2	<0.10	97		75 - 125	20
Total Arsenic		1.89	mg/L	1	2	<0.10	94		75 - 125	20
Total Barium		2.07	mg/L	1	2	<0.10	103		75 - 125	20
Total Boron		1.90	mg/L	1	2	<0.10	95		75 - 125	20
Total Cadmium		2.02	mg/L	1	2	<0.01	101		75 - 125	20
Total Chromium		2.07	mg/L	1	2	<0.05	103		75 - 125	20
Total Cobalt		2.13	mg/L	1	2	<0.05	106		75 - 125	20
Total Copper		2.06	mg/L	1	2	<0.10	103		75 - 125	20
Total Iron		2.08	mg/L	1	2	<0.10	104		75 - 125	20
Total Lead		2.01	mg/L	1	2	<0.05	100		75 - 125	20
Total Manganese		2.09	mg/L	1	2	<0.10	104		75 - 125	20
Total Molybdenum		2.14	mg/L	1	2	<0.10	107		75 - 125	20
Total Nickel		2.01	mg/L	1	2	<0.10	101		75 - 125	20
Total Selenium		1.66	mg/L	1	2	<0.05	83		75 - 125	20
Total Silica		9.75	mg/L	1	10	<0.50	97		75 - 125	20
Total Silver		0.35	mg/L	1	0.40	<0.05	87		75 - 125	20
Total Zinc		2.10	mg/L	1	2	<0.10	105		75 - 125	20

Sample: LCSD QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		1.95	mg/L	1	2	<0.10	97	0.00	75 - 125	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Arsenic		1.90	mg/L	1	2	<0.10	95	0.52	75 - 125	20
Total Barium		2.08	mg/L	1	2	<0.10	104	0.48	75 - 125	20
Total Boron		1.91	mg/L	1	2	<0.10	95	0.52	75 - 125	20
Total Cadmium		2.03	mg/L	1	2	<0.01	101	0.49	75 - 125	20
Total Chromium		2.07	mg/L	1	2	<0.05	103	0.00	75 - 125	20
Total Cobalt		2.14	mg/L	1	2	<0.05	107	0.46	75 - 125	20
Total Copper		2.07	mg/L	1	2	<0.10	103	0.48	75 - 125	20
Total Iron		2.09	mg/L	1	2	<0.10	104	0.47	75 - 125	20
Total Lead		2.02	mg/L	1	2	<0.05	101	0.49	75 - 125	20
Total Manganese		2.10	mg/L	1	2	<0.10	105	0.47	75 - 125	20
Total Molybdenum		2.14	mg/L	1	2	<0.10	107	0.00	75 - 125	20
Total Nickel		2.03	mg/L	1	2	<0.10	102	0.99	75 - 125	20
Total Selenium		1.69	mg/L	1	2	<0.05	84	1.79	75 - 125	20
Total Silica		9.84	mg/L	1	10	<0.50	98	0.91	75 - 125	20
Total Silver		0.36	mg/L	1	0.40	<0.05	90	2.81	75 - 125	20
Total Zinc		2.10	mg/L	1	2	<0.10	105	0.00	75 - 125	20

Sample: LCS QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00103	mg/L	1	0.001	<0.0002	103		80 - 120	20

Sample: LCSD QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00111	mg/L	1	0.001	<0.0002	111	7.47	80 - 120	20

Quality Control Report
Matrix Spikes and Duplicate Spikes

Sample: MS QC Batch: QC03190

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Cl		117.23	mg/L	1	62.50	58	94		80 - 120	20
Fluoride		13.97	mg/L	1	12.50	2.3	93		80 - 120	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Nitrate-N		26.33	mg/L	1	25	3.3	92		80 - 120	20
Sulfate		129.52	mg/L	1	62.50	69	96		80 - 120	20

Sample: MSD QC Batch: QC03190

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
CL		117.28	mg/L	1	62.50	58	94	0.08	80 - 120	20
Fluoride		13.75	mg/L	1	12.50	2.3	91	1.90	80 - 120	20
Nitrate-N		25.86	mg/L	1	25	3.3	90	2.06	80 - 120	20
Sulfate		129.38	mg/L	1	62.50	69	96	0.23	80 - 120	20

Sample: MS QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1182	mg/L	1	1000	162	102		75 - 125	20
Dissolved Magnesium		1010	mg/L	1	1000	26	98		75 - 125	20
Dissolved Potassium		953	mg/L	1	1000	2.9	95		75 - 125	20
Dissolved Sodium		1001	mg/L	1	1000	66	93		75 - 125	20

Sample: MSD QC Batch: QC03374

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Dissolved Calcium		1157	mg/L	1	1000	162	99	2.48	75 - 125	20
Dissolved Magnesium		997	mg/L	1	1000	26	97	1.32	75 - 125	20
Dissolved Potassium		938	mg/L	1	1000	2.9	93	1.59	75 - 125	20
Dissolved Sodium		968	mg/L	1	1000	66	90	3.59	75 - 125	20

Sample: MS QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		2.12	mg/L	1	2	<0.10	106		75 - 125	20
Total Arsenic		1.92	mg/L	1	2	<0.10	96		75 - 125	20
Total Barium		2.11	mg/L	1	2	0.10	100		75 - 125	20

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Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Boron		2.08	mg/L	1	2	0.21	93		75 - 125	20
Total Cadmium		1.92	mg/L	1	2	<0.01	96		75 - 125	20
Total Chromium		1.99	mg/L	1	2	<0.05	99		75 - 125	20
Total Cobalt		2.00	mg/L	1	2	<0.05	100		75 - 125	20
Total Copper		1.99	mg/L	1	2	<0.10	99		75 - 125	20
Total Iron		2.04	mg/L	1	2	<0.10	102		75 - 125	20
Total Lead		1.92	mg/L	1	2	<0.05	96		75 - 125	20
Total Manganese		2.02	mg/L	1	2	<0.10	101		75 - 125	20
Total Molybdenum		2.08	mg/L	1	2	<0.10	104		75 - 125	20
Total Nickel		1.94	mg/L	1	2	<0.10	98		75 - 125	20
Total Selenium		1.67	mg/L	1	2	<0.05	83		75 - 125	20
Total Silica		119	mg/L	1	10	107	120		75 - 125	20
Total Silver		0.34	mg/L	1	0.40	<0.05	85		75 - 125	20
Total Zinc		2.00	mg/L	1	2	<0.10	100		75 - 125	20

Sample: MSD

QC Batch: QC03389

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Aluminum		2.16	mg/L	1	2	<0.10	108	1.86	75 - 125	20
Total Arsenic		1.93	mg/L	1	2	<0.10	96	0.51	75 - 125	20
Total Barium		2.12	mg/L	1	2	0.10	101	0.49	75 - 125	20
Total Boron		2.10	mg/L	1	2	0.21	94	1.06	75 - 125	20
Total Cadmium		1.91	mg/L	1	2	<0.01	95	0.52	75 - 125	20
Total Chromium		1.99	mg/L	1	2	<0.05	99	0.00	75 - 125	20
Total Cobalt		2.00	mg/L	1	2	<0.05	100	0.00	75 - 125	20
Total Copper		2.01	mg/L	1	2	<0.10	100	0.99	75 - 125	20
Total Iron		2.05	mg/L	1	2	<0.10	102	0.48	75 - 125	20
Total Lead		1.92	mg/L	1	2	<0.05	96	0.00	75 - 125	20
Total Manganese		2.03	mg/L	1	2	<0.10	101	0.49	75 - 125	20
Total Molybdenum		2.08	mg/L	1	2	<0.10	104	0.00	75 - 125	20
Total Nickel		1.95	mg/L	1	2	<0.10	98	0.51	75 - 125	20
Total Selenium		1.69	mg/L	1	2	<0.05	84	1.19	75 - 125	20
Total Silica		118	mg/L	1	10	107	110	8.69	75 - 125	20
Total Silver		0.36	mg/L	1	0.40	<0.05	90	5.71	75 - 125	20
Total Zinc		1.99	mg/L	1	2	<0.10	99	0.50	75 - 125	20

Sample: MS

QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00112	mg/L	1	0.001	<0.0002	112		80 - 120	20

Sample: MSD QC Batch: QC03390

Param	Flag	Result	Units	Dil.	Spike Amount Added	Matrix Spike Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Total Mercury		0.00103	mg/L	1	0.001	<0.0002	103	8.37	80 - 120	20

Quality Control Report
Duplicate Samples

Sample: Duplicate QC Batch: QC03137

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Specific Conductance		943	940	uMHOS/cm	1	0.31	20

Sample: Duplicate QC Batch: QC03193

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids		2118	1900	mg/L	1	10.85	20

Sample: Duplicate QC Batch: QC03240

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Hydroxide Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0.00	20
Carbonate Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0.00	20
Bicarbonate Alkalinity		313	316	mg/L as CaCo3	1	0.95	20
Total Alkalinity		313	316	mg/L as CaCo3	1	0.95	20

Sample: Duplicate QC Batch: QC03271

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH		7.1	7.1	s.u.	1	0.00	20

Quality Control Report
Continuing Calibration Verification Standards

Sample: CCV (1) QC Batch: QC03137

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1413	1406	99	80 - 120	6/12/00

Sample: ICV (1) QC Batch: QC03137

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		uMHOS/cm	1413	1406	99	80 - 120	6/12/00

Sample: CCV (1) QC Batch: QC03142

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Phenol		mg/L	60	63.48	105	5 - 57	6/12/00
1,4-Dichlorobenzene		mg/L	60	58.75	97	25 - 94	6/12/00
2-Nitrophenol		mg/L	60	59.98	99	80 - 120	6/12/00
2,4-Dichlorophenol		mg/L	60	62.59	104	80 - 120	6/12/00
Hexachlorobutadiene		mg/L	60	55.74	92	80 - 120	6/12/00
4-Chloro-3-methylphenol		mg/L	60	62.67	104	40 - 126	6/12/00
2,4,6-Trichlorophenol		mg/L	60	57.22	95	80 - 120	6/12/00
Acenaphthene		mg/L	60	58.12	96	47 - 118	6/12/00
Diphenylamine		mg/L	60	58.17	96	80 - 120	6/12/00
Pentachlorophenol		mg/L	60	58.45	97	21 - 131	6/12/00
Fluoranthene		mg/L	60	59.51	99	80 - 120	6/12/00
Di-n-octylphthalate		mg/L	60	60.38	100	80 - 120	6/12/00
Benzo(a)pyrene		mg/L	60	55.79	92	80 - 120	6/12/00
2-Fluorophenol		mg/L	60	59.39	98	8 - 73	6/12/00
Phenol-d5		mg/L	60	63.57	105	8 - 62	6/12/00
Nitrobenzene-d5		mg/L	60	59.40	99	44 - 109	6/12/00
2-Fluorobiphenyl		mg/L	60	57.74	96	45 - 109	6/12/00
2,4,6-Tribromophenol		mg/L	60	54.22	90	39 - 132	6/12/00
Terphenyl-d14		mg/L	60	53.41	89	46 - 121	6/12/00

Sample: CCV (1) QC Batch: QC03190

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
CL		mg/L	12.50	11.80	94	80 - 120	6/10/00
Fluoride		mg/L	2.50	2.45	98	80 - 120	6/10/00
Nitrate-N		mg/L	5	4.79	95	80 - 120	6/10/00

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		mg/L	12.50	12.07	96	80 - 120	6/10/00

Sample: ICV (1) QC Batch: QC03190

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
CL		mg/L	12.50	11.57	92	80 - 120	6/10/00
Fluoride		mg/L	2.50	2.50	100	80 - 120	6/10/00
Nitrate-N		mg/L	5	4.81	96	80 - 120	6/10/00
Sulfate		mg/L	12.50	11.98	95	80 - 120	6/10/00

Sample: CCV (1) QC Batch: QC03193

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	1005	100	80 - 120	6/13/00

Sample: ICV (1) QC Batch: QC03193

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	991	99	80 - 120	6/13/00

Sample: CCV (1) QC Batch: QC03195

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Vinyl Chloride		µg/L	100	96	96	80 - 120	6/13/00
1,1-Dichloroethene		µg/L	100	99	99	73 - 154	6/13/00
Chloroform		µg/L	100	100	100	80 - 120	6/13/00
1,2-Dichloropropane		µg/L	100	101	101	80 - 120	6/13/00
Toluene		µg/L	100	100	100	81 - 122	6/13/00
Chlorobenzene		µg/L	100	102	102	86 - 121	6/13/00
Ethylbenzene		µg/L	100	106	106	80 - 120	6/13/00
Dibromofluoromethane		µg/L	50	50.44	100	80 - 120	6/13/00
Toluene-d8		µg/L	50	49.03	98	80 - 120	6/13/00
4-Bromofluorobenzene		µg/L	50	50.36	100	80 - 120	6/13/00

Sample: CCV (1)

QC Batch: QC03240

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	80 - 120	6/16/00
Carbonate Alkalinity		mg/L as CaCo3	0	198	0	80 - 120	6/16/00
Bicarbonate Alkalinity		mg/L as CaCo3	0	36	0	80 - 120	6/16/00
Total Alkalinity		mg/L as CaCo3	250	234	93	80 - 120	6/16/00

Sample: ICV (1)

QC Batch: QC03240

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	80 - 120	6/16/00
Carbonate Alkalinity		mg/L as CaCo3	0	230	0	80 - 120	6/16/00
Bicarbonate Alkalinity		mg/L as CaCo3	0	17	0	80 - 120	6/16/00
Total Alkalinity		mg/L as CaCo3	250	247	98	80 - 120	6/16/00

Sample: CCV (1)

QC Batch: QC03271

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.0	100	80 - 120	6/12/00

Sample: ICV (1)

QC Batch: QC03271

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.0	100	80 - 120	6/12/00

Sample: CCV (1)

QC Batch: QC03374

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	20	21.6	108	75 - 125	6/20/00
Dissolved Magnesium		mg/L	20	21.2	106	75 - 125	6/20/00
Dissolved Potassium		mg/L	20	20.9	104	75 - 125	6/20/00
Dissolved Sodium		mg/L	20	19.5	97	75 - 125	6/20/00

Sample: ICV (1)

QC Batch: QC03374

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	20	20.9	104	75 - 125	6/20/00
Dissolved Magnesium		mg/L	20	20.2	101	75 - 125	6/20/00
Dissolved Potassium		mg/L	20	20.3	101	75 - 125	6/20/00
Dissolved Sodium		mg/L	20	19.1	95	75 - 125	6/20/00

Sample: CCV (1)

QC Batch: QC03389

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	5	5.28	105	75 - 125	6/17/00
Total Arsenic		mg/L	2.50	2.63	105	75 - 125	6/17/00
Total Barium		mg/L	5	5.28	105	75 - 125	6/17/00
Total Boron		mg/L	2.50	2.64	105	75 - 125	6/17/00
Total Cadmium		mg/L	0.50	0.52	104	75 - 125	6/17/00
Total Chromium		mg/L	1	1.05	105	75 - 125	6/17/00
Total Cobalt		mg/L	2.50	2.61	104	75 - 125	6/17/00
Total Copper		mg/L	1	1.06	106	75 - 125	6/17/00
Total Iron		mg/L	5	5.25	104	75 - 125	6/17/00
Total Lead		mg/L	2.50	2.64	104	75 - 125	6/17/00
Total Manganese		mg/L	0.50	0.53	106	75 - 125	6/17/00
Total Molybdenum		mg/L	2.50	2.63	104	75 - 125	6/17/00
Total Nickel		mg/L	2.50	2.64	104	75 - 125	6/17/00
Total Selenium		mg/L	2.50	2.66	104	75 - 125	6/17/00
Total Silica		mg/L	2.50	2.60	104	75 - 125	6/17/00
Total Silver		mg/L	0.50	0.52	104	75 - 125	6/17/00
Total Zinc		mg/L	0.50	0.53	106	75 - 125	6/17/00

Sample: ICV (1)

QC Batch: QC03389

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	5	4.99	99	75 - 125	6/17/00
Total Arsenic		mg/L	2.50	2.48	99	75 - 125	6/17/00
Total Barium		mg/L	5	5.04	100	75 - 125	6/17/00
Total Boron		mg/L	2.50	2.57	102	75 - 125	6/17/00
Total Cadmium		mg/L	0.50	0.50	100	75 - 125	6/17/00
Total Chromium		mg/L	1	1.00	100	75 - 125	6/17/00
Total Cobalt		mg/L	2.50	2.50	100	75 - 125	6/17/00
Total Copper		mg/L	1	1.00	100	75 - 125	6/17/00
Total Iron		mg/L	5	5.03	101	75 - 125	6/17/00
Total Lead		mg/L	2.50	2.52	100	75 - 125	6/17/00
Total Manganese		mg/L	0.50	0.50	100	75 - 125	6/17/00

Continued ...

... Continued

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Molybdenum		mg/L	2.50	2.50	100	75 - 125	6/17/00
Total Nickel		mg/L	2.50	2.51	100	75 - 125	6/17/00
Total Selenium		mg/L	2.50	2.50	100	75 - 125	6/17/00
Total Silica		mg/L	2.50	2.45	100	75 - 125	6/17/00
Total Silver		mg/L	0.50	0.50	100	75 - 125	6/17/00
Total Zinc		mg/L	0.50	0.51	100	75 - 125	6/17/00

Sample: CCV (1)

QC Batch: QC03390

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.001	0.00088	88	80 - 120	6/22/00

Sample: ICV (1)

QC Batch: QC03390

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.001	0.00092	92	80 - 120	6/22/00

147773

Page 1 of 1

6701 Aberdeen Avenue, Ste. 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

TraceAnalysis, Inc.

4725 Ripley Dr., Ste A
El Paso, Texas 79922-1028
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # 10006081545

Company Name: NM OIL CONSERVATION DIV. Phone #: 505-827-7154

Address: (Street, City, Zip) 2040 S. PACHECO SANTA FE NM 87505 Fax #: 505-827-8177

Contact Person: BILL OLSON

Invoice to: (If different from above)

Project #: Project Name: WINDMILL OIL

Project Location: Mrs. Robert Owings Sampler Signature: x Bill Olson

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	NaHSO4	H2SO4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
147773	0006081545 (Owings)	2	40ml	✓				✓					✓		6/8/00	1545
	0006081545 (Owings)	1	liter	✓									✓		6/8/00	1545
	0006081545 (Owings)	1	liter	✓									✓		6/8/00	1545
	0006081545 (Owings)	1	500ml	✓					✓				✓		6/8/00	1545

ANALYSIS REQUEST (Circle or Specify Method No.)

MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC-MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	GEN CHEM. ORD ITEM #24	ORD METALS ITEM #23	Turn Around Time if diff from standard	Hold
										2								
											1							
															1			
																1		

Relinquished by: Bill Olson Date: 6/9/00 Time: 1200 Received by: Date: Time:

Relinquished by: Date: Time: Received by: Date: Time:

Relinquished by: Date: Time: Received at Laboratory by: Vicki Hensley Date: 6.10.00 Time: 10:00

LAB USE ONLY
Intact Y / N
Headspace Y / N
Temp 2 °
Log-in Review

REMARKS:

Carrier # BUS 902 421 3337

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.

ORIGINAL COPY

Dirty well a serious problem for county family



Robert Owings points to a "clear" plastic water filter holder discolored by the well water at his mother's home at 3515 W. Bender Blvd. recently. In the insert is a used water filter, left, resembling something taken from the oil system of an automobile, and a newer, unused filter. Owings says the water tastes bad. (Flare photo)

By JOHN WINKELMANN

Robert Owings holds his hands up, demonstrating the technique used by a television announcer, "He held the water up like this," he says, "and said, 'Would you drink this?'"

Owings is talking about the water that comes out of the well at the home where he grew up; where his mother, Emma, still lives; which his father, Robert Eugene, calls home. The place where Robert still spends much of his time.

It is a rambling structure on a two-plus acre plot on Bender Boulevard, perhaps a half-mile outside the western city limits of Hobbs.

Robert, his brother, Thomas, and his mother, want to get drinkable water. The father, Mrs. Owings' husband, is in the hospital, she said.

The water comes from the well, Thomas explains at one point, then goes through a sand trap, then another sand trap, and finally through a filter, a paper filter cartridge in once-clear plastic filter holder. Once-clear, because now the plastic is ringed and otherwise discolored by some black substance. It is the same substance, apparently, which makes a used water-filter cartridge look a great deal like the filter cartridge a mechanic removes when a motorist gets an oil change.

It is not surprising, because the sand which comes directly out of the pump -- Robert puts a piece of white plastic near the outlet to collect the residue for a demonstration as Thomas operates the pump -- smells like petroleum.

However, no one complains about the near-by oil pumps. Some of them at least have been there since before the Owings moved the property in 1956 or 1957.

The water then, Emma says, "Was good for maybe 20 years. Every times they'd go to the oil well, it would get bad, but then it would clear up." However, she adds when asked, about 20 years ago the water went bad and stayed bad.

The Owings would like to be able to get good water, perhaps

See WELL, Page 4

Hobbs
The Flare
...the local people paper

50 CENTS
Wednesday
March 27, 1996

VOL. 48 NO. 3 | 12 PAGES | A LEA COUNTY TRADITION SINCE 1948 | HOBBS, NEW MEXICO 88240

Bill Olson

Well:

From Page 1

Hobbs city water, which they drink, because the boys fill containers at Robert's trailer in the city and at friends' houses, and carry it the home for drinking and cooking.

The well water is used for washing and maintaining a few livestock, which include peacocks, a goat, dogs and cats. But the family members don't drink it and don't cook with it.

"If you cook and egg in it," Mrs. Owings says, "it will turn black."

Robert adds, "It will taste like chemicals."

Mrs. Owings comments repeatedly, and is echoed by Robert, that there is a city fire hydrant on Bender just "the other side of the truck bypass," which at the point appears to correspond with the city limits. She wonders why water can't be piped from that point. "Take a picture of the fire hydrant," she says.

She also comments, "They (the city) can run water out to the prison for free, but we can't get good drinking water."

However, the Owings live in Lea County, not in Hobbs.

County Manager Dennis Holmberg explains that he is aware of the situation. He also says the county "does not have any guidelines about water."

He says the residents in the area need "to get together a petition to form a water users association," so it will be possible to determine how many people are involved, and how many pieces of property, covering how large of an area. The petition, if completed, can be sent to him, he says.

He mentions that running water to the area along Bender where the Owings -- and others -- have homes will be very expensive. He suggests that a federal grant might be available, but "there might be some matching funds."

But apparently a petition has been circulated. In that one, landowners, were asked to pledge their property against the cost of the project. "No one wanted to do that," Mrs. Owings says.

Holmberg, who was interviewed on the telephone, says the petition need not address the issue of funding, but merely indicate the desire to form an association. He adds, "I think we (the county) have offered our assistance as far as pointing them in the right direction."

But the Owings would still like to have clear water to drink, to cook with, even to wash with.

And still, Emma Owings says:

"What a shame. They can't get water to the prison for free, but we can get it."

Robert adds, "We're law-abiding citizens."

WELL SCHEMATIC:
EXXON BOWERS A FED #1

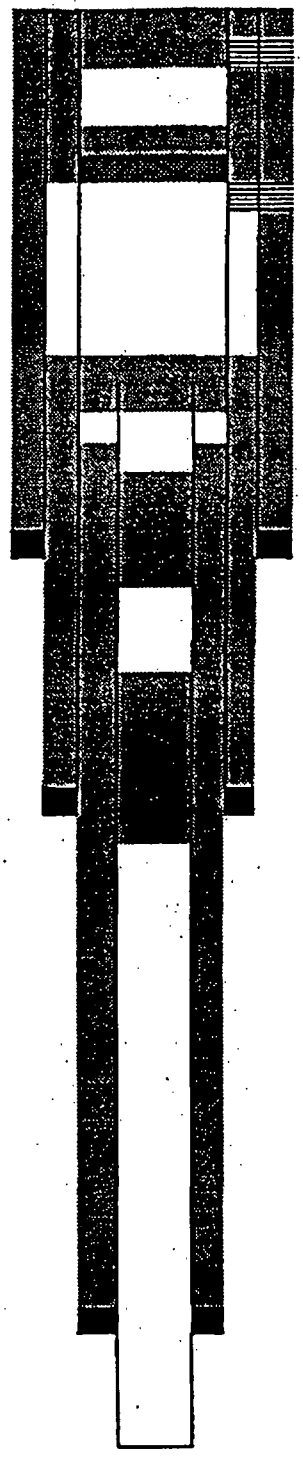
WELL PLUGGED:
11/15/89

9 5/8"
2750'
620 SX
TOC: NA

7"
3962'
528 SX
TOC: NA

4 ½"
6000'
275 SX
TOC: 2200 TS

TD: 6000'



Perf'd 7" & 9 5/8" csg at 280' & sqzd w/100 sx.

Dropped 54' cmt on top of ret

Perf'd 7" and 9 5/8" csg at 1350'. Set cmt ret at 1304'. Sqz'd w/100 sx thru perfs.

Spotted 25 sx cmt plug from 1911' to 2058'.
Cut 4 ½" csg at 2000' and Pull out of hole.
Spotted 20 sx cmt plug from 2470' to 2800'.

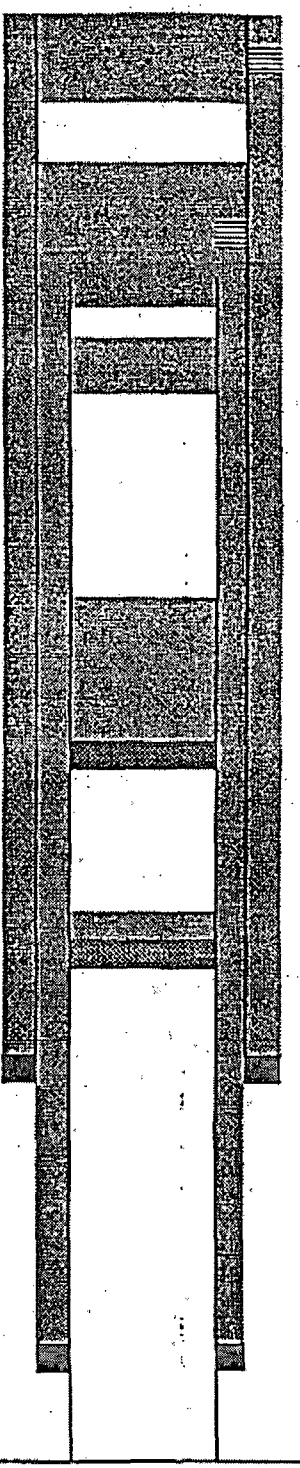
Spotted 40 sx cmt plug from 3430' to 4100'.

n7171

EXXON BOWERS A FED #30

WELL PLUGGED:
8/4/90

8 5/8"
3836'
500 SX
TOC: 2300' TS



Perf'd 8 5/8" at 450'. Pumped 211 sx down 8 5/8" thru perfs At 450' and circulate.

Perf'd 8 5/8" csg at 1485'. Cut off 4 ½ csg at 1500'. Spotted 77 sx cmt plug from 1500' to 1385'.

Spotted 15 sx cmt plug from 2711' to 2528'.

Spotted 70 sx cmt plug from 4632' to 3364'.

Cmt. ret. at 4632' – sqz with 25 sx.

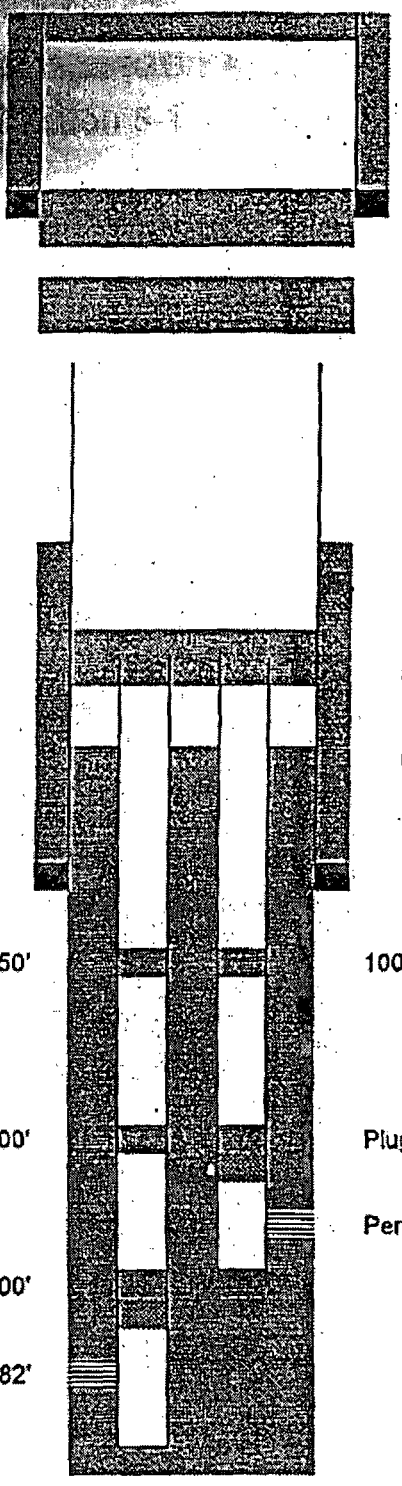
CIBP at 5300' w/ 35' cmt cap.

4 ½"
5988'
550 SX
TOC: 2800' TS

TD: 6000'

WELL SCHEMATIC - Exxon Bowers A Federal #32

Well plugged 9/14/72



20' cmt. Plug at surface.

13-3/8"
401'
600 sxs
TOC: Circ.

100' cmt plug at 13-3/8 csg shoe

100 ' cmt plug at 1400'

9-5/8 casing cut off at 1800'

9-5/8" TOC: 2250'

Both 3-1/2" strings cut off at 2700' and capped with 100' of cmt.

Cmt top inside 9-5/8" at 2900'

9-5/8"
3850'
550 sxs

100' cmt plug at 4050'

100' cmt plug at 4050'

100' cmt plug at 5800'

Plug w/ 100' cmt at 5694'

Perfs: 5825-5964'

Plug w/ 100' cmt at 6200'

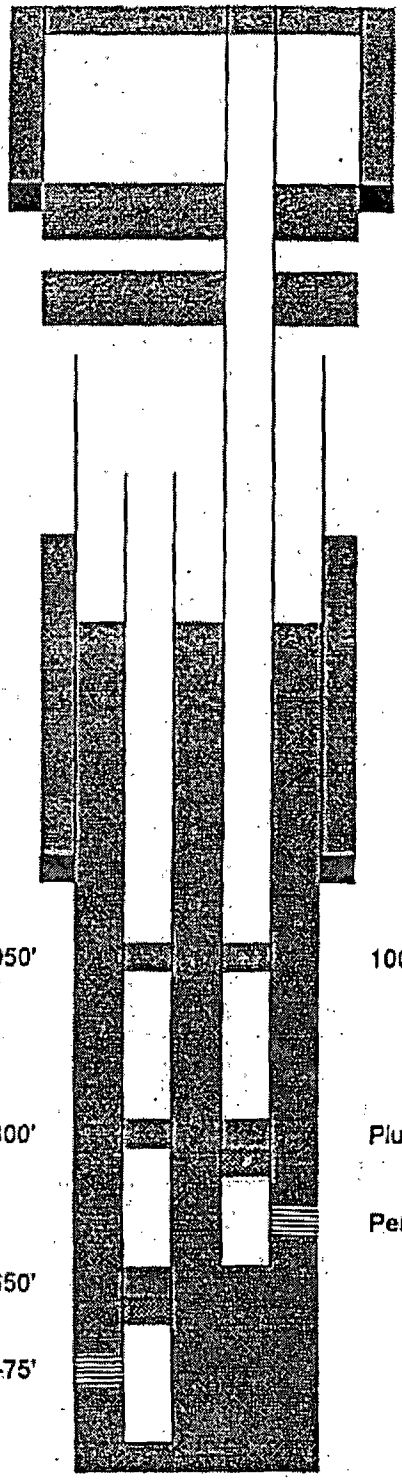
Perfs: 6974-82'

TD:7075'

WELL SCHEMATIC - Exxon Bowers A Federal #34

Sec 30

Well plugged 9/26/72



20' cmt. Plug at surface.

13-3/8"
401'
600 sxs
TOC: Circ.

100' cmt plug at 13-3/8 csg shoe

100 ' cmt plug at 1400'

9-5/8 casing cut off at 1750'

Cut one 3-1/2" strings off at 2250'

9-5/8" TOC: 2400'

Cmt top inside 9-5/8" at 2600'

9-5/8"
3850'
550 sxs

100' cmt plug at 4050'

100' cmt plug at 4050'

100' cmt plug at 5800'

Plug w/ 100' cmt at 5694'

Perfs: 5848-98'

Plug w/ 100' cmt at 6650'

Perfs: 6932-75'

TD:7010'

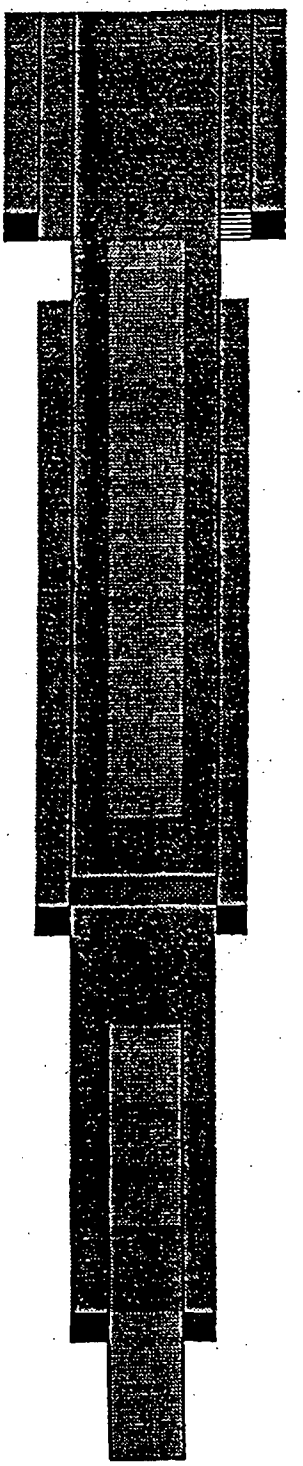
05/16/00

57

MARATHON STATE #1

WELL PLUGGED:
3/14/57

16"
260'
225 SX
TOC: SURF (C)



Perfd 9 5/8" csg at 255'. Circ 300 sx cmt to surf 9 5/8" x 16" csg annulus leaving 255' Cmt plug in top of 9 5/8" csg And 16" surf pipe.

Hole loaded with gel based Mud.

9 5/8"
2750'
500 SX
TOC: NA

Spotted 125' cmt plug from 2703' to 2578'.
Set cast iron cmt ret in 9 5/8" Csg at 2703' and sqzd 50 sx Cmt below cmt ret.

7"
3946'
350 SX
TOC: NA

Cut 7" csg at 3060' and Pulled same.

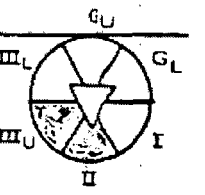
Spotted 312' cmt plug from 3602' to 3914'.

TD: 4215'

WR-3198 A

COMPLETION DATE 5-6-81 — N. HOBBS (G/SA) UNIT 30-422 W — COMPLETION INTERNAL:

RECOMPLETION DATE ____

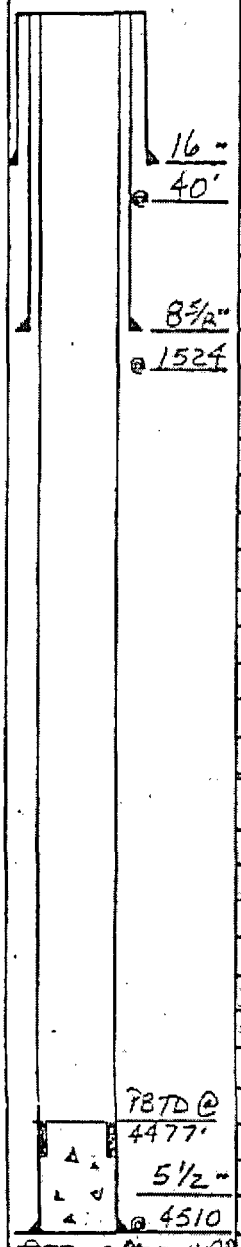


LOCATION 1520' FNL & 1300' FEL SECTION 30-H BLOCK ____

SURVEY T-18-S, R-38-E COUNTY LEA, NEW MEX.

DATUM 3662' [KB] G.L. ELEV. 3651' TD 4510 PBTD 4477' [FC]

3662' (KB)
3651' (GL)



CASING RECORD *CALCULATED AT 50% EFFICIENCY

SIZE	WT.	DEPTH	CMT.	TOC	HOLE SIZE
16"	COND	40'	40 SX	SURF	20"
8 5/8"	24#	1524'	850 SX	CIRC.	12 1/4"
5 1/2"	14#	4510'	1000 SX	2500' CBL	7 7/8"

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
1/81	SWS	SONIC	4507-145
"	"	SNP	4506-375
"	"	DLL/MSFL	4510-247
4/81	"	CBL	4459-Surf

LOG TOPS

ZONE	TOP	SUBSEA
YATES	2646	+1016
7 RIVERS	2883	+779
BOWERS	3192	+470
QUEEN	3403	+259
GRAYB	3737	-75
B. GRAY	3914	-252
SA I	4026	-364
II	4085	-423
IIIu	4183	-521
IIIL	4274	-612
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
4-29-81	II, IIIu	*4108-12, 20-24, 28-32	2 JSPF
		46-48, 74-78, 84-88,	
		91-93, 4203-06, 12-16,	
		28-32, 42-44, 63-65	
11/8/86	II	4124-32, 46-48,	4 JSPF
3-24-89	II IIIU	4149-53 4160-66	2 JSPF

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
11/6/86	4108-48	307 sx 200 sx Class C w/ 2% CaCl2

STIMULATION

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
5-1-81	II, IIIu	7650 gal 15% HCL-NEA	RAP & PKR IN 9 STAGES		
2-7-84	II, IIIu	1,000 g 15% HCL + INHIB DWN TBG	AT 4108'-4265'		
11/10/86	2 of 30	2000 g 15% HCl + RS	AT & RP		
3/21/89	2 of 4	2000 g 15% HCl			
3/25/89	2 of 3	3 bbls 15% HCl-RS	ATR		

OPT

DATA AVAILABLE DST ☐ CORE ☐ PVT ☐ OTHER

REMARKS: INJECTION EQUIPMENT ON WELL. PKR FLUID - VISCO 3900

1/21/87 DM

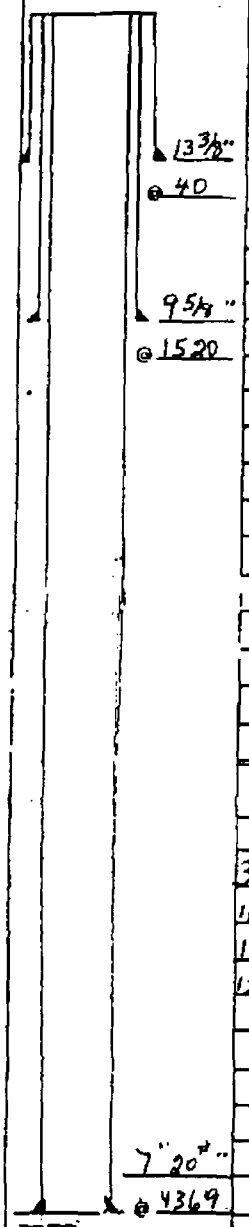
DATE: ~~5-12-81~~

2-26-01 AP

CENTRAL

SWEP-0698E

COMPLETION DATE 1-85 NHU 30-112 COMPLETION INTERNAL: 4034-4264
RECOMPLETION DATE 3-21-85
LOCATION 200'FNL + 1310'FWL SECTION 30 BLOCK O
SURVEY T-18S R 38E COUNTY LEA
DATUM 3672 (15') G.L. ELEV. 3657 TD 4370 PBTD 4321



CASING RECORD *CALCULATED AT 50% EFFICIENCY

SIZE	WT.	DEPTH	CMT.	TOC	HOLE SIZE
13 3/8	CONL	40'	?	?	
9 5/8	36	1520	250 sks	C(a)	
7"	20#	4369	675 sks	C(a)	

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL

LOG TOPS

ZONE	TOP	SUBSEA
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
3-21-85	II+III	4117, 20, 29, 42, 54, 70, 80, 94,	2 JSPF
		97, 4205, 14, 30, 40	
11-22-88	II+III	4159, 73, 76, 88, 4224, 53, 60, 64,	2 JSPF
11-16-90	I+II	4034-44, 48-50, 54, 58, 59, 63	2 JSPF
12-16-99	III	4214-19, 23-31, 36-42, 52-54,	4 JSPF
		59-70, 76-82	

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
12-10-99	4034-63	Squ w/ 225 sks

STIMULATION

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
3-22-85	II+III		P.P.I.		
11-22-88	II+III	2100g 15% B.S.	PKR+plug		
11-16-90	I+II	2100g 15%	P.P.I.		
12-11-99	II+III	3500g 15% HCl 6000# R.S.	PKR (4117-4282)		

OPT

DATA AVAILABLE DST ☐ PVT ☐ CORE ☐ OTHER

REMARKS: C.T.I. 12-18-99

DATE: 2-13-01 BP

WELL SCHEMATIC
NORTH HOBBS G/SA UNIT
30-112
(New Unit well)

API # 30-025-29063

LOCATION: 200 FNL , 1310 FWL UNIT: D COUNTY: LEA
SECTION: 30 TOWNSHIP 18S RANGE: 38E

DATUM: 3672 DF GL ELEV.: 3657 TD: ~~4370~~ PBTD: 4321

CASING RECORD	SIZE	WEIGHT	DEPTH	CMT (SXS)	TOC
	13-3/8	Cond.	40	??	
	9-5/8	36	1520	250	Circ.
	7	20	4369	675	Circ.

LOGGING RECORD	DATE	COMPANY	TYPE	INTERVAL

LOG TOPS:	ZONE	TOP	SUBSEA	GOC	OWC
	Grybrg				
	SA 1	4049	-377		
	SA 2	4109			
	SA 3u	4203			
	SA 3l	4304			

PERFORATIONS:	DATE:	ZONE:	DEPTHS	DENS & NO.
	3/21/85	SA 2 & 3	4117,20,29, 42, 54, 70, 80, 94, 97, 4205, 14, 30, 40	2 JSPF
	11/22/88	SA 2 & 3	4159, 73, 76, 88, 4224, 53, 60, 64	2 JSPF
	11/16/90	SA 1 & 2	4034-44, 48-50, 54, 58, 59-63 **	2 JSPF

** Currently Not Open

11/17/99

WELL SCHEMATIC - NHU 30-112

SQUEEZE & REPAIRS	DATE	DEPTH	WORK DONE
	11/16/90	4200	Set CIBP
	9/9/97	4000	Set CIBP and TA'd well

STIMULATION:

DATE	ZONE	AMOUNT & TYPE	BEFORE	AFTER
3/22/85	SA 2 & 3	AT w/ 15% and SPA	New	156+793+70
11/22/88	SA 2 & 3	AT w/ 2100g 15% + BS, Pkr, and Plug	49+700+0	
11/17/90	SA 1 & 2	AT w/ 2100g 15% and SPA	14+962+61	16+972+45

COMMENTS:

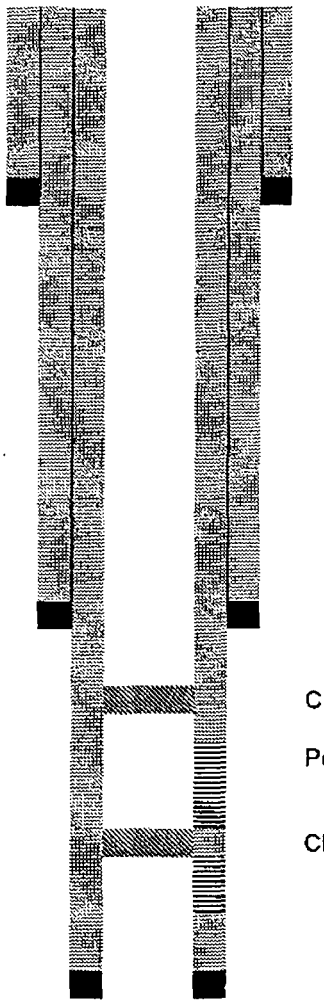
WELL SCHEMATIC - NHU 30-112

SPUD:1/85 OPT: 156+793+70 (8/85)

GL:3657
DATUM:3672 df

13-3/8"
40'
TOC:

9-5/8"
36#
1520'
250 sxs
TOC: Circ.



CIBP @ 4000

Perfs 4117 - 4264

CIBP @ 4200

7"
20#
4369'
675sxs
TOC: Circ.

PBTD:4220
TD:4261

11/17/99

SWEP-0698E

COMPLETION DATE _____ NHU 30-313 COMPLETION INTERNAL: _____

RECOMPLETION DATE _____

LOCATION 405'FNL + 2272'FEL SECTION 30 BLOCK E

SURVEY T-18S R 38E COUNTY Lea

DATUM _____ [ ] G.L. ELEV. 3657 TD 6047 PBTD 4397' [ ]

CASING RECORD *CALCULATED AT 50% EFFICIENCY

SIZE	WT.	DEPTH	CMT.	TOC	HOLE SIZE
13 3/8	48	382	400 sks	Circ	
8 5/8	24+32	3849	1256 sks	600 TS	
5 1/2	15.5	6049	570 sks	1500 TS	

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
			CBL

13 3/8 @ 382

8 5/8" @ 3849

5 1/2" @ 6047

PBTD 4391

LOG TOPS

ZONE	TOP	SUBSEA
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
2-10-94	II+III	4114, 18, 28, 33, 37, 50, 53, 56, 60,	
		79, 90, 93, 97, 4203, 6, 11, 14, 17,	
		28, 30, 33,	
12-15-99	II+III	4244-46, 50, 52, 56, 64, 68, 80	

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
11-69		5805, 6, 8, 16, 51, 53, 71, 86, 90, 5908,
		16, 19, 24, 51,
11-69		5871, 86, 90, 5908, 16, 19, 24, 51
~~12-15-99~~		

STIMULATION

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
11-69	Blinebry	7000g 15%	PKR		
1-82	"	2000g 15% B.S.	PKR		
2-94	II+III	3250g 15% B.S	PKR & plug		
12-16-99	III	2500g 15% HCL B.S.	PKR 4244-4280		

OPT

DATA AVAILABLE OST ☐ CORE ☐ PVT ☐ OTHER

REMARKS:

CTJ 12-17-99

DATE: 2-13-01 BP

WELL SCHEMATIC
NORTH HOBBS G/SA UNIT
30-313
(Texaco, HD McKinley #10)

API # 30-025-32700

LOCATION: 405 FNL , 2272 FEL UNIT: E COUNTY: LEA
SECTION: 30 TOWNSHIP 18S RANGE: 38E

DATUM: GL ELEV.: 3657 TD: 6047 PBTD: 4065

CASING RECORD

SIZE	WEIGHT	DEPTH	CMT (SXS)	TOC
13-3/8	48	382	400	Circ
8-5/8	24 & 32	3849	1256	600 TS
5-1/2	15.5	6047	570	1500 TS

LOGGING RECORD

DATE	COMPANY	TYPE	INTERVAL

LOG TOPS:

ZONE	TOP	SUBSEA	GOC	OWC
Grybrg	3795	-138		
SA 1	4046			
SA 2	4114			
SA 3	4188			

PERFORATIONS:

DATE:	ZONE:		DEPTHS	DENS & NO.
11/69	Blinebry	** **	5805, 6, 8, 16, 51, 53, 71, 86, 90, 5908, 16, 19, 24, 51	2 JSPF
11/69	"	** **	5871, 86, 90, 5908, 16, 19, 24, 51	
2/10/94	SA		4114, 18, 28, 33, 37, 50, 53, 56, 60, 79, 90, 93, 97, 4202, 6, 11, 14, 17, 28, 30, 33	2 JSPF

** Currently Not Open

11/17/99

SQUEEZE & REPAIRS	DATE	DEPTH	WORK DONE
	11/69	5805-5951	Sqz'd
	1/88	5835	Set CIBP at 5835 (leaked and set second plug)
	2/94	4410	Set CIBP w/ 35' cmt on top, P&A Blinebry perfs
	12/98	4065	Set CIBP, TA'd San Andres

STIMULATION:

DATE	ZONE	AMOUNT & TYPE	BEFORE	AFTER
11/69	Blinebry	AT w/ 7000g 15%	New	67+136+3
1/82	"	AT w/ 2000g 15% + BS		
2/94	San Andres	AT w/ 3250g + BS in 4 Pkr/Plug stages	New	50+946+35

COMMENTS:

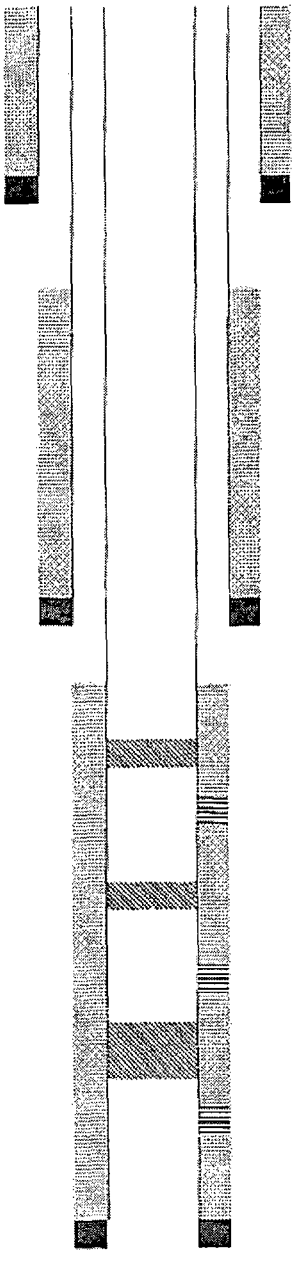
WELL SCHEMATIC - NHU 30-313

SPUD:11/69 OPT:

GL:3657
DATUM:

13-3/8"
382'
TOC: Circ.

8-5/8"
24&32#
3849'
1256 sxs
TOC: 600 TS



CIBP @ 4065

Perfs 4114-4233

CIBP @ 4410

Perfs 5805-16

Two CIBP + 35' cmt at 5835'

Perfs 5851 - 5951

5-1/2"
15.5#
6047'
570sxs
TOC: 1500 TS

PBTD:4065
TD:6047'

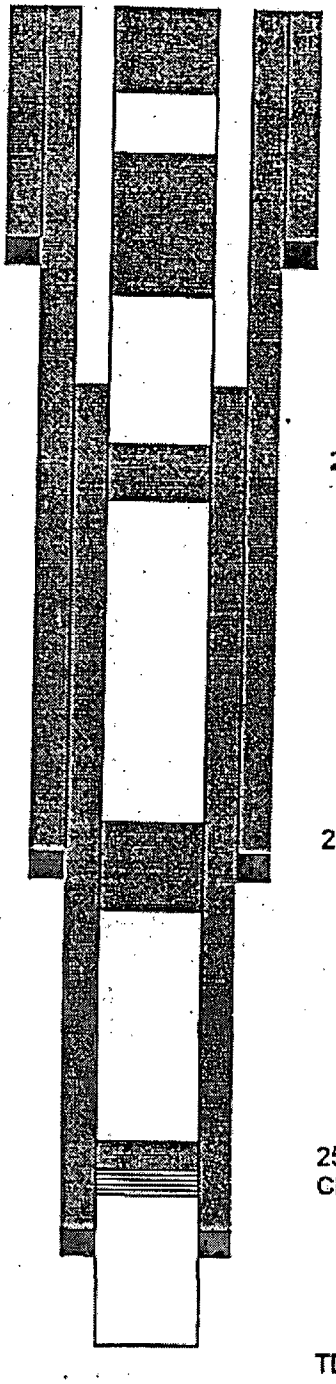
NHU 30-342
(Formally Bowers Fed. A #8)
Humble
Unit O, 440 FSL & 2320 FEL
Sec 30, T-18-S, R-38-E

P&A'd: 4/27/99
DATUM:3654 df

Size: 12-1/2"
Weight: 50#
Depth: 220'
Hole Size: 18"
Cmt: 210 sxs
TOC: Circ.

Size: 9-5/8"
Weight: 36#
Depth: 2750'
Hole Size: 12"
Cmt: 650 sxs
TOC: Circ.

Size: 7"
Weight: 26#
Depth: 3974'
Hole Size: 8-3/4"
Cmt: 300 sxs
TOC: 1144 CBL



10 sxs cmt plug 3-60'

35 sxs cmt plug 97-306'

25 sxs cmt plug, 1546-1713'

25 sxs cmt plug, 2696-2825'

25 sxs cmt plug 3676-3825'
CIBP w/ cmt @ 3825'

TD: 4268'

05/16/00

SWEP-0698E

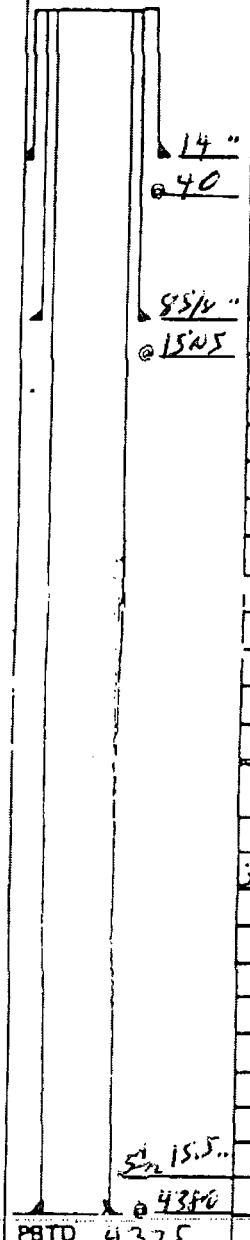
COMPLETION DATE _____ NHLC 30-621 COMPLETION INTERNAL: _____

RECOMPLETION DATE 3-27-01

LOCATION 927' FNL & 2158' FWL SECTION 30 BLOCK C

SURVEY T-18-S & R-38-E COUNTY Lea

DATUM 3666.90 [11.92] G.L. ELEV. 3655 TD 4380 PBTD 4325



CASING RECORD *CALCULATED AT 50% EFFICIENCY

SIZE	WT.	DEPTH	CMT.	TOC	HOLE SIZE
14	Cond	40'			
8 5/8	24#	1505	850sk	Circ	
5½	15.5	4380	1100sk	Circ	7 7/8

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
3-22-01	Sul	CBL & GR	

LOG TOPS

ZONE	TOP	SUBSEA
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
3-23-01	☐☐☐	4130-34, 38-42, 47-52, 60-64,	4 JSPF
		93-99, 4001-03, 14-24, 32-38,	
		46-60, 66-76, 86-98	

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE

STIMULATION

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
3-23-01	☐☐☐	4000g 15% HCL NEFE	18 spaced (4130-4298)		

OPT

DATA AVAILABLE OST ☐ CORE ☐ PVT ☐ OTHER ☐

REMARKS: Recd

DATE

6-25-01 BP

SWEP-0698E

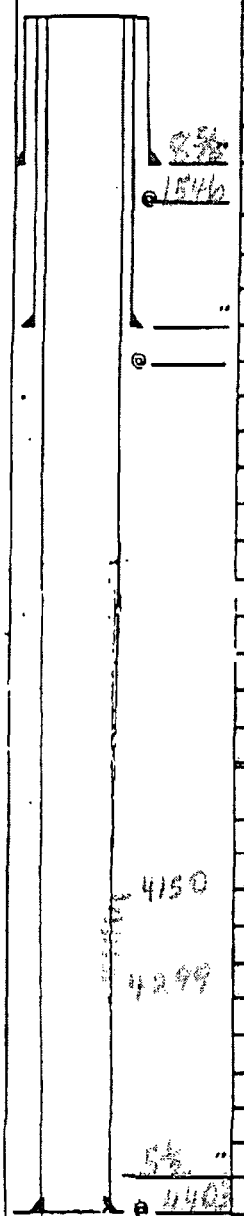
COMPLETION DATE 7-5-00 NM 30 713 COMPLETION INTERNAL: 4150-4299

RECOMPLETION DATE

LOCATION 1196' FNL & 1823' FEL SECTION 30 BLOCK B

SURVEY T-18-S R-38-E COUNTY Lea

DATUM 3667 [ ] G.L. ELEV. 3657 TD 4403 PBTD 4341 [ ]



CASING RECORD *CALCULATED AT 50% EFFICIENCY

SIZE	WT.	DEPTH	CMT.	TOC	HOLE SIZE
8 5/8	24#	1546	700 sks	Circ	12 1/4
5 1/2	15.5#	4403	900 sks	Circ	7 7/8

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
6-30-00	HLS	CNL-GR	3300-4338

LOG TOPS

ZONE	TOP	SUBSEA
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
6-29-00	TD	4150-4299 (280 holes)	4 SPF

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE

STIMULATION

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
6-30-00	TD	3000 gal 15% HCl NEFE	P.P.I		

OPT

DATA AVAILABLE DST ☐ CORE ☐ PVT ☐ OTHER ☐

REMARKS: Plug 3?? ??? 3950-3974'

DATE: 2-20-01 BP

WR-3198 B

4030'-60'

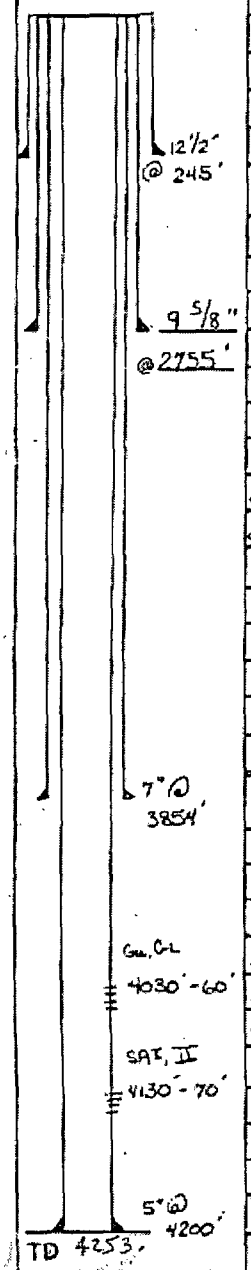
COMPLETION DATE 7-30 — NHU SECTION 30 #321 — COMPLETION INTERNAL: 4130'-4176'

RECOMPLETION DATE 7-54 — GETTY MCKINLEY #1

LOCATION 2310' FNL & 2310' FEL — SECTION 30 G — BLOCK

SURVEY T-18-S, R-38-E — COUNTY LEA COUNTY, N.M.

DATUM 3654' [GL] G.L. ELEV. 3654' — TD 4200' — PBTD 4200' [ ]



CASING RECORD *CALCULATED AT 50% EFFICIENCY

SIZE	WT.	DEPTH	CMT.	TOC	HOLE SIZE
12 1/2"	50#	245'	200 SX	CIRC *	16" **
9 5/8"	36 #	2755'	600 SX	553 *	11 3/4" **
7"	24 #	3854'	250 SX	2342 *	8 3/4" **
5"		4200'	405 SX	CIRC CBL	7" **

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
9-53	LANE	GR-N	4201'-SURF.
1-14-81	SWS	CBL	3983'-SURF

LOG TOPS

ZONE	TOP	SUBSEA
BYERS	3580'	+74'
GRYBRG	3775'	-121
Gu	3930'	-276
GL	4045'	-391
SA I	4066'	-412
SA II	4133'	-479
SA III, L	4181'	-527
SA III, L		
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
7-30		* 3854'-4200'	OH
9-53	Gu I, II	4130-70', 4030-60' *	280 HOLES
5-88	SA II, III	~~4144~~ -46, 50, 52, 66, 68, 74, 79, 84, 88, 91, 96	2 JSPF

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
9-53	2800'	SQZ'D HOLE IN 7" CSG W/1325 SX CMT
4-20-88	4030-4130	SQZ'D PERFS W/150 SXS CMT

STIMULATION

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
5-29-81		SCALE TREATMENT			
8-84	G, 1, 2	DUMP 1,000 g 15% HCL			
4-89	OH	500g 15% HCL	½ - 1 BPM @ 500 PSI	72,720	
4-89	SA II, III	2000G 15% HCL + 1000#125	4 BPM @ 500 PSI	72,720	
5-10-88	[illegible]	[illegible]	AT [illegible]		

OPT

DATA AVAILABLE DST ☐ CORE ☐ PVT ☐ OTHER ☐

REMARKS: 9-53: RAN & CMT'D 5" CSG., 8-20-80; SCALE TREATMENT

SW

DATE:

30-025-11212

1529 WZ 11F

WR-3198 C

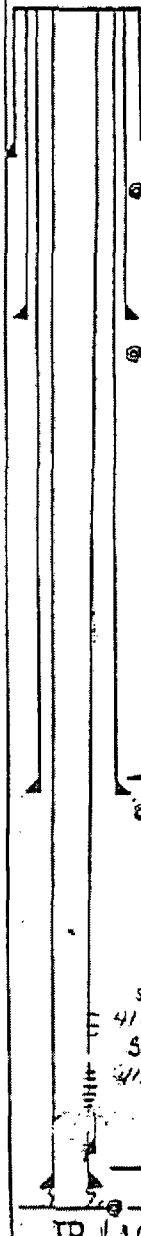
1-3

COMPLETION DATE 7-30 NHI SECTION 30 #231 COMPLETION INTERNAL: 4136 - 4188 SA II
RECOMPLETION DATE _____ (MARATHON STATE SEC. 30 # 1)

LOCATION 2310' FSL & 2310' FWL SECTION 30-K BLOCK _____

SURVEY T-18-S, R-38-E COUNTY Lea County, N.M.

DATUM 3662' [DF] G.L. ELEV. _____ TD 4209' PBTD 4256'



CASING RECORD *CALCULATED AT 50% EFFICIENCY

SIZE	WT.	DEPTH	CMT.	TOC	HOLE SIZE
20"	90#	215'	75 sx	67*	22"**
9 5/8"	40#	2750'	400 sx	1589*	12¼"**
7"	24#	3930'	550 sx	604*	8¾"**
5"	15#	4200'	60 sx	3193' CBL	6¼"**

NON-API CSG., X-LINE : 9.405 ID wt 4.151 ID DRIFT

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
12-58	Lane Wells	GR-CCL	PBTD-3700'
		GR-N	TD-surf.

LOG TOPS

ZONE	TOP	SUBSEA
Anhy	1443'	
T. Salt	1576'	
B. Salt	2500'	
Bowers	3204'	
G	3916	-254
SA I	4040	-378
SA II	4110	-448
SA III u	4180	-518
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
7-30		*3930-4205'	OH
12-30-58		*4166-90'	4 ISPF
1-8-59	SA II	*4134-60'	4 JSPF
5-3-88	SA II, III u	4170, 72, 75, 80, 85, 88	2 JSPF
11-3-88	SA II	4136, 38, 40, 42, 43, 47, 50, 55, 57	SP 2 JSPF
4-89	SA I	4119, 20, 21, 22, 23	2 JSPF

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
12-58		Repaired leaks in 7" csg from 943-55' by perfing & sqzing w/225 sx cmt.
1-6-59	4166-90	CIC.R. set @ 4162'; sqz'd. w/150 sx cmT.
8-10-91	4032-4210	Squeeze w/ 150 sxs

STIMULATION

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
1-2-59		500g. mud acid	AT 4166-90'		
1-9-59	SA II	500g. mud acid	AT 4134-60'		
5-14-67	SA II	1200g. 15% ME	AT 4134-60'		74/24
4-11-83	SA II	Hot Caustic treat 75 BBls			
11-1-85	SA II	5000G + 900# R.S. (3576s.)	AT	80,35.1	120,46 F
11-29-85	SA II	2206 Exton 7647	SS DOWN ANN.		
11-9-88	SAS III	4000G 3 BPM HCL 1400# RS	Divert Job	27,270	
4-3-88	SA II	2950 G, 15% HCL ON 4	200 - 4256	26,156	
5-4-88	SA II	1000 G, 500# RS		26,056	
4-6-89	SA I	4000G 1200# RS 15% HCL		36,353	
8-16-91	III	4000 G 15% HCL w/1800# R.S.	Pan		

OPT 1/10/59: Flwd. 46 BO + 0 BW (3 hrs.)

DATA AVAILABLE DST ☐ CORE ☐ PVT ☐ OTHER ☐

REMARKS: Ran 5" csg. 12/58. Installed beam pumping unit 10/75.
Scalloped pin collar @ 4120', SN @ 4119' (5-14-67)
7/91 T+A CIBP set @ 4040' w/35' cement

DATE: 5/89

30

WR-3198 C

2-2

COMPLETION DATE 7-30 NHI SECTION 30 #231 COMPLETION INTERNAL: 4134-60' SA II
RECOMPLETION DATE _____ (MARATHON STATE SEC. 30 # 1)

LOCATION 2310' FSL & 2310' FWL SECTION 30-K BLOCK _____

SURVEY T-18-S, R-38-E COUNTY Lee County, N.M.

DATUM 3662' [DF] G.L. ELEV. _____ TD 4256' PBTD 4256' [

CASING RECORD *CALCULATED AT 50% EFFICIENCY						LOGGING RECORD			
SIZE	WT.	DEPTH	CMT.	TOC	HOLE SIZE	DATE	CO.	TYPE	INTERVAL
20"	90#	215'	75 sx	67*	22"+	12-58	Lane Wells	GR-CCL	PBTD-3700
9 5/8"	40#	2750'	400 sx	1589*	12¼"+			GR-N	TD-Surf.
7"	24#	3930'	550 sx	604*	8¾"+				
5"	15#	4200'	60 sx	3198' (TS)	6¼"+				
NON-API CSG., X-LINE: 4.405 ID or 4.151 ID DRIFT									

20" @ 215'
9 5/8" @ 2750'
7" @ 3930'
5" @ 4200'
TD 4256'
4119'-23'

LOG TOPS			PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW			
ZONE	TOP	SUBSEA	DATE	ZONE	DEPTHS	DENS & SIZE
Anhy	1443'		7-30		(3930-4205')	OH
T. Salt	1576'		12-30-58	II	(4116-90') - barely showed oil	4 JSPF
B. Salt	2500'		1-8-59	SA II	(4134-60')*	4 JSPF
Bowers	3204'		3/89	III	4200-56 Deepen	OH
G	3916	-254	5/88	II	4170-88 (57,58)	2 JSPF
SA I	4040	-378	11/88	II	4136,38,40,42,43,47,50,55	2 JSPF
SA II	4110	-448	4/89	II	4119-23	2 JSPF
SA III u	4180	-518	DATE	DEPTH	WORK DONE	
			12-58		Repaired leaks in 7" csg from 943-55' by perfing & sqzing w/225 sx cmt.	
			1-6-59	4166-90	C.C.R. set @ 4162'; sqz'd. w/150 sx cmt. 4116	
			3/89	4134-60	Sqz 100 sx C + 200 SCF N2	
GOC						
OWC						

STIMULATION					
DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTE
1-2-59		500g. mud acid	AT 4166-90' then sqz		
1-9-59	SA II	500g. mud acid	AT 4134-60'		
5-14-67	SA II	1200g. 15% ME	AT 4134-60'		74/2
4-11-83	SA II	Hot Caustic Treat 75 BBls	4134-60'		
11-1-85	SA II	5000G + 900# R.S. (35TGS.)	AT	80,35.1	120.Y
11-19-85	SA II	2206 Etson 7/97	SS DOWN ANN.		
3/88	III	2000 G 15%	AT OH 4200-56'	58,525	26,2
5/88	II, III	1000 G 15% + 500# RS	AT PFS 4170-88 and OH		
11/88	II, III	4000 G 15% w/RS	AT PFS & OH 4136-4256	27,270,0	
4/89	II, III	4000 G 15%	AT PFS 4136-88 and OH		
4/89	II	600 G 15%	AT PFS 4119-23	36,353 30	10,31

OPT 1/10/59: Flwd. 46 BO + 0 BW (3 hrs.)

DATA AVAILABLE DST ☐ CORE ☐ PVT ☐ OTHER

REMARKS: Rpr'd 5" csg. 12/58. Installed beam pumping unit 10/75.
SCALLOPED PIN COLLAR @ 4120', SN @ 4119' (5-14-67)

2-13-01 BY DATE:

SWEP-0698E

9-3-

COMPLETION DATE 7-30 NMLC 30-231 COMPLETION INTERNAL:

RECOMPLETION DATE

LOCATION 2310 FSL & 2310 FWL SECTION 30 BLOCK K

SURVEY T-15-S & R-38-E COUNTY LEA

DATUM 3662 | | G.L. ELEV. TD 4209 PBTD 4045 |

CASING RECORD *CALCULATED AT 50% EFFICIENCY

SIZE	WT.	DEPTH	CMT.	TOC	HOLE SIZE

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
10-26-01	PAT	Prod Survey	3900-4045

LOG TOPS

ZONE	TOP	SUBSEA
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
10-23-01		3920-36 33 holes	2 JSPF

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE

STIMULATION

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
10-23-01	G-B	1500 gal 15% HCl	PKR (3920-36)		
10-24-01	G-B	45000 gal 2nd stage	PKR Frac		

Cmt 4 sqz's

PBTD

OPT

DATA AVAILABLE OST ☐ CORE ☐ PVT ☐ OTHER ☐

REMARKS: 10-26-01 - Ran 124 jts 2 7/8" 6.4# J-55 EUE 8rd tbg, SN @ 4045', 1 jt 2 7/8" 6.4# J-55 EUE 8rd tbg, 5 1/2" x 2 7/8" TAC @ 3875'. 15-18" 76-6 pmp

Note: Csgs Used: 8 5/8" 24# J-55 ST&C @ 1405' CD w/ 650 sx Cl C. Circ 150 sx to pit. 7 7/8" hole to 4209' TD. 5 1/2" 15.5# J-55 LT&C @ 4209' CD w/ 1000 sx Cl C. Circ 150 sx to pit.

DATE 7-1-02

BF

WR-3198 C

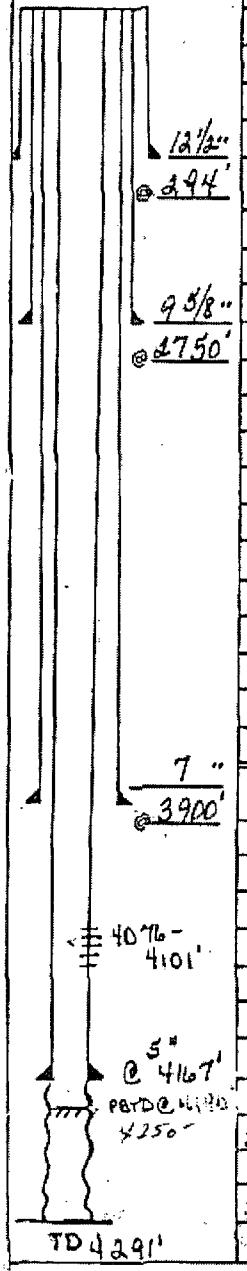
COMPLETION DATE 9-30 — NHU SECTION 30 #241 (MARATHON STATE SEC 30 #2) — COMPLETION INTERNAL: 4167-90' Grayburg

RECOMPLETION DATE ____

LOCATION 440' FSL & 2310' FWL — SECTION 30-N — BLOCK ____

SURVEY T-18-S, R-38-E — COUNTY Lea County, N.M.

DATUM 3669' [DF] G.L. ELEV. 3660' — TD 4291' (3s?) — PBTD 4190' [ ]



CASING RECORD *CALCULATED AT 50% EFFICIENCY

SIZE	WT.	DEPTH	CMT.	TOC	HOLE SIZE
12½"	50#	294'	275 sx	Circ.	16" **
9 5/8"	40#	2750'	550 sx	1154*	12¼"**
7"	24#	3900'	275 sx	2237*	8¾"**
5"	15,18#	4167'	60 sx	3360*	6¼"**

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
8-61	Welex	GR-N	
1-15-81	SWS	CBL	3990'-SURF

LOG TOPS

ZONE	TOP	SUBSEA
GU	3938	-269
GL	4095	-426
SA	4109	-440
D	4159	-490
TU	4222	-553
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
7-30	G-SA	*3928-4230'	OH
4-3-58		*4158'	4 JSPF
4-7-58		*4118-38'	4 JSPF
7-27-61		*4118-28'	4 JSPF
8-2-61	G	4076-80, 91-93, 99-4101'	4 JSPF
7-30-91	G	3951-58 [illegible]	2 JSPF

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
1949	4168-4230'	PB OH TD 4168' w/25 sx cmt.; formation pkr. set @ 4113'; 3928-4113' produced water-free for approx. 1 yr.
3-58		Set BP @ 3800 to test 7" csg. for leaks; perf'd @ 2800' & sq'd 300 sx cmt; perf'd @ 350' & sq'd w/150 sx

STIMULATION

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
4-9-58	G-SA	750g. XLST	AT 4118-38' @ 2.8 BPM		
8-3-61		500g. 15% MEC	AT 4076-4101' @ 2.5 BPM		
8-8-61		8000g. 15%	AT 4076-4101' w/ball seal.		wo/3
12-28-65		1000g. 15%; 20,000g. gelled brine + 34,000# 20-40 mesh sd	FRAC 4076-4101'		47/38
11-2-71					
11-2-71		2000g. 15% Unisol	AT 4076-4101' w/diverT	14	FLOWED 67/8
1-16-81	G	200g 20% KCl w/INHIBITOR	SCALE TREAT	—	—
8-5-88		3500g HCl + 2400# RS	AT 4167-4250 + OH	33, 214, 130	
8-1-88	G	900 g HCl + 500 #RS	AT 4115-4108		
2-20-90	G	[illegible]			
7-30-91	G	7500-15000 gal [illegible]	[illegible]		

OPT

DATA AVAILABLE DST ☐ CORE ☐ PVT ☐ OTHER ☐

REMARKS: 4|11|58: Ran 5" csg., perf'd & installed A.L. SN@ 4152 - 1/81
5|59: Discovered tbg. leak; replaced tbg. & put back on pump.
5|72: Drld. out cmt. from 4107-4190' (new PBTD).

DATE 4-30-92 ~~2-27-91~~

WR-3198 C

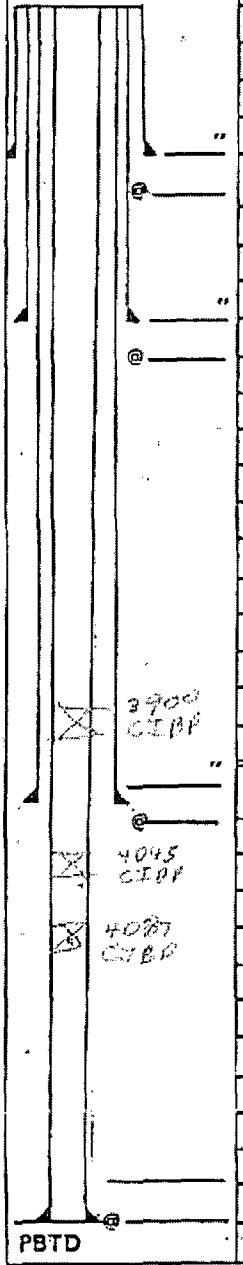
COMPLETION DATE _____ NHU SECTION 30 #241 COMPLETION INTERNAL: _____

RECOMPLETION DATE _____ (MARATHON STATE SEC. 30 #2)

LOCATION _____ SECTION _____ BLOCK _____

SURVEY _____ COUNTY _____

DATUM _____ [ ] G.L. ELEV. _____ TD _____ PBTD _____ [ ]]



CASING RECORD *CALCULATED AT 50% EFFICIENCY

SIZE	WT.	DEPTH	CMT.	TOC	HOLE SIZE

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL

LOG TOPS

ZONE	TOP	SUBSEA
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
4-11-95	Tan	3716, 48, 71, 73, 75, 77, 85, 90, 92	1 JSPF
		Hond. 03, 05, 07, 09, 11, 13	

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
4-3-58	4158'	Set C.R.@ 4150' & sqz'd. 100 sx cmt.
7-25-61	4118-38	Sqz'd. w/123 sx cmt. (C.R.@ 4099')
7-31-61	4118-28	CICR @ 4109', sqz'd. w/50 sx cmt.

STIMULATION

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
4-11-95	Tan	650g 20% NEFE	Pmp 5 BPM @ 4000 psi		

OPT

DATA AVAILABLE DST ☐ CORE ☐ PVT ☐ OTHER

REMARKS:

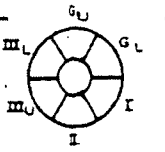
DATE: 3-13-CIBP

WR-3198 B

COMPLETION DATE 9/30
RECOMPLETION DATE

NM 30-331
EXXON BOWERS A. FED #2

COMPLETION INTERNAL:



LOCATION 2335' FSL & 2310' FEL SECTION 30-J SAT

SURVEY T 18S R 33E COUNTY LEA CO NM

DATUM 3651 [DF] G.L. ELEV. TD 4733 PBTD 4220 [ ]

CASING RECORD *CALCULATED AT 50% EFFICIENCY						LOGGING RECORD			
SIZE	WT.	DEPTH	CMT.	TOC	HOLE SIZE	DATE	CO.	TYPE	INTERVAL

LOG TOPS			PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW			
ZONE	TOP	SUBSEA	DATE	ZONE	DEPTHS	DENS & SIZE
			9-16-59	TTHU	4145-60 (32 holes)	2 JSPF
			SQUEEZE & REPAIR			
			DATE	DEPTH	WORK DONE	
			11/28/86	4010-4160	500 SX W/ 100 SX C w/ 2% CaCl2 + 1.5 % [illegible]	
					+ 0.75 HC-2 W/ 300 SX CLASS H. Followed by 250 SX	
					C W/ 2% CaCl2	
GOC						
OWC						

STIMULATION

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER

TD

OPT

DATA AVAILABLE DST ☐ CORE ☐ PVT ☐ OTHER ☐

REMARKS: ZONE TEST G + SA L - Dofluid to get test (1/86). (12/86) During CO, recovered junk in bottom of hole

2-14-01 BP

DATE: 1/21/87 Dm

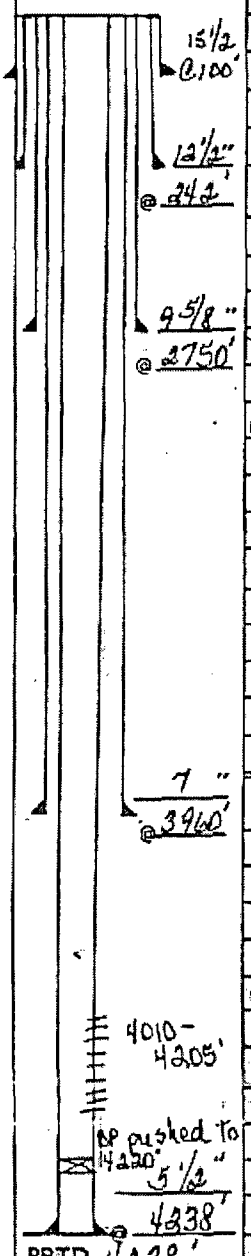
WR-3198 C

COMPLETION DATE 9-30 NHU SECTION 30 # 331 COMPLETION INTERNAL. ?
RECOMPLETION DATE _____ (EXXON BOWERS A FED. # 2)

LOCATION 2335' FSL & 2310' FEL SECTION 30-J BLOCK _____

SURVEY T-18-S, R-38-E COUNTY Lea County, N.M.

DATUM 3654' [DF] G.L. ELEV. _____ TD 4238' PBTD 4220 [BP]]



CASING RECORD *CALCULATED AT 50% EFFICIENCY

SIZE	WT.	DEPTH	CMT.	TOC	HOLE SIZE
15½"	70 #	100'	NC		18"
12½"	50 #	442'	225 SX	Circ.	15"
9 5/8"	36 #	2750'	650 SX	1000*	12"
7"	26 #	3960'	300 SX	Circ.	8 3/4"
5½"	15.5#	4238'	305 SX	3650/CBL	6 1/8"

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
9-30-30		CBL	3950' SURF
12-86		Neutron	
9/29/86	CAMCO	V-FLOW	

LOG TOPS

ZONE	TOP	SUBSEA
YATES		
7 RIVERS		
BOWERS		
QUEEN		
GRAYB	3904	-250 EST
GL	4007	-353 EST
SA	4130 EST	-376 EST
II	4181 EST	-427 EST
IIIu	4172 EST	-512 EST
IIIL		
GOC		
OWC	4263	-614

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
9-30		*3960-4208'	OH
9-47		*(4010-45, 68-92, 4108-60)	4 SPF
		70-75, 82-4205'	
12/6/86	3081	4170-75', 82-4205', 4215-25'	
3/11/88	GRAYB II	4014, 16, 18, 20, 22, 24, 26, 28, 30, 32	2 JSPF
		4118, 20, 26, 28, 29, 32, 38	

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
9-47		7" csg. leak, around 1500' repaired w/275 sx cmt.
8-53		5½" csg. leak 3676-78' repaired w/290 sx cmt. (To eliminate oil entering surf. csg.)
7-75		Set Halib. R-4 pkr. @ 4m', RBP @ 4165'

STIMULATION

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
3-14-38		1000g.	3960-4208'		
12/8/86	3081	1000g 15% HCl + 500 # RS	AT W/ RP		
3/89					
[illegible]		[illegible]	[illegible]		
3/22/88		3000g 15% HCl + 4000# RS	AT (4100-4325') PKR		
[illegible]		[illegible]	[illegible]		
3/1/89		2000g 15% HCl w/ 2150#	AT PKR & RBP		

OPT

DATA AVAILABLE DST ☐ CORE ☐ PVT ☐ OTHER ☐

REMARKS: Installed A.L. 8/75.
7/75: Recovered RBP @ 4165' & set permanent BP @ 4100' - pushed to 4220' 1/21/87 pm
3/77 when Reda pump was installed. DATE: 4/80 KMM
Further plans were to squeeze off wtr. & repert. oil zones; status unknown.

30

WR-3198 A

COMPLETION DATE 1-70 — NHU SECTION 30 # 412 (BETTY McKINLEY # 11) — COMPLETION INTERNAL: 4009-83' (G)

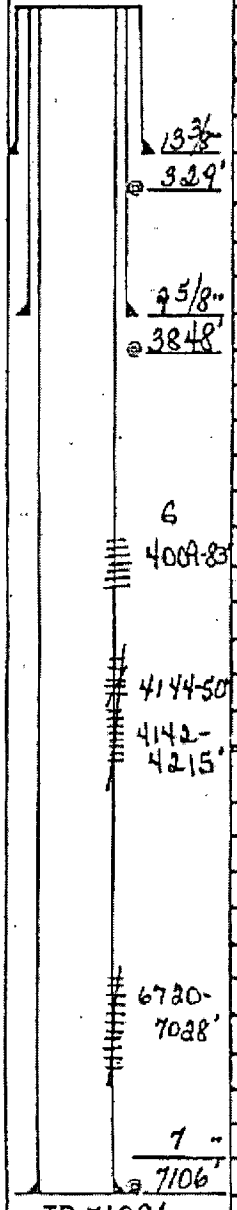
RECOMPLETION DATE

LOCATION 760' FNL & 550' FEL — SECTION 30-A — BLOCK

SURVEY T-18-S, R-38-E — COUNTY Lea County, N.M.

DATUM 3650' [GR] G.L. ELEV. — TD 7108' — PBTD 4163' - 2[ ]

3659 STRUCTURE MAP DATUM



CASING RECORD *CALCULATED AT 50% EFFICIENCY

SIZE	WT.	DEPTH	CMT.	TOC	HOLE SIZE
13 3/8"	48#	329'	400sx	Circ	17 1/2"
9 5/8"	40#	3848'	1200sx	75'	12 1/4"
7"	23,26#	7106'	865sx	Circ	8 3/4"

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
1-70		GR-Sonic,	
		Dual Ind. Lat.	
		Microlog	
7/86	CASED	Prod Log	

LOG TOPS

ZONE	TOP	SUBSEA
Gu	3962	-303
GL	4062	-403
SAN	4080	-421
II	4138	-479
IIIu	4213	-554
IIIL	4336	-677

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
1-70		*6720,29,31,54,56,78,80, 6917,18,30,38,39, 7024,25,26,27,28	
5-72		*4142-50,63-64,67-73,98-4201,13-15'	26 holes
5-72		*4144-50'	7 JS

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
5-72		Set BPA 4450'
5-72	4142-4215	Sqz'd. w/200 sx cmt.
5-72	4144-50	Sqz'd. w/100 sx cmt.

STIMULATION

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
1-70		1000g. 15% NEA	AT 7024-28'		
1-70		1500g. 15% NEA	AT 6720-7028'		183/0
5-72		2000g. 15% NEA-FE	AT 4142-4215'		Dry
5-72		250g. 15% NEA-FE	AT 4144-50'		Dry
5-72		1500g. 15% NEA-FE	AT 4009-57'		Dry
5-72		1000g. 15% NEA-FE	AT 4009-83'		Dry
5-72		10000g. lc. oil + 17,500# sd.	FRAC 4009-83'		
5-72		500g. 15% NEA-FE	AT 4009-83'		

OPT

DATA AVAILABLE DST ☐ CORE ☐ PVT ☐ OTHER ☐

REMARKS:

DATE: ~~5-80 Ltr~~

2 attached Ltr 1/21/87 PSH

WR-3198A

COMPLETION DATE _____ NHU SECTION 30 #412 COMPLETION INTERNAL: _____
RECOMPLETION DATE _____ (BETTY McKINLEY #11)

LOCATION _____ SECTION _____ BLOCK _____

SURVEY _____ COUNTY _____

DATUM _____ [ ] G.L. ELEV. _____ TD _____ PBTD _____ [ ]

CASING RECORD *CALCULATED AT 50% EFFICIENCY

SIZE	WT.	DEPTH	CMT.	TOC	HOLE SIZE

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
8-6-85	Swsco	CBL/VDL/GR/CCL	3957 - surf.
7/86	Cased	Prod Log	

LOG TOPS

ZONE	TOP	SUBSEA
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
5-72	G	4009, 23, 38, 35, 48, 57	1 JSPF
5-72	B	4061, 62, 67, 71, 82, 83	1 JSPF
8/7/85	SAII, III	4201, 03, 06, 08, 14, 17, 23, 27, 32, 39	1 JSPF
		4246, 50, 54, 59, 61	

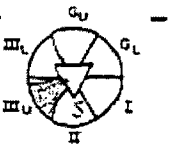
SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
7-85	4500	Cleaned out to 4500
8-5-85	4457	Set CIBP dumped 2 sx cmt on top
8-12-85	4300	Set CIBP

STIMULATION

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
8-12-85	SAII, III	3000 G 15% HCL NEFE	AT-2 Ball sealers	16/2/216	71/171/231
8-26-86	"	500 g XYLENE & CIRC 24 HRS			

WR-3198-B

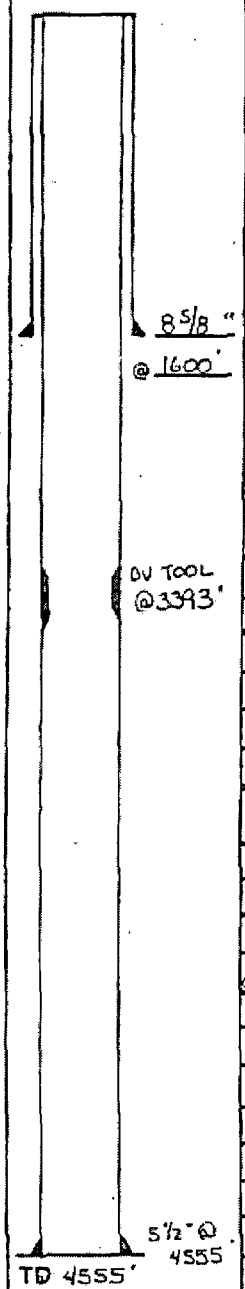
COMPLETION DATE _____ NO HOBBS (G/SA) UN #30-232 WI COMPLETION INTERNAL: 

CONVERTED TO INJ DATE _____

LOCATION 1400' FSL & 1370' FWL SECTION 30 SAT 25

SURVEY T-18-S, R-38-E COUNTY LEA CO, NEW MEXICO

DATUM 3659' [KB] G.L. ELEV. 3650' TD 4555' PBTD 4519' FC



CASING RECORD *CALCULATED AT 50% EFFICIENCY

SIZE	WT.	DEPTH	CMT.	TOC	HOLE SIZE
16"	COND	40'	40 SX	CIRC	
8 5/8"	24#	1600'	875 SX	CIRC	
5 ½"	14#	4555'	1155 SX	2614' CBL	

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
12/80	SWS	SONIC, SNP	
		DLL, MSFL	
3/81	SWS	CBL	
11/86	DRESS	VERILOG	2390-4390'

LOG TOPS

ZONE	TOP	SUBSEA
YATES	2666'	993'
7 RVRS	2908'	751'
BOWERS	3205'	454'
QUEEN	3423'	236'
GU	3937'	-278'
GL	4011'	-352'
SA I	4082'	-423'
SA II	4152'	-493'
SA IIIu	4218'	-559'
SA IIIL	4335'	-676'
GOC		
OWC		614'

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
10-81	II, IIIu	4170-78, 86-94, 4218-25, 50-54'	2 JSPF
		4262-66, 90-96, 4304-10'	
11/21/86		4218-25', 4250-54', 62-66'	2
		4290 - 4310	2
11/24/86	TT	4138-46, 54-58, 4206-09, 28-30,	2 JSPF
		72-74'	

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
11/7/86	4170-94	SQZ W/ 500 SX C w/ 2% CaCl2, Communicated
		behind pipe w/ other perfs

STIMULATION

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
10-81	II, IIIu	5,600g 15% HCL	AT w/ SPA		
6-5-84	II, IIIu	DUMP 1,000g 15% HCL		1343/16" 323 1/2"	
6-27-85	3 I	2000 G 15% HCL-NEA	AT I	2194/16"	
11/24/86	30	3600g/15% HCl + TSD + RS	AT w/ RP		

OPT

DATA AVAILABLE DST ☐ CORE ☐ PVT ☐ OTHER ☐

REMARKS: 3-81: DRILLED DV TOOL

- INJECTION EQUIPMENT ON BACK -

4/27/87 PM

2-13-81 BP

DATE: 9/84 JOP

NORTH HOBBS #30-111
(AMERADA MCKINLEY #1)

COMPLETION DATE: 7/30

RECOMPLETION DATE:

LOCATION: 330' FNL & 330' FWL SECTION: 30-D SATELLITE: 25

SURVEY: T-18-S R-38-E COUNTY: LEA COUNTY, NEW MEXICO

DATUM: 3662' DF G.L. ELEV: 3650' TD: 4230' 4256' PBTD: 4200' ( )

* CALCULATED AT 50% EFFICIENCY

CASING RECORD

SIZE	WEIGHT	DEPTH	CMT.	TOC	HOLE SIZE
12 1/2"	50#	231'	250SX		
9 5/8"	40#	2755'	450SX	1700 *	
7"	24#	3851'	200SX	2836'CBL	
4 1/2"LNR	10.5#	3784-4229'	220SX	3784'	

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
4/77		GR-N,CALIPER, DUAL LATEROLOG SP	
9/19/83	SWS	CBL	4041-100

12 1/2" @ 231'

9 5/8" @ 2755'

TOL @ 3784'

7" @ 3851'

BOL @ 4 1/2" @ 4229'

TD: 4230'

LOGTOPS

ZONE	TOP	SUBSEA
TSALT	1590'	2082'
YATES	2684'	978'
7RIVERS	2922'	744'
BOWERS	3218'	448'
QUEEN	3440'	226'
BYERS	3616'	50'
GRYBRG	3802'	-140'
GU	3936'	-274'
GL	4040'	-378'
SAI	4040'	-378'
SAII	4135'	-473'
SAIIIU	4213'	-551'
GOC		
OWC	4262'	-602'

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
7/30	G,1,2,3U	*3851-4230	OH
5/11/77	1 *	4120-28	2 JSPF
5/11/77	2 *	4138-50,54-58,61-68	2 JSPF
5/9/83	SA I+II	4151,64,71,78,82,87,91,97,4207,14,22,26	2 JSPF
9/19/89	IA	*4081,83,88,89,92*	2 JSPF

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
7/84	2215'	Repair Csg leak.
1/88	4120-68	Sqz w/150 sx w/N2
9-9-89	4081-92	Sqz w/ 50 sx

STIMULATION (O,W,G)

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
3/2/34	G,1,2,3U	1000G	AT 3851'-4230'		
6/2/34	G,1,2,3U	2000G DOWELL XX	AT 3851'-4230'		
7/31/84	1,2	6,000G 15% HCL + 100 BS	AT 4120'-4168'		63,996,97
5/4/83	SA I+II	2000 G 15% HCL	AT 4151-4256		
9/18/89	IA	500 G 15% HCL	AT 4081-92		
10/6/89	IA	500 G 15% HCL	AT 4081-92	241 642 410	28 +516+ 92

SAI
4120'-4128'
SAII
4138'-50'
4154'-58'
4161'-68'

OPT

DATA AVAILABLE: DST CORE PVT OTHER

REMARKS: 5/77 - RAN 4 1/2" LNR. & PERF'D TEST BEFORE: 41,175 TEST AFTER: 80,213
8/84 - RAN SUBMERSIBLE 4/88 Deepened well to 4256'

DATE: 9/84 JOP

2-3-01

SWEP-0688E

2-of-2

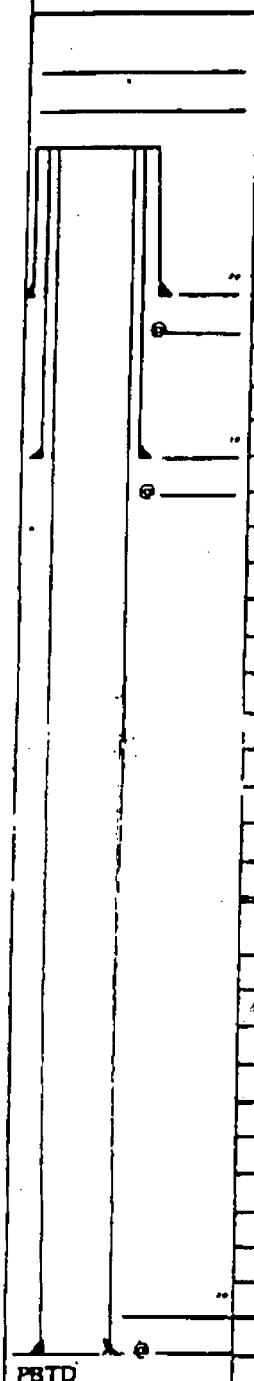
COMPLETION DATE _____ NHIC COMPLETION INTERNAL: _____

RECOMPLETION DATE _____ 10-11

LOCATION _____ SECTION _____ BLOCK _____

SURVEY _____ COUNTY _____

DATUM _____ [ ] G.L. ELEV. _____ TD _____ PBTD _____ [ ]



CASING RECORD *CALCULATED AT 50% EFFICIENCY

SIZE	WT.	DEPTH	CMT.	TOC	HOLE SIZE

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL

LOG TOPS

ZONE	TOP	SUBSEA
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
9-10-90	III	4042-46, 48-54, 58-64, 66-70	2 JSPF

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
11-9-00	3750'	7" CIBP

STIMULATION

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
9-10-90	III	w/ 180 g 15% wtr. HCL	PPI		

OPT

DATA AVAILABLE DST ☐ CORE ☐ PVT ☐ OTHER ☐

REMARKS: well TA - 11-9-2000

DATE:

2-2-01 BP

WR-3198 B

COMPLETION DATE 1/24/85 North Hobbs #30-113 COMPLETION INTERNAL:

RECOMPLETION DATE

LOCATION 1310' FNL & 195' FWL SECTION 30 SAT 25

SURVEY T-18-S, R-38-E COUNTY Lea County New Mexico

DATUM 3672' [KB] G.L. ELEV. 3658' TD 4370' PBTD 4325'

CASING RECORD *CALCULATED AT 50% EFFICIENCY

SIZE	WT.	DEPTH	CMT.	TOC	HOLE SIZE
13 3/8"	Cond.	55'	Redimix	Circ	17½"
8 5/8"	24#	1495'	620 SX	circ.	
5½"	14#	4370'	990 SX	Circ	7 7/8"

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
1/6/85	Swsco	SNP/DLL-SFL	4343-360
1/6/85	"	RFT	
1/6/85	"	Sonic	4337-Surf
1/16/85	"	CBL/VDL/GR/CCL	4312-100'

LOG TOPS

ZONE	TOP	SUBSEA
SA I	4055'	-383
SA II	4136'	-464
SA IIIu	4216'	-544
SA IIIl	4296'	-624
GOC		
OWC	4286'	-614

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
1/23/85	SA II, IIIu	4157, 64, 75, 80, 85, 88, 96, 4210,	2 JSPF
		4224, 32, 47, 56, 65, 72, 85	
5/2/87		Reperf same as above	2 JSPF
8/89	I A	*4089, 90, 91, 92'	
9/4/90	I	*4042, 46-50, 58-65, 69-78'	2 JSPF

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
9-11-91	4042-4078	Sqzd w/ 500 sx

STIMULATION

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
1/24/85	SA II, IIIu	4500 G 15% HCl NEA	AT-1 Straddle PKR.	NWC	313/39/1
5/5/86	SA II, IIIu	Bump 500 G 15% HCl			
5/2/87		3000 G 15% HCl	AT		
8/89	I-A	800 G 15% HCl	AT		-
9/4/90	I	500 g 15% HCl	AT, PPI (4042-4078)		
9/5/90	II	Chem Sqz (w/ 15% HCl & Benzoic Acid Flakes + Gelled Brine Spacers)		(9/90	42 BO)
9/16/90	II+III	250 g (15% HCl + B.S.	AT PKR (4157'-4285')		

SA II 4157 – 4210

SA IIIu 4224' – 4285'

5½" 4370

TD 4370

OPT

DATA AVAILABLE DST ☐ CORE ☐ PVT ☐ OTHER ☐

REMARKS:

4/90 LKH

2-13-01 BP

DATE: 1-8-86 KK

NORTH HOBBS #30-121
(AMERADA MCKINLEY #4)

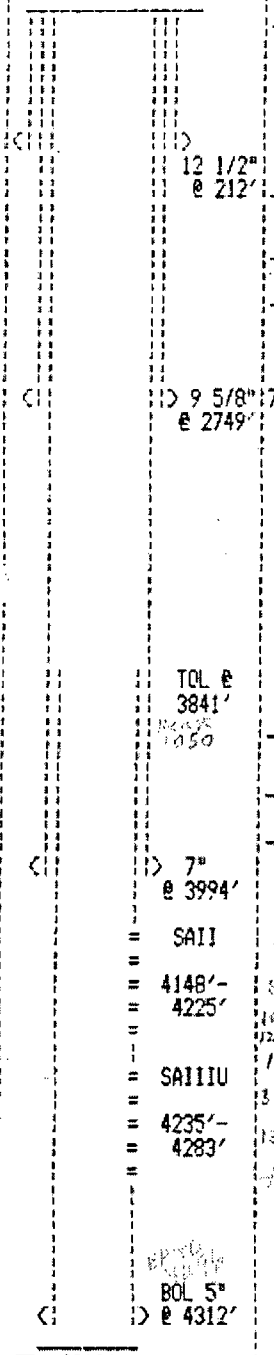
COMPLETION DATE: 9/30

RECOMPLETION DATE:

LOCATION: 2310' FNL & 330' FWL SECTION: 30-E SATELLITE: 25

SURVEY: T-18-S, R-38-E COUNTY: LEA COUNTY, NEW MEXICO

DATUM: 3662' DF G.L. ELEV: 3650 TD: 4312' PBTD: 4305' ( )



CASING RECORD (* CALCULATED AT 50% EFFICIENCY)

SIZE	WEIGHT	DEPTH	CMT.	TOC	HOLE SIZE
12 1/2"	50#	212'	200SX	CIRC*	16" **
9 5/8"	36#	2749'	400SX	1281'*	11 3/4"**
7"	24#	3994'	425SX	2738'CBL	8 3/4"**
5"	15#	3841-4312	40SX	SURF CBL	6 1/8"

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
4/73	SWS	GR-N-CCL/CALIP.	
		DLL	
3/25/81	SWS	CBL	3933-SURF
10/83	SWS	CBL/VDL/CCL/GR	4305-SURF

(* ESTIMATED DEPTH) LOGTOPS

ZONE	TOP	SUBSEA
ANHY	0	0
TSALT	0	0
YATES	0	0
7RIVERS	2925'	737'
BOWERS	3223'	439'
QUEEN	3446'	216'
BYERS	3618'	44'
GRYBRG	3900'	-138'
GU	3943'	-281'
GL	4031'	-369'
SAI	4046'	-384'
SAII	4144'	-482'
SAIIIU	4230'*	-568'
SAIIIL		
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
9/30	GU,GL,1,2	*3994-4198	OH
10/83	2,3U	4148,51,55,73,81,96,4206,16,20,25,35,40,	2 JSPF
		4246,57,72,79,83	
10,21,83		*4050-54,56,57,58	
10-29-83		*4051,54,56,57,58,62,63,64,66,69,70	
1-20-84		*4076,77,81,82,84	
03-9-89		*4078-81,82	
12-02-93		4042,44,46,48 OVER	

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
10/83	3994-4140	SQZ'D W/1500G HOWCO FLOCHEK + 45 SX CMT.
10/21/83	4110	CIBP (DRILLED OUT, 10/89)
8/2/94	4115'	CIBP (DRILLED OUT 3/00)
5/20/98	3900	CIBP (DRILLED OUT 3/00)
4/3/00	4052-4096	SQZ'D W/ 200SKS

STIMULATION (O,W,G)

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
3/02/34	GU,GL,1,2	1000G	AT 3994'-4198'		
12/13/67	GU,GL,1,2	5820 15% REG	AT 3994'-4198'		
10/22/83	2,3U	5100G 15% NEA-HCL	AT 4148'-4283'		
1/8/86	II,IIIU	5100g 15% NEFE HCl	AT W/ SPA	59/627/140	
3/10/88	SA 2,3	3000g 15% + RS	AT 4143-4283	55+640+73	53+698+35
10/21/88	SAII	1000g 15% + RS	AT 4050-58	53+700+50	3+4+10
12/29/88	SAI	1000g 15% + RS	AT 4050-70	3+4+10	
1/20/89	SAII	1800g 15 + RS	AT 4050-84	3+4+10	
3/10/89	SA II	400g 15	AT 4050-92	3+4+10	81+143+92
12/3/93	SA 1,2,3	1210g + SPA	AT 4050-4284		28+1395+20
4/3/00	2,3	4000 gal 15% HCL	AT 4198-4052		

OPT:

DATA AVAILABLE: DST CORE PVT OTHER

REMARKS: 3/3/68: I.A.L. 10/83: RAN 5' LINER + DEEPENED
8/29/84: RAN SUBMERSIBLE
10/89 - INSTALL RODS & PUMP
CTI 5"@15-18#, 3937-4312 perfs

DATE: ~~4/19/85 DYD~~ 1/21/87 PM

2-13-01 BP

R:

ZONE III

6-00 PERFORATOR 2JSPF 180°

(4160, 61, 62, 63, 64, 67, 68, 69, 70, 71, 72, 4200, 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 14, 15, 16, 17, 18, 19, 20, 21, 22, 32, 33, 34, 42, 43, 44, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 64, 65, 66, 67, 68, 69, 70, 71.)

NORTH HOBBS #30-211
(AMERADA MCKINLEY #3)

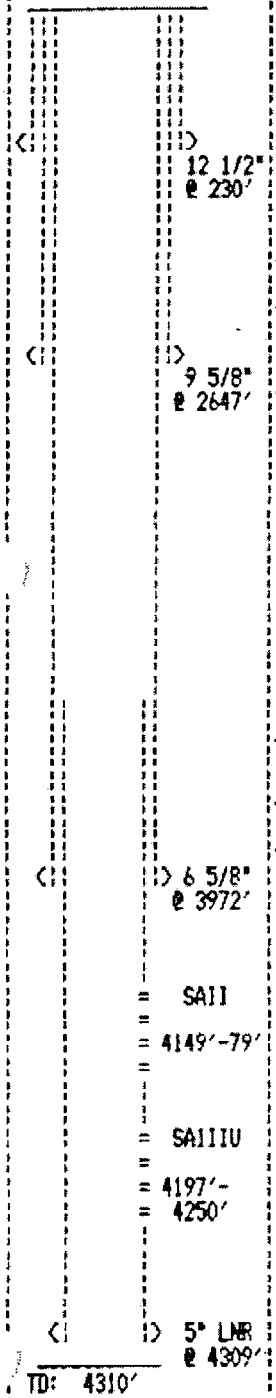
COMPLETION DATE: 8/30

RECOMPLETION DATE:

LOCATION: 330' FNL & 2310' FWL SECTION: 30-C SATELLITE: 19

SURVEY: T-18-S, R-38-E COUNTY: LEA COUNTY, NEW MEXICO

DATUM: 3660' G.L. ELEV: TD: 4310' PBTD: ( )



CASING RECORD (* CALCULATED AT 50% EFFICIENCY)

SIZE	WEIGHT	DEPTH	CMT.	TOC	HOLE SIZE
12 1/2"	50#	230'	200SX		
9 5/8"	40#	2647'	400SX		
6 5/8"	24#	3972'	250SX	3130'CBL	
5"LNR	15#	3867-4309	100SX		

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
9/53	LANE	GR-N	4227-2500
11/14/83	SWS	CNL/GR/CAL	4304-3304
		CBL	

(* ESTIMATED DEPTH) LOGTOPS

ZONE	TOP	SUBSEA
ANHY	1542'	2118'
TSALT	1660'	2000'
YATES	2768'	894'
7RIVERS	2946'	714'
BOWERS	3256'	404'
QUEEN	3437'	223'
BYERS	3596'	64'
GRYBRG	3770'	-110'
GU	3924'	-264'
GL	4025'	-365'
SAI	4040'	-380'
SAII	4110'	-450'
SAIIIU	4182'	-522'
SAIIIL		
GOC	4020'	-360'
OWC	4274'	-614'

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
8/30	GU,GL,1,2	*3972-4160	OH
9/53	G,1,2,3U	*3972-4227	OH
11/04/83	SQZ HOLES	*4078,86,4100	SQZ HOLES
11/17/83	2,3U	4149,51,59,61,67,71,79,97,4201,04,11,17, 4221,25,30,40,50	2 JSPF

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
6/11/83	3972'-4111'	PUMP 100SX CLASS C 50-50 W/2% CACL
11/05/83	4078',86',4100'	SQZ SAI W/75 SX CMT + 2% CACL2 + FLOCHEK

STIMULATION (O,W,G)

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
9/6/53	3U	500G 15% LTA	AT 4193'-4227'		
4/18/67	3U	1000G 15% NEA	AT 4193'-4227'		44,0,-
8/28/69		75 BBLS HOT OIL DOWN TBG.			
12/8/72	3U	1000G 15% + SOLVENT	AT 4193'-4227'		
9/14/74	3U	1000G 20% HCL + SOLVENT	AT 4193'-4227'		
2/10/76	3U	1500G 15% HAD	AT 4193'-4227'		
11/21/83	2,3U	4,020G ACID IN 6 STAGES	AT 4149'-4250'	0,536,-	NOT STABLE
12-13-85		3200g w/ BPM	4149 - 4250	93+432+50	
9-8-88		2000g 15%, 45% RS BLK	4149-4250	85+857+40	

OPT:

DATA AVAILABLE: DST CORE PVT OTH8:44444

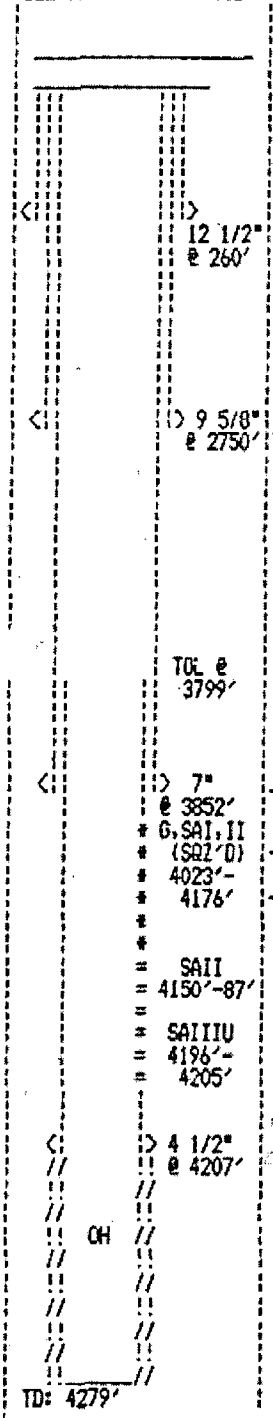
REMARKS: 9/53: DEEPENED TO 4227' 11/78: FISHED STUCK LANE WELLS PKR @ 4193' + RECOVERED. BULL PLUG @ 4197' 4/01 Dmd
9/80: BHP 11/83: DEEPENED TO FROM 4227'-4310'; RAN 5" LINER 2/86 COMPLETED TO 9IZ UNIT
8/84: RAN SUBMERSIBLE 12/87 TAGGED OBSTRUCTION @ 9254' 7/87 BACK TO ESP

DATE: 4/10/85 DYD

WELL # 7524S

NORTH HOBBS #30-221
(AMERADA MCKINLEY #2)

COMPLETION DATE: 4/30
RECOMPLETION DATE:
LOCATION: 2310' FNL & 2310' FWL SECTION: 30-F SATELLITE: 30
SURVEY: T-18-S, R-38-E COUNTY: LEA COUNTY, NEW MEXICO
DATUM: 3677' KB G.L. ELEV: 3659' TD: 4279' PBTD: ( )



CASING RECORD (* CALCULATED AT 50% EFFICIENCY)

SIZE	WEIGHT	DEPTH	CMT.	TOC	HOLE SIZE
12 1/2"	50#	260'	250SX	CIRC.	16"
9 5/8"	40#	2750'	535SX	787'*	11 3/4"**
7"	24#	3852'	250SX	1500'CBL	8 1/4"
4 1/2"LNR	-	3799-4207	125SX	3799'*	6 1/4"

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
10/06/83	ARMDL	GR/CNL	4285-2200
10/08/83	SWS	CBL/VDL/CCL/GR	4209-SURF

(* ESTIMATED DEPTH) LOGTOPS

ZONE	TOP	SUBSEA
TSALT	1570'	2107'
YATES	2650'	1027'
7RIVERS	2888'	789'
BOWERS	3192'	485'
QUEEN	3407'	270'
BYERS	3569'	108'
GRYBRG	3766'	-89'
GU	3930'*	-253'
GL	4023'*	-346'
SAI	4048'*	-371'
SAII	4117'*	-440'
SAIIIU	4192'*	-515'
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
4/30	G,1,2,3U	*3852-4208	OH
7/8/77	G,1,2	*4023-25,70-90,4104,4120-28,34-37,40/46, *49-52,66-68,74-76	2 JSPF
10/83	2,3U	*4150,51,64,68,75,80,87,96,4203,05	2 JSPF
10/83	3U	*4207-4279	OH

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
7/20/77	4146-4176	SET CR @ 4144'; SQZ'D W/50 SX CMT.
9/23/83	4023'-4140'	SQZ'D W/1500G FLOCHEK + 50 SX CMT W/2% CACL2

STIMULATION (O,W,G)

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
3/2/34	G,1,2,3U	1000G	AT 3852'-4208'		
7/7/77	G,1,2	400G 15% HAD	AT 4023'-4176'		36 BWPD
10/11/83	3U	3900G 15% HCL NEA	AT 4203'-4279'		
10/11/83	2,3U	4500G 15% HCL W/32 BS	AT 4150'-4196'	26,338.4	NOT STABLE
7/30/84		4 DRUMS 1997 + 5 GALS. ODS	55		
3/88	SA II, III	4000G 15% HCL/CO2 FLS		53,825	
9-6-90		9000G 15% HCL PPI	PPI (4072-4196)		
9-6-90		45000G 15% 100Q N2 FOAM	PPI-(O,W)		

OPT:

DATA AVAILABLE: DST CORE PVT OTHER

REMARKS: 7/77: RAN 4 1/2" LINER 10/83: REMOVED CR @4144'; DEEPENED WELL FROM 4208' TO 4279'
3/95: INSTALL SUBMERGIBLE 160-H27 ON 119 JTS.

DATE: 5/88 BP

2-13-01 BP

R:

NORTH HOBBS #30 222W

COMPLETION DATE: 10/14/80

RECOMPLETION DATE:

LOCATION: 1470' FNL & 1395' FWL SECTION: 30-F SATELLITE:

SURVEY: T-18-S, R-38-E COUNTY: LEA COUNTY, NEW MEXICO

DATUM: 3665' KB G.L. ELEV: 3655' TD: 4350' PBTD: 4339' ( )

3665' KB
KB - GL = 10'

* CALCULATED AT 50% EFFICIENCY

CASING RECORD

SIZE	WEIGHT	DEPTH	CMT.	TOC	HOLE SIZE
16"	COND	40'	40SX	SURF	20"
8 5/8"	24#	1570'	950SX	SURF	12 1/4"
5 1/2"	14#	4349'	800SX	2608' CBL	7 7/8"

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
7/06/80	SWS	GR/DLL/MSFL	
	SWS	GR/CNL/FDC	
	SWS	GR/SONIC/BHC	
	SWS	MLL/ML	
7/29/80	SWS	CBL/CCL	

(* ESTIMATED DEPTH) LOGTOPS

ZONE	TOP	SUBSEA
YATES	2657'	+1008'
7RIVERS	2900'	+765'
BOWERS	3204'	+461'
QUEEN	3423'	+242'
GU	3745'	-80'
GL	3928'	-263'
SAI	4030'	-365'
SAII	4096'	-431'
SAIIIU	4194'	-529'
SAIIIL	4282'	-717'
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
7/29/80	IIIL	4322'-29'	4 SPF
10/10/80	II,IIIU&L	4123',37,52,70,83,97,4212,24,26,40,54,58, 80,4302'	2 JSPF
6-21-88	SQUEEZED	4155,5%,71,88,4200 W/ CIBP	4 JSPF

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
10/08/80	3718'	SQZ'D 40 SX MAX PRESS 2500 PSI (REQUIRED BY NMOCD)
6-21-88	4200	CIBP

STIMULATION (O,W,G)

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
7/29/80	IIIL	500G 15% HCL	AT PERF		
8/05/80	IIIL	500G 15% HCL	AT PERF		
2/16/84	2,3U,3L	500G 15% HCL	AT DUMP	1050 @ 560PSI	2304 @ 550 PSI
12/ /84	2,3	500G 15% HCL	AT DUMP		
6-21-88	4123-4329	1000g 15% HCL + N2	CMT(3-4354)		
8-17-88	SAND	2000g 15% HCL + N2			

PKR @ 4026'

= 4123'

= 4302'

= 4322' - 4329'

PBTD @ 4339'

> 16" @ 40'

> 8 5/8" @ 1570'

> 5 1/2" @ 4349'

TD: 4350'

OPT: (8/25/80): 24 HR 12 BO + 51 BW + 58 MCFG @ 8-144" SPM

DATA AVAILABLE: DST CORE PVT OTHER

REMARKS: 7/29/80: BHP ON SN @ 4284' (1045 PSI; 70 HRS; PERF 4322'-29'). 7/29/80: CBL SHOWS GOOD CMT @ 2609'. 12/82: CTI. INJECTION EQUIP. ON PAGE 2.

DATE: 5/29/85 DYD

2-13-01 BV

R:

NORTH HOBBS #30 222W

COMPLETION DATE: 10/14/80

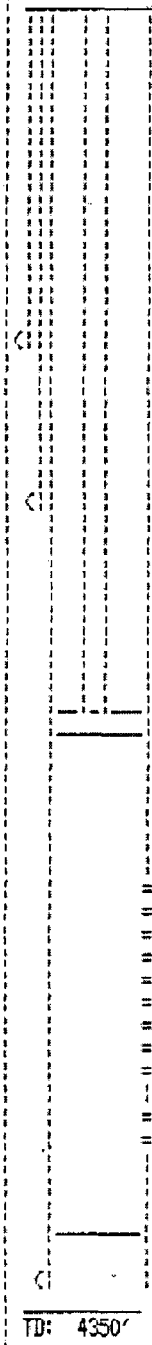
RECOMPLETION DATE:

LOCATION: 1470' FNL & 1395' FWL SECTION: 30-F SATELLITE:

SURVEY: T-18-S, R-38-E COUNTY: LEA COUNTY, NEW MEXICO

DATUM: 3665' KB G.L. ELEV: 3655' TD: 4350' PBTD: 4339' ( )

3665' KB
KB - GL = 10'



CASING RECORD (* CALCULATED AT 50% EFFICIENCY)

SIZE	WEIGHT	DEPTH	CMT.	TOC	HOLE SIZE

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
05/ /83	THC	PROFILE SURVEY	4335-3700
02/09/84	CARD	PROFILE SURVEY	

(* ESTIMATED DEPTH) LOGTOPS

ZONE	TOP	SUBSEA
ANHY		
TSALT		
YATES		
7RIVERS		
BOWERS		
QUEEN		
BYERS		
GRYBRG		
GU		
GL		
SAI		
SAII		
SAIIIU		
SAIIIL		
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE

STIMULATION (O,W,G)

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER

OPT:

DATA AVAILABLE: DST CORE PVT OTHER

REMARKS: INJECTION EQUIP: 5 1/2" GUIB UNI-PKR-VI SET @ 4026' + XL ON/OFF TOOL, 1.78" PROFILE NIPPLE, XO TOOL AND 130 JTS OF 2 7/8" DUOLINE HT TBG = 4012'.

DATE: 5/29/85 DYD

2-17-01 BP

R:

COMPLETION DATE: 7/12/84

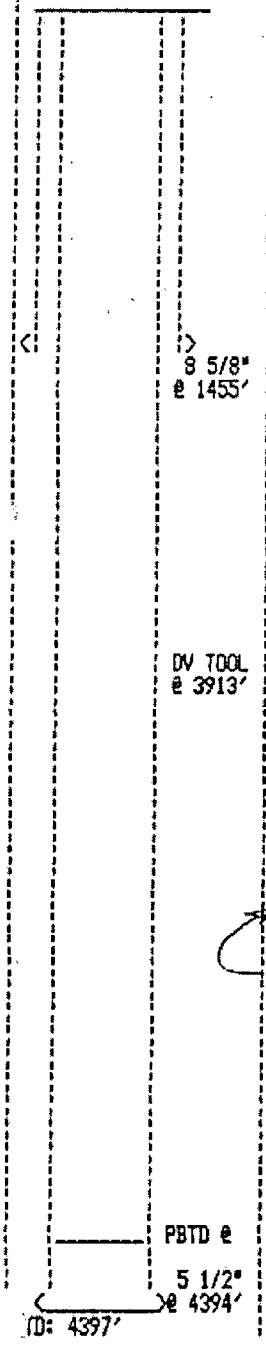
RECOMPLETION DATE:

NORTH HOBBS #30-223
FORMER NAME:

LOCATION: 1770' FNL & 2405' FWL SECTION: 30 SATELLITE: 30

SURVEY: T-18-S, R-38-E COUNTY: LEA COUNTY, NEW MEXICO

DATUM: 3665'KB G.L. ELEV: 3653' TD: 4397' PBTD: (4315)



CASING RECORD (* CALCULATED AT 50% EFFICIENCY)

SIZE	WEIGHT	DEPTH	CMT.	TOC	HOLE SIZE
16"		30'			
8/5/8"	24#	1455'	650SX	CIRC	
5 1/2"	14#	4394'	250SX	2496'CBL	

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
1/18/84	SWS	SNP/DLL/BHC	
3/20/84	SWS	CBL/VDL/CCL/CET	4301-SURF
		CET/GR	4313-3300

(* ESTIMATED DEPTH) LOGTOPS

ZONE	TOP	SUBSEA
ANHY	1419'	2246'
TSALT	1564'	2101'
YATES	2647'	1018'
7RIVERS	2886'	779'
BOWERS	3191'	474'
QUEEN	3407'	258'
BYERS	3575'	90'
GRYBRG	3766'	-101'
GU		
GL		
SAI	4038'	-373'
SAII	4103'	-438'
SAIIIU	4196'	-531'
SAIIIL	4283'	-618'

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
3/21/84	3U	4248,56,67,80	2 JSPF
4/18/84	2,3U	4190,4201,05,16,19,28,31	2 JSPF
	2	4139,47,54,64,72	2 JSPF
12-29-90	III	4246-52, 56-66, 4215-20, 28-32, 4197-99, 4200-08, 4150-54, 4170-84, 4139-55	4 JSPF

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE

STIMULATION (O,W,G)

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
3/22/84	3U	200G + 1,200G 15% HCL IN 4 STGS	SPA 4248'-4280'	NEW WELL	
4/23/84	2,3U	200G + 2,100G 15% HCL IN 4 STGS	SPA 4190'-4231'		
5/84	2	200G + 1,500G 15%	SPA 4139'-4172'		
5/6/86	II III U	1600gals 15% HCL	SPA 4139-4280	68/265/6	96/426/24
10/84	2,3U	Dump 1000g 15% HCl			
2/20/90	III-TOL	2500g 15% 1.1 BALLS	PERF 4134-4280		
12-01	III-TOL	3750g 15% HCL	PPI 4130-4280		

OPT /84: BOPD + BWPD + MCFPD

DATA AVAILABLE: DST CORE PVT OTHER: RFT

REMARKS: /84: BHP @ 4248-80' PSI, @ 4190-4231' PSI, @ 4139-4172' PSI

1-4-91 CTI over 3-4-92 BP

DATE: ~~5/84 JBP~~ 2-27-92 BP 2-DA-6/5/95/tat

NORTH HOBBS #30-233

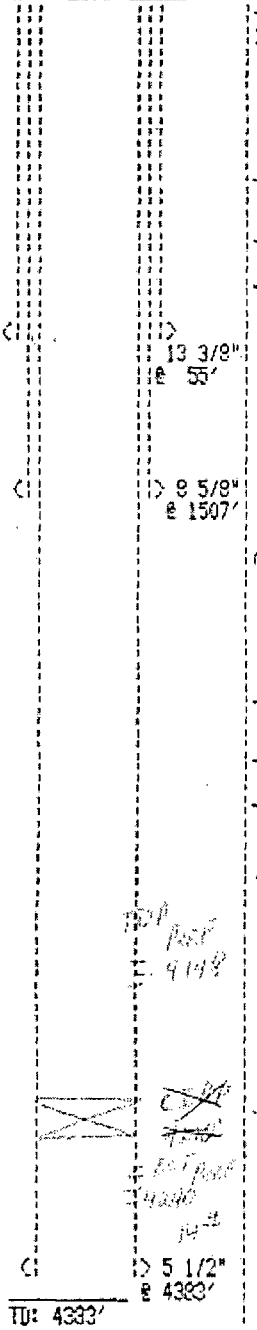
COMPLETION DATE: 2/11/85

RECOMPLETION DATE:

LOCATION: 2455' FSL & 1480' FWL Unit Letter "K" SECTION: 30 SATELLITE: 25

SURVEY: T-18-S, R-38-E COUNTY: LEA COUNTY, NEW MEXICO

DATUM: 3666' KB G.L. ELEV: 3652' TD: 4383' PBTD: 4338' ( )



CASING RECORD (* CALCULATED AT 50% EFFICIENCY)

SIZE	WEIGHT	DEPTH	CMT.	TOC	HOLE SIZE
13 3/8"		55'			
8 5/8"	24#	1507'	620SX	CIRC	
5 1/2"	14#	4383'	1070SX	CIRC	

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
1/16/85	GRHT	DLL/MSFL, SNL/GR	3600-4383
1/16/85	GRHT	BHC SONIC	SURF-4374
1/16/85	SWS	RFT	
1/23/85	SWS	CBL/VDL/CCL/GR	100-4225'

(* ESTIMATED DEPTH) LOGTOPS

ZONE	TOP	SUBSEA
SAI	4050'	-384'
SAII	4132'	-466'
SAIIIU	4218'	-552'
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
2/07/85	2,3U	Zone II (4148,63,74,78,85,96,4211,14,23,26,40')	2 JSPF
1-24-00	III	4174,76,84-88,96-98-4210-14,38,40	2 JSPF
1-24-00	III	4252-56,60,62,66,68,80,90 Sitn Andres	4 JSPF

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE

STIMULATION (O,W,G)

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
2/09/85		3600G 15% HCL NEA	STRADDLE PACKERS	NWC	131,900,85
1-24,00	III	2000G 15% HCl NEFE B.S	PKR.		

CIBP @ 4220' 9-12-88

OPT:

DATA AVAILABLE: DST CORE PVT OTHER

REMARKS: 2/11/85: RAN CENTRALIFT SUB.

1-26-00 CTL

DATE: 6/17/85 BYD

2-23-01 BP

NORTH HOBBS #30-242

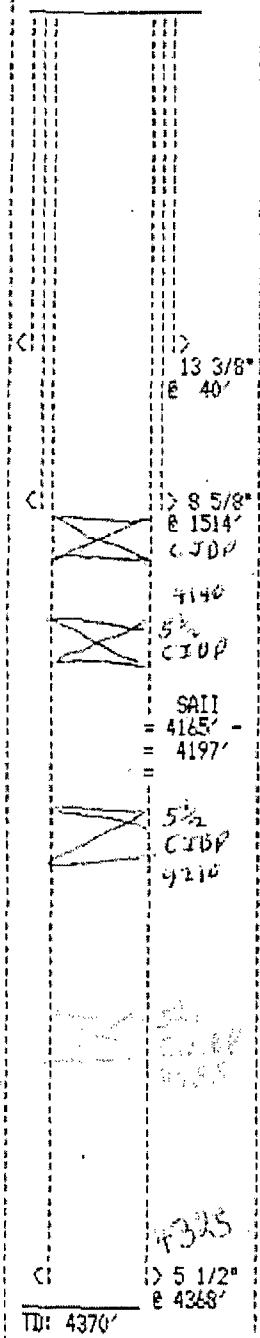
COMPLETION DATE: 3/14/85

RECOMPLETION DATE:

LOCATION: 200' FSL & 1400' FWL SECTION: 30-N SATELLITE:

SURVEY: T-18-S, R-38-E COUNTY: LEA COUNTY, NEW MEXICO

DATUM: 3662' KB G.L. ELEV: 3650' TD: 4370' PBTD: 4325' ( )



CASING RECORD (* CALCULATED AT 50% EFFICIENCY)

SIZE	WEIGHT	DEPTH	CMT.	TOC	HOLE SIZE
13 3/8"	#	40'			
8 5/8"	24#	1514'	425SX	CIRC	
5 1/2"	14#	4368'	525SX	CIRC	

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
1/10/85	GRHT	DLL, SONIC	1594-4363
1/11/85	SWS	SNP/GR, RFT	3600-4366
1/16/85	SWS	CBL/VBL/CCL	100-4303'

(* ESTIMATED DEPTH) LOGTOPS

ZONE	TOP	SUBSEA
SAI	4094'	-432'
SAII	4156'	-494'
SAIIIU	4230'	-568'
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
3/13/85	II	4165', 67, 75, 84, 88, 97'	2 JSPF
12/3/87	III	4227, 32, 33, 38, 39, 40	2 TSPF
11-24-88	III	4043, 95, 97, 99, 4101, 03, 05	2 TSPF
7-17-87	III	4112, 13, 14, 15, 16	2 TSPF
7-16-89	II-III	4024, 30, 34, 35, 36, 38, 43, 47, 92, 95, 4099	2 TSPF
1-17-89	II-III	4104, 03, 05, 07 SQUEEZE & REPAIR 08, 14, 4053, 57, 64, 66, 67, 71, 74, 83, 86, 89	2 JSPF

DATE	DEPTH	WORK DONE
7-17-87	4210	5½ C.I.B.P
12-14-88	4140	5½ C.I.B.P.
7-7-98	3975	5½ C.I.B.P

STIMULATION (O,W,G)

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
3/14/85	II	1800G 15% HCL NEA	STRADDLE PACKERS	NWC	136,530,121
12/9/87	II & III	4100-4240' HCL & OIL	PKR & BBP		
11/28/88	II & III	4093, 4104 900G 15% & BALLS	PKR & BBP		
1/17/89	II & III	4024-4114 2000G 15% & RS	PKR & BBP		
7/18/89	II & III	4112-4147 1100G 15%	P.P.I.		

OPT:

DATA AVAILABLE: DST CORE PVT OTHER

REMARKS:

Well TA 7-7-98

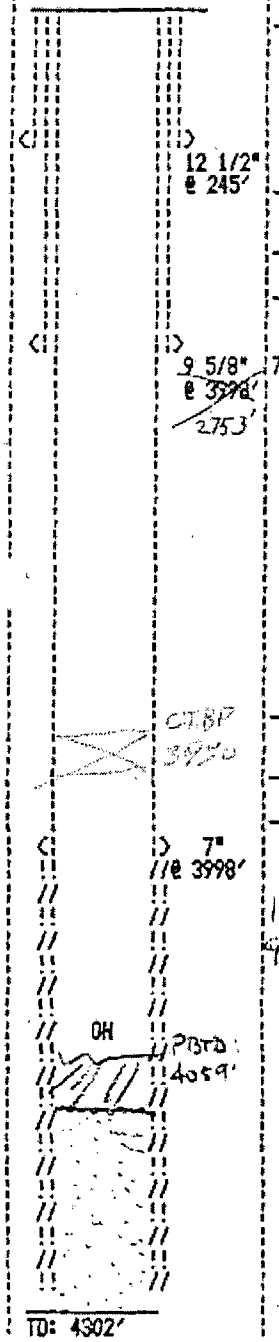
DATE: 5/29/84 DYD

2-13-01DP

R:

NORTH HOBBS #30-311
(GETTY MCKINLEY #4)

COMPLETION DATE: 8/30
RECOMPLETION DATE:
LOCATION: 330' FNL & 2310' FEL SECTION: 30-B SATELLITE: 19
SURVEY: T-18-S, R-38-E COUNTY: LEA COUNTY, NEW MEXICO
DATUM: 3658' GL G.L. ELEV: 3658' TD: 4302' PBTD: 4059' (HYDROMITE)



* CALCULATED AT 50% EFFICIENCY

CASING RECORD

SIZE	WEIGHT	DEPTH	CMT.	TOC	HOLE SIZE
12 1/2"	50#	245'	200SX	CIRC *	16" **
9 5/8"	36#	2753'	600SX	551' *	11 3/4"**
7"	24#	3998'	250SX	3154'CBL	8 3/4"**

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
12/18/80	SWS	CBL	3938-SURF
11/19/85	"	DDL, MSFC, CDL, LDT, EPT	
11/20/85	"	LSS, Sonic, DPT, Dite Log	

(* ESTIMATED DEPTH) LOGTOPS

ZONE	TOP	SUBSEA
TSALT	1605'*	2053'
YATES	0	0
7RIVERS	0	0
BOWERS	3190'*	468'
QUEEN	0	0
BYERS	0	0
GRYBRG	0	0
GU	3922'*	-264'
GL	4020'*	-362'
SAI	4046'*	-388'
SAII	4112'*	-454'
SAIIIU	4184'*	-526'
GOC		
OWC	4272'	-614'

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
8/30	G,1,2,3U	*3998-4219	OH
9/56		+2601	SQZ HOLE
1/16/84	3U	*4219-4302	OH
11/20/85	G,SAI	3998 - 4110'	OH

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
9/56	2601'	SQZ'D W/500 SX BETWEEN 9 5/8" & 7" CSG + 300 SX BETWEEN 12 1/2" & 9 5/8". CMT CIRC BETWEEN 9 5/8" & 7".
11/21/85	4302-4110'	Plug back w/320sx B-16SD + 600sx 35:65:8 Capped w/16' Hydromite
9/11/86	4059'	PB w/ HYDROMITE

STIMULATION (O,W,G)

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
3/34	2,3U	1000G DOWELL	AT 4147'-4219'		
1/17/84	3U	6000G 15% HCL NEA W/RS IN STGS	AT 3998'-4302'	89,704,56	NOT STABLE
11/22/85	GB,SAI	1000G 15% HCL NEFE	SPOT IN OH	71/2133/30	
9-2697	G	3000G 15% HCL OH 3998-4110			

OPT: 14,061 BOPD
DATA AVAILABLE: DST CORE PVT OTHER

REMARKS: 11/59: INSTALLED PUMPING UNIT 3/64: RETIRED PPG UNIT 1/84: DEEPENED FROM 4219'-4302'; RAN REDA

TA 3-30-93

DATE: ~~1/84 JDP~~ 1/21/89 PM
7-13-CIBP

R:

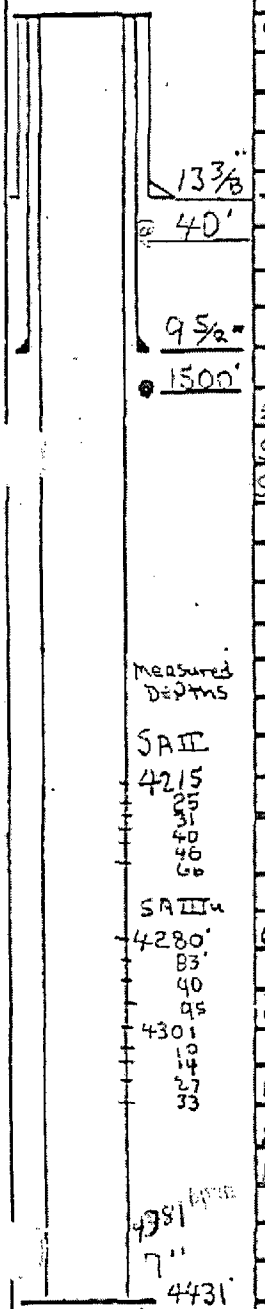
WR-31

COMPLETION DATE 6/28/85 North Hobbs 30-312 (Deviated Hole)

LOCATION 530' FNL & 1448' FEL SECTION 30 SATELLITE

SURVEY T-18-S, R-38-E COUNTY Lea County New Mexico

DATUM 3664 [KB] G.L. ELEV. 3652 TD 4431 PBTD 4381 [FC]



CASING RECORD

SIZE	WT.	DEPTH	CMT.	TOC
13 3/8"	Cond.	40'		
9 5/8"	36 #	1500'	650 sx	Circ.
7"	20 #	4431'	700 sx	Circ.

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
5/20/85	Swsco	Sonic	4430 - Surface
5/20/85	"	DLL/SFL/GR/SP	4430 - 2600'
5/20/85	"	TVD	4430 - 1500'
5/20/85	"	RFT	
5/29/85	"	CBL/VDL/GR/CCL	4357 - 70'

TVD LOG TOPS

ZONE	TOP	SUBSEA
SA I	4086'	-422'
SA II	4144'	-480
SA III	4717'	-554
GOC		
OWC	4279'	-614

PERFORATIONS AND/OR OPEN HOLE

DATE	ZONE	Measured DEPTHS	DENS & SIZE
6/20/85	SA II	4215, 25, 31, 40, 46, 66	2 JSPF
6/20/85	SA III u	4280, 83, 90, 95, 4301, 10, 14	2 JSPF
		4327, 33	
		* NOT OPEN NOW	

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE

STIMULATION

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
6/21/85	SA II, III u	4500 G 15% HCL, NEA &	AT-1 & SS (300 gal/ft) straddled	NWC	143/553/95
		7330 G Exxon 7647			
2/24/86	SA II, III u	4500 G 15% HCL w/4" disc.	AT-1 & xylene treat	29/300/40	31/590/5
		acid/1000 G HCL + 1500 G xylene			
10/86	II, III u	DOWN 750 G 15% HCL, 750 G XYLENE	BACKSIDE		
2/11/88	II, III u	3000 G 15% + 10000 # RS		53/337/2	

OPT

DATA AVAILABLE DST ☐ CORE ☐ PVT ☐ OTHER ☐

REMARKS: 4/87 Removed ESP - Installed 456 unit

JMU

NORTH HOBBS #30-332

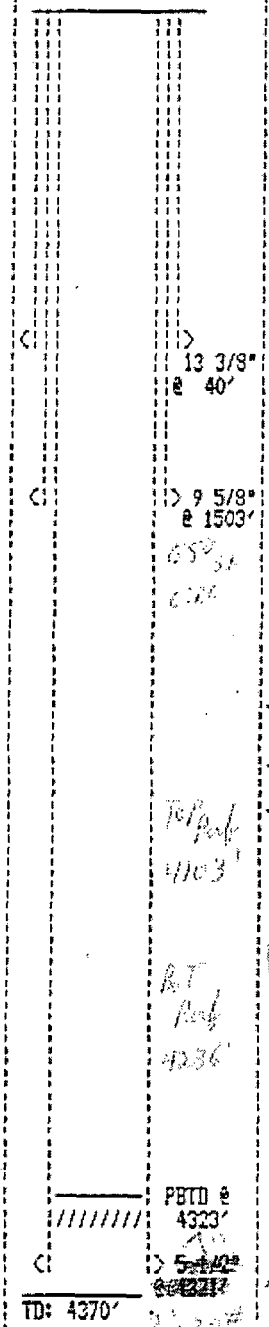
COMPLETION DATE: 5/23/95

RECOMPLETION DATE:

LOCATION: 2470' FSL & 1600' FEL Unit Letter "J" SECTION: 30 SATELLITE: 30

SURVEY: T-18-S, R-38-E COUNTY: LEA COUNTY, NEW MEXICO

DATUM: 3662' KB G.L. ELEV: 3650' TD: 4370' PBTD: 4323' (F.C.)



CASING RECORD (* CALCULATED AT 50% EFFICIENCY)

SIZE	WEIGHT	DEPTH	CMT.	TOC	HOLE SIZE
13 3/8"	COND	40'			
9 5/8"	36#	1503'	650SX	CIRC	
7"	20#	4371'	800SX	CIRC	

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
4/30/85	SWS	SNP,DLL/MSFL	3650-4369
4/30/85	SWS	BHC SONIC	0-4367'
4/30/85	SWS	RFT	1503-4370
5/04/85	SWS	CBL/VDL/CCL/GR	90-4304'

(* ESTIMATED DEPTH) LOGTOPS

ZONE	TOP	SUBSEA
SAI	4019'	-355'
SAII	4096'	-424'
SAIIIU	4170'	-508'
SAIIIL	4268'	-606'
GL		
SAI		
SAII		
SAIIIU		
SAIIIL		
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
5/21/85	SAII	4127,58'	2 JSPF
5/21/85	SAIIIU	4182,90,97,4209,18,27,29,&61'	2 JSPF
5/21/85	SAIIIL	4272,83,93'	
1-6-00	III	4133-36, 52-56, 62-66, 72-75'	2 JSPF

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE

STIMULATION (O,W,G)

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
5/22/85	SAII,III	3900G 15% HCL NEA 275G EXXON7647	ATI / SS	NWC	
2-2-86	II, III	400 Bbls. 9# BRINE-CLN. OVERFLUSH 220g Exxon 7647	BRINE WTR-FLUSH SS	67+424+	
6-18-86		1500g 15% HCL	SPH	41+342	77+562+22
5-15-87		4100 g 15% HCL	w/ CBP & PKR		
5/10/88		2500 g 15%	B.S		
3/24/89		3000g 15%	B.S		
1-7-00	III	3000g 15% HCL B.S	PKR + plug 4158-4288		

OPT: SQZ 4X CMC

DATA AVAILABLE: DST CORE PVT OTHER

REMARKS: C,T,I 1-10-00

DATE: 6/17/95 DYD

2-14-01 BP

R:

NORTH HOBBS #30-333W

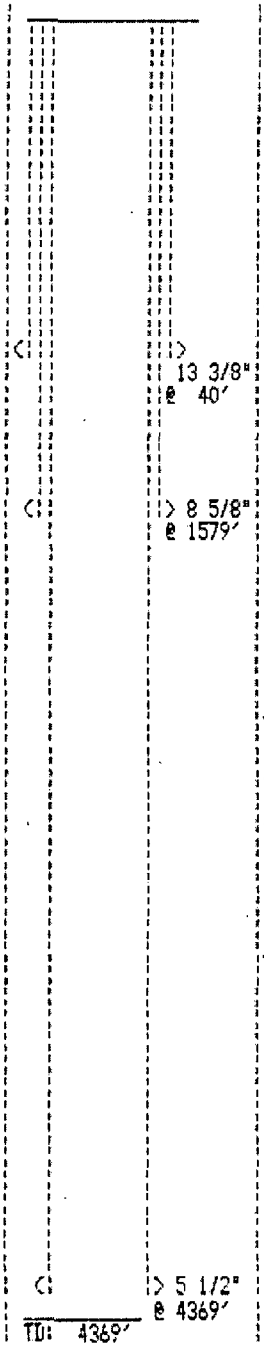
COMPLETION DATE: 2/28/85

RECOMPLETION DATE:

LOCATION: 2430' FEL & 1400' FSL SECTION: 30-J SATELLITE:

SURVEY: T-18-S, R-38-E COUNTY: LEA COUNTY, NEW MEXICO

DATUM: 3660' KB G.L. ELEV: 3648' TD: 4369' PBTD: 4328' ( )



CASING RECORD (* CALCULATED AT 50% EFFICIENCY)

SIZE	WEIGHT	DEPTH	CMT.	TOC	HOLE SIZE
13 3/8"	#	40'			
8 5/8"	24#	1579'	425SX	SURF	
5 1/2"	14#	4370'	500SX	CIRC	

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
12/28/84	SWS	SNP,DLL/MSFL	3600-4320
12/28/84	SWS	BHC SONIC	0'-4356'
12/28/84	SWS	RFT	1579-4369
1/02/85	SWS	CBL/VDL/CCL	4144-SURF

(* ESTIMATED DEPTH) LOGTOPS

ZONE	TOP	SUBSEA
SAII	4104'	-456
SAIIIU	4194'	-546
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
2/27/85	II,IIIU	4137',46,54,62,75,99,4202,15,25,32,43,50,70,82,90'	2 JSPF
12-5-89	[illegible]	[illegible]	

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE

STIMULATION (O,W,G)

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
2/28/85	II,IIIU	4300G 15% HCL NEA'	STRADDLE PACKERS	NWC	2393 @ 0 PSI
3/2/87	[illegible]	2000G 15% HCL W/CC	PKR.		
7-17-89	[illegible]	3000g Xylene+12000G 15%HCl	PKR		
12-6-89	[illegible]	3000G 15%HCl W-B-S	PKR (4093-4290)		

OPT:

DATA AVAILABLE: DST . CORE PVT OTHER

REMARKS:

DATE: 5/29/85 DYD

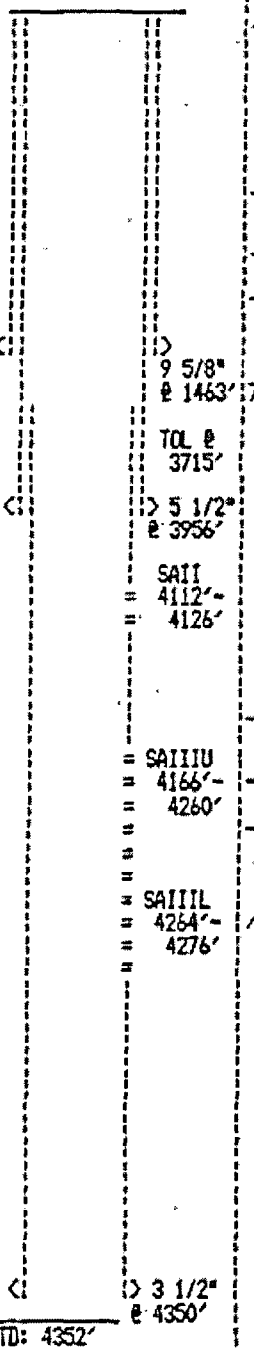
2-14-01 BP

R:

1-2

NORTH HOBBS #30-341
FORMER NAME: EXXON BOWERS A FED. #36

COMPLETION DATE: 3/74
RECOMPLETION DATE:
LOCATION: 990' FSL & 1650' FEL SECTION: 30-O SATELLITE: 30
SURVEY: T-18-S, R-38-E COUNTY: LEA COUNTY, NEW MEXICO
DATUM: 3655' G.L. ELEV: 3646' TD: 4352' PBTD: 4282' ( )



CASING RECORD (* CALCULATED AT 50% EFFICIENCY)

SIZE	WEIGHT	DEPTH	CMT.	TOC	HOLE SIZE
9 5/8"	36#	1463'	500SX	CIRC	12 1/4" **
5 1/2"	15.5,17#	3956'	625SX	1910'CBL	7 7/8" **
3 1/2"LNR	7.7#	3715-4350	125SX	3715'	4 3/4" **

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
1/09/81	SWS	CBL	3680-~~3100~~

(* ESTIMATED DEPTH) LOGTOPS

ZONE	TOP	SUBSEA
ANHY	0	
TSALT	0	
YATES	2635'	1020'
7RIVERS	2868'	787'
BOWERS	3170'	485'
QUEEN	3387'	268'
BYERS	3561'	94'
GRYBRG	3747'	-92'
GU	3898'	-243'
GL	4002'	-347'
SAI	4026'	-371'
SAII	4083'	-428'
SAIIIU	4157'	-502'
SAIIIL	4263'	-608'
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & ~~SIZE~~
2/23/74	2, 3U	*4104-26,4164-70,4180-96	1 JS/2"
3/05/74	2	4112-26	1 JS/2"
3/07/74	1	*4056-65,67-69,75-77	2 JSPF
1/15/83	3U,3L	4166-71,83-86,92-95,4208-16,20-22,31-37, 47-49,58-60,64-65,73-76	2 JSPF
1-15-86	I	*4042,46,49,52,64,73	2 JSPF

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
2/11/74	~2650'	SPOTTED LCM & 400SX CMT TO REGAIN CIRC & SHUT OFF GAS ENTRY IN ANNULUS
2/12/74	3983'-4059'	SPOTTED LCM & 750SX CMT
3/01/74	4104'-96'	SQZ'D W/600 SX CMT
12/22/82	4056'-77'	SQZ'D W/150 SX FOR WSO
1/03/83	4056'-77'	SQZ'D W/150 SX FOR WSO
12-18-85	4202'	SET CIBP
12-22-85	4056-77	SQZ'D W/150 SX FOR WSO

STIMULATION (O,W,G)

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
1/18/83	3U,3L	4200G 15% HCL W/RS + BS	AT 4166'-4276'	0,223,0	13,440,5
1-2-86	2,3U	3200G15% HCL W/RS (4 STGS)	AT 4112-4207'	56,1191,16	40,400,
1-17-86	I, II, IIIU	2500 7½% HCL	SQZ 4042-4073	40,400,	100,796,

OPT:

DATA AVAILABLE: DST CORE PVT OTHER

REMARKS: 3/74: I.A.L RAN 3 1/2" LINER TO TD TO CASE OFF GAS ENTRY
8-18-84 Installed C-M 34 Sub Pump

1/21/87 Pm
DATE: ~~1/84~~ JDP

2-14-C1 BP

SWEP-0698E

2-2

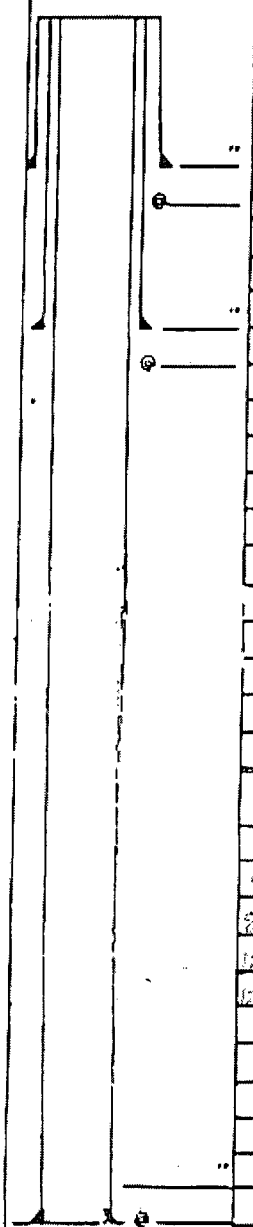
COMPLETION DATE _____ NHLC30-341 COMPLETION INTERNAL: _____

RECOMPLETION DATE _____

LOCATION _____ SECTION _____ BLOCK _____

SURVEY _____ COUNTY _____

DATUM _____ [ ] G.L. ELEV. _____ TD _____ PBTD _____ [ ]



CASING RECORD *CALCULATED AT 50% EFFICIENCY						LOGGING RECORD			
SIZE	WT.	DEPTH	CMT.	TOC	HOLE SIZE	DATE	CO.	TYPE	INTERVAL

LOG TOPS			PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW			
ZONE	TOP	SUBSEA	DATE	ZONE	DEPTHS	DENS & SIZE
			5-12-92	TT & TD	4015-4028 4SH/ft	4 3 3/8"
			5-12-92	TT & TD	4031-4044 4SH/ft	4 3 3/8"
			SQUEEZE & REPAIR			
			DATE	DEPTH	WORK DONE	
			5-1-92	4044-73	Sqz w/ 200sx CL-G Cmt	
GOC						
OWC						

STIMULATION

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
5-14-92	TT & TD	2350 gal 15% HCl	Plug (4003-4044		
8-31-92	TT & TD	2000 gal 15% HCl	Plug (4013-4044		
12-3-92	TT & TD	2100 gal 15% HCl	Plug (4015-4195		
12-3-92	TT & TD	2100 gal 15% HCl	Plug (4013-4195)		

PBTD

OPT

DATA AVAILABLE OST ☐ CORE ☐ PVT ☐ OTHER

REMARKS:

DATE 2-14-01

BP

NORTH HOBBS #30-342
(EXXON-BOWERS A.FED #8)

COMPLETION DATE: 10/30

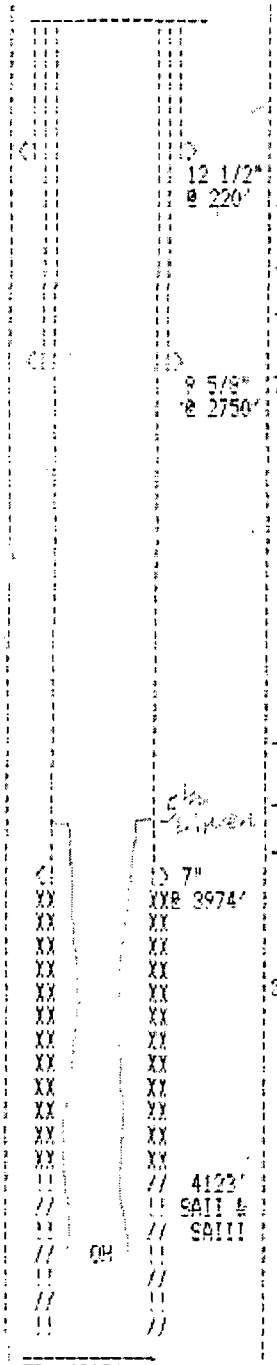
RECOMPLETION DATE:

LOCATION: 440' FSL & 2220' FEL SECTION: 30 SATELLITE: 30

SURVEY: T-18-S R-38-E COUNTY: LEA COUNTY, NEW MEXICO

DATUM: 3654' DF G.L. ELEV: 3646.5' TD: 4268' PBTD: 4268' ( )

ZERO CHF



* CALCULATED AT 50% EFFICIENCY

CASING RECORD

SIZE	WEIGHT	DEPTH	CMT.	TOC	HOLE SIZE
12 1/2"	50#	220'	210SX	SURF	18"
8 5/8"	36#	2750'	650SX	SURF	12"
7"	26#	3974'	300SX	1144'CBL	8 3/4"
5½" Liner	15.50	3847-4267	100SX		

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
7/65	SWS	GR/N IEL	
1/83	SWS	CBL/GR/CCL	SURF-3912

LOGTOPS

ZONE	TOP	SUBSEA
TS4LT	1540'	2094'
YATES	2650'	1004'
7RIVERS	2874'	780'
BOWERS	3184'	470'
QUEEN	3410'	244'
BYERS	3590'	74'
GRYBRG	3769'	-115'
GU	3923'	-269'
GL	4047'	-393'
SAI	4054'	-400'
SAII	4114'	-462'
SAIIIU	4180'	-526'
GOC		
OWC	4267'	-614'

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
3/46	G,1,2,3U	*3974'-4237' (PROD. W/SPA)	OH
1/83	G,SAI,II,	*DEEPENED 4237'-4268'	OH
3/85	II,III	DRILLOUT SAND & HYDROMITE 4123'-4267'	OH
5-5-88	II,III	4121,28,29,34,42,43,46,51,52,53	2 JSPF
8-11-88	II,III	4106,8,90,98,4214,14	2 JSPF

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
3/46	181'	SET PKR TO ISOLATE HOLE @60'
10/47	2000'	SQZ'D & CIRC CMT F/BRADENHEAD W/350SX
11/84	4123'-4268'	PB W/SAND & HYDROMITE FOR ZONE TEST
3/85	3974'-4123'	1500G FLOWCHEK & 65SX CLASS "C" CMT
9/6/87	3894-4109	100SX CLASS C + FLOWCHEK
12-20-91	3845	CIBP W/ 20'

STIMULATION (G,W,O)

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
2/5/34	G,1,2,3U	10000 50-50 ACID	AT		
4/70	IIIU	3000G 15% NEA	AT 4188'-4195'		
6/84		1000G 15% NEA	DOWNSQ		
3-11-88	TA'D CIBP	1500G 15% HCL	PAT 4123-4214		

OPT: 124 BOPH - 2976 BOPD (10/1/30)

DATA AVAILABLE: DST CORE PVT OTHER

REMARKS: TA'D W/CIBP @ 3900' + 6 SX ON TOP ON 9/73 RTP 1/83
PB W/LYNES OH-BP & HYDROMITE (4104')
Well P-A 4-28-99

DATE: 4/15/85-DVD

2-20-01 BP

NORTH HOBBS #30-411
(GETTY MCKINLEY #5)

CTI'd 10/00

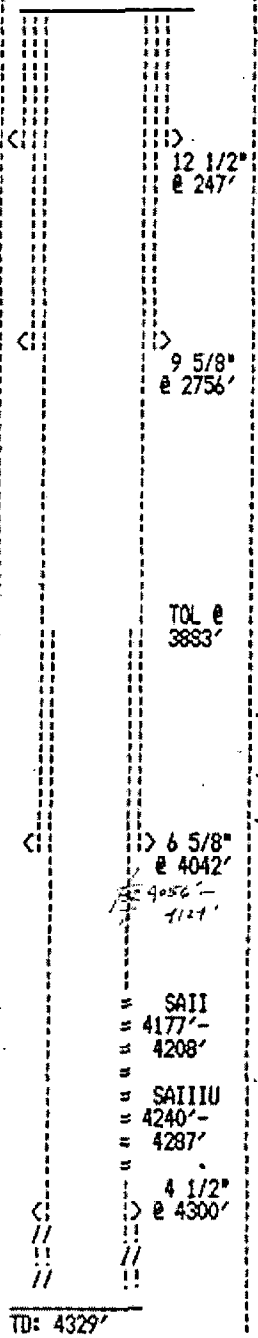
COMPLETION DATE: 12/32

RECOMPLETION DATE:

LOCATION: 330' FNL & 330' FEL SECTION: 30-A SATELLITE: 29

SURVEY: T-18-S, R-38-E COUNTY: LEA COUNTY, NEW MEXICO

DATUM: 3659' GR G.L. ELEV: 3659' TD: 4329' PBTD: (4150)



* CALCULATED AT 50% EFFICIENCY

CASING RECORD

SIZE	WEIGHT	DEPTH	CMT.	TOC	HOLE SIZE
12 1/2"	50#	247'	250SX	CIRC*	18"**
9 5/8"	40#	2756'	600SX	554'*	11 3/4"**
6 5/8"	24#	4042'	250SX	3210' CBL	8 1/4"**
4 1/2" LNR	10.5#	3883-4300	75SX	3883	5 3/4"**

~~4 1/2" LNR~~ 4½ LNR 10.5 @ 3883 375sx CIRC 6⅝ & 5¾"

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
12/05/83	SWS	CNL/GR	4300-3300
12/08/83	SWS	CET	4292-3000
12/08/83	SWS	CBL	4292-3000

(* ESTIMATED DEPTH) LOGTOPS

ZONE	TOP	SUBSEA
ANHY	1501'	2158'
TSALT	1595'	2064'
YATES	2672'	987'
7RIVERS	2913'	746'
BOWERS	3221'	438'
QUEEN	3440'	219'
BYERS	3566'	93'
GRYBRG	3819'	-160'
GU	3987'	-328'
GL	4090'	-431'
SAI	4102'	-443'
SAII	4165'*	-506'
SAIIIU	4232'*	-573'
SAIIIL		
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
12/32	GU,GL,1,2	*4042-4223	OH
12/09/83	2,3U	4177,83,90,98,4205,08,40,42,50,54,58,64, 4272,81,85,87	2 JSPF
12/09/83	3U	4300-4329	OH
9/25/89	CRB	*4056-65, 70, 74-80, 84, 87-89, 94, 98	2 JSPF
5-7-90	[illegible]	4101, 03, 05, 14, 17, 22, 24	2 JSPF

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
11/29/83		SQZ SAI W/75 SX CMT + 500G FLOCHEK + 2% CACL2
4/25/89	4150	CIBP SET & DRILLED 3-13-90
3/11-90	4056' 4124'	SQZ'D W/150 SXS

STIMULATION (O,W,G)

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
12/32	G,1,2	3000G DOWELL	AT 4042'-4223'		
1/69	G,1,2	1000G 15% SUSP.	AT 4042'-4223'		
12/09/83	2,3U	4,600G 15% ACID IN 5 STAGES	AT 4177'-4287'	0,265,0	
8-12-86	"	110G Exxon 7647 (BETWEEN 5S			
1/87	[illegible]	CMC 500 64L XYLENE PKRS			
9/89	CRB	2000 G 15% HCL +750 BS		23+220+22	1+502+6
3/90	2,3U	[illegible]		3+535+7	13+457+7
7/10/90	[illegible]	5500g R.S 15%	4171-4300		

OPT:

DATA AVAILABLE: DST CORE PVT OTHER

REMARKS: WELL WAS SI WHEN MCKINLEY #11 (ON SAME PRORATION UNIT) WAS RECOM. TO SA IN MAY, 1972; PUT BACK ON PROD. WHEN #11 DECLINED BELOW TOP ALLOWABLE. 12/83: DEEPENED FROM 4223'-4329', 4 1/2" LINER RUN.

6-29-90 Bowers 3221 Lwr Bowers @ 3853 Tbg Perf 3% Gyp in Brine Pkr

DATE: 7/19/90 JAL

2-26-01 DF

R

NORTH HOBBS #30-421
FORMER NAME: GETTY MCKINLEY #2

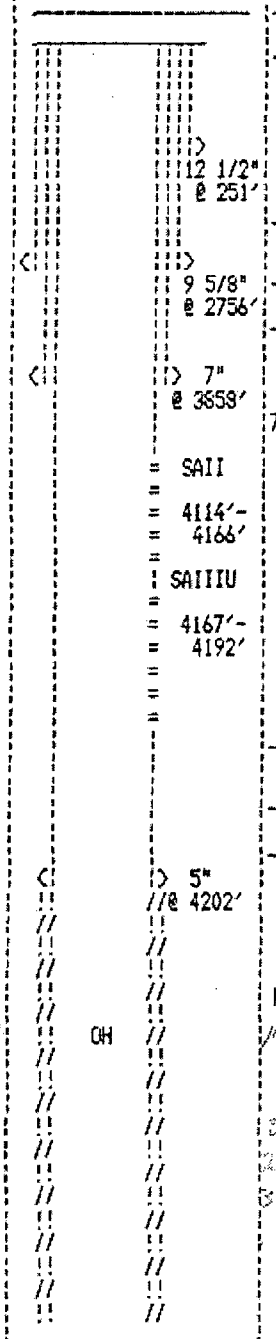
COMPLETION DATE: 7/30

RECOMPLETION DATE:

LOCATION: 2310′ FNL & 990′ FEL SECTION: 30-H SATELLITE: 30

SURVEY: T-18-S, R-38-E COUNTY: LEA COUNTY, NEW MEXICO

DATUM: 3648′ GL G.L. ELEV: 3648′ TD: 4258′ PBTD: ( )



CASING RECORD (* CALCULATED AT 50% EFFICIENCY)

SIZE	WEIGHT	DEPTH	CMT.	TOC	HOLE SIZE
12 1/2"	50#	251′	200SX	CIRC*	16" **
9 5/8"	36#	2756′	600SX	554′*	11 3/4" **
7"	24#	3858′	250SX	CIRC	8 3/4" **
5"	13#	4202′	450SX	SURF CBL	6 1/4" **

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
6/54	LANE	GR-N	
5/83	SWS	CBL/VDL	4088-1000′

(* ESTIMATED DEPTH) LOGTOPS

ZONE	TOP	SUBSEA
ANHY	1453′	2195′
TSALT	1552′	2096′
YATES	2634′	1014′
7RIVERS	2870′	778′
BOWERS	3180′	468′
QUEEN	3395′	253′
BYERS	3569′	79′
GRYBRG	3757′	-109′
GU	3898′	-250′
GL	3993′	-345′
SAI	4012′	-364′
SAII	4102′	-454′
SAIIIU	4167′	-519′
SAIIIL	0	
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
7/30	G,1,2,3U	*3858-4202	OH
7/54	2	4114-26,29-33,45-50	104 SHOTS
9/03/83	2,3U	4160-72,4182-92	2 JSPF
9/83	3U	4202-4258	OH

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
6/54	~2450′	REPAIRED LEAK IN 7" CSG W/450 SX CMT

STIMULATION (O,W,G)

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
2/76	2	250G 15% NEA + KEROSENE	AT 4114′-4150′		
9/03/83	2,3U	2800G 15% HCL NEA	AT 4160′-4192′		
9/07/83	2,3U	60 BBLS 15% HCL NEA W/RS IN GA	AT 4114′-4258′	89,256,2	
6/29/84	2,3U	5,000G 15% NEA INHIB HCL W/RS IN 4 STAGES	AT 4114′-4258′	127,485,30	136,541,17
10/5/85	SAII,III	5000G 15% HCL NEFE + 1200# RS	AT-3	85/510/23	101/655/13
10/6/85	" "	4 Drums EZX-7647	SS		
3/84		Dump 1000g 15%			
3-9-88	2,3U	4 Drums Super 7647			
2-1-88	2,3U	2000g Super 7647			
3-21-91	2,3U	2000g Xylene, 2000g 15% HCl, plus 45#			

OPT:

DATA AVAILABLE: DST CORE PVT OTHER

REMARKS: 6/10/77: BULL PLUG MUD ANCHOR @ 4182′ 9/83: DEEPENED FROM 4202′-4258′

DATE: 8/84 JGP

R:

2-20-91 BP 1/8/86 RDA

NORTH HOBBS #30-431
(EXXON BOWERS A FED. #5)

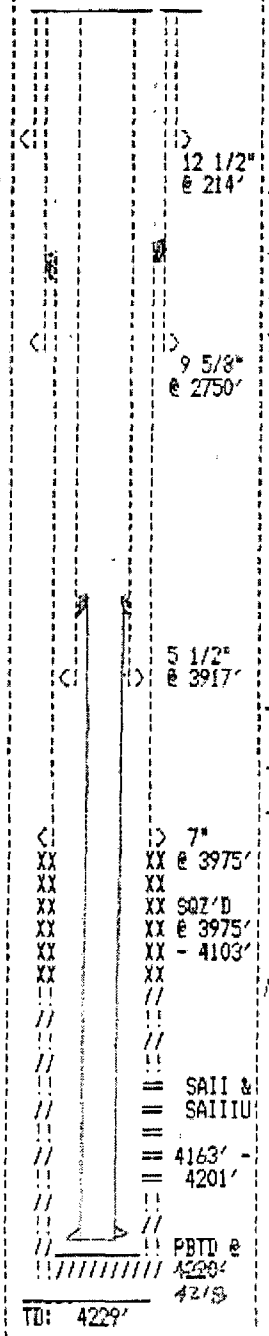
COMPLETION DATE: 9/ /30

RECOMPLETION DATE:

LOCATION: 2310' FSL & 990' FEL SECTION: 30-I SATELLITE:

SURVEY: T-18-S, R-38-E COUNTY: LEA COUNTY, NEW MEXICO

DATUM: 3652' GL G.L. ELEV: 3652' TD: 4229' PBTD: 4220' (FILL)



* CALCULATED AT 50% EFFICIENCY

CASING RECORD

SIZE	WEIGHT	DEPTH	CMT.	TOC	HOLE SIZE
12 1/2"	50#	214'	200SX	CIRC	15 1/2"
9 5/8"	36#	2750'	650SX		12"
7"	26#	727-3975'	300SX		8 3/4"
5 1/2"	14,23#	0-3917'	600SX	CBL/CIRC	6 1/8"
3 1/2" LINER	9.3#	3751-4218	50SX	4045 CBL	

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
8/23/53	PGAC	GR/N	3860-SURF
8/22/69	SWS	SNP	4212-3500
8/15/83	SWS	CBL	3871-100'

(* ESTIMATED DEPTH) LOGTOPS

ZONE	TOP	SUBSEA
YATES	2635'	1017'
7RIVERS	2855'	797'
BOWERS	3167'	489'
QUEEN	3384'	268'
GRYBRG	3742'	-90'
GU	3903'	-251'
GL	4009'	-357'
SAI	4026'	-374'
SAII	4087'	-439'
SAIIIU	4160'	-503'
SAIIIL	4266'	-614'
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
8/ /30	G,I,II	*(3975'-4103'),4104-4218'	OH
5/ /84	IIIU	4218'-4229'	OH
5/ /84	IIIU	4163'-4201'	2 JSPF (oil)
5/3/90		4085-89, 96-4100, 06, 10-16, 20-22, 27-30, 34, 41, 46, 57-59, 62, 66-68, 72, 77, 87, 93, 96-99	2 JSPF

SEE BACK

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
1947		RAN 5 1/2" LINER DUE TO 7" CSG LEAKS
10/ /71		PB OH TO 4141';DRILLED OUT NEW HOLE TO 4218'
5/05/84	3975'-4103'	WSO W/3500G 10% CACL2 + 2500G FLO-CHEK
5/23/84	3975'-4103'	WSO W/1500G 10% CACL2 + 1500G FLO-CHEK + 100SX CLASS "C" CMT
4/24/90	3751-4034	CIRC 40 SKS ACROSS LINER TOP

STIMULATION (O,W,G)

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
3/30/35	G,I,II	1000G	AT @ 3975'-4218'		
5/30/84	II,IIIU	1500G 15% HCL NEA	AT @ 4104'-4220'	14,613,0	11,447,39
2/06/85	II,IIIU	220G NALCO 953 SCALE INHIBITOR	DUMP SQZ W/200BBL BRINE	18,554,1	
4/7/90		4400G 15%	8'- SPM	0+800+0	107+414+96
10/10/92		2000G 15%	4.5BPM W/10# BRINE	65+387+45	70+416+47
10/5/00	DATA	3000G 15%+2350# B.S			

OPT:

DATA AVAILABLE: DST CORE PVT OTHER

REMARKS: PULLED 945' OF 7" CSG BEFORE SETTING LINER IN '47. TWO PACKERS CEMENTED IN WELL 4220-29', CEMENT SHEATH IN OPEN HOLE - REASON FOR PERFS IN OH. 5/90 RAN 3½ LINER 3750-4218
10/2000 RAN BSP

DATE: 5/29/85 DYD

R:

2-20-01
BP

NORTH HOBBS #30-432

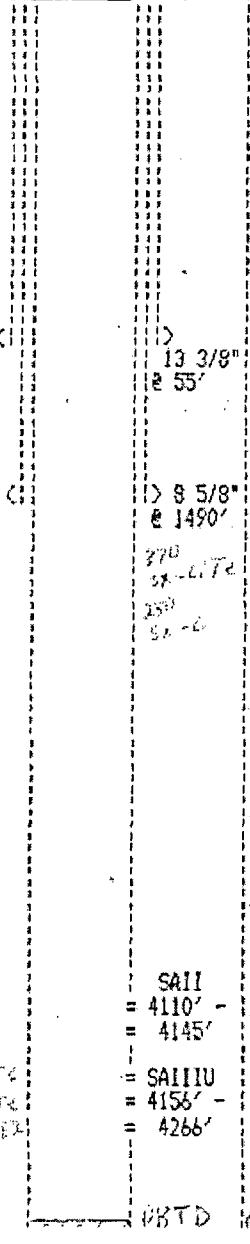
COMPLETION DATE: 2/15/85

RECOMPLETION DATE:

LOCATION: 2260' FSL & 180' FEL Unit Letter I SECTION: 30-I SATELLITE:

SURVEY: T-18-S, R-38-E COUNTY: LEA COUNTY, NEW MEXICO

DATUM: 3663' KB G.L. ELEV: 3650' TD: 4370' PBTD: 4325' (FLOAT CLR.)



CASING RECORD (* CALCULATED AT 50% EFFICIENCY)

SIZE	WEIGHT	DEPTH	CMT.	TOC	HOLE SIZE
13 3/8"		55'			
8 5/8"	24#,32#	1490'	370SX	CIRC	
5 1/2"	14#	4370'	350SX	CIRC	

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
12/22/84	SWS	DLL/MSFL/SNP	4362-3600
12/22/84	SWS	BHC	4362-SURF
12/22/84	SWS	RFT	
12/31/84	SWS	CBL/VDL/CCL/	4319-SURF

(* ESTIMATED DEPTH) LOGTOPS

ZONE	TOP	SUBSEA
SAI	4004'	-341'
SAII	4030'	-417'
SAIIIU	4155'	-492'
SAIIIL	4266'	-603'
GOC		
GWC		

PERFORATIONS AND/OR OPEN HOLE (* NOT OPEN NOW)

DATE	ZONE	DEPTHS	DENS & SIZE
1/15/85	II	4110',16,45'	2 SPF
1/15/85	III	4156',66,75,82,89,98,4204,4211,17,25,35,45,56,66'	2 SPF
3-21-89		4126,33,52,56,79,93,4221,30,38,41,52,61	2 SPF

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE

STIMULATION (O,W,G)

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
1/15/85	II,III	5100G 15% NE HCL	STRADDLE PACKERS	NWC	282,289,275
1/87	II, III	DUMP 1000 G 15% HCl			
2-4-88	II + III	Dump 2000G 15% HCL	cgs.		
3-21-89		3500 g 15% HCL	Gel Sqz IT		
10-14-88	II & III	2500g 15% HCl NeFe R.S	PKR		
1-14-00	II + III	3000g 15% HCl NeFe + R.S	PKR 4110-4266		
Possible	Fill				
4325		CTI 1-17-00			220-0

NORTH HOBBS #30-441
(EXXON BOWERS A FED.#4)

COMPLETION DATE: 8/30

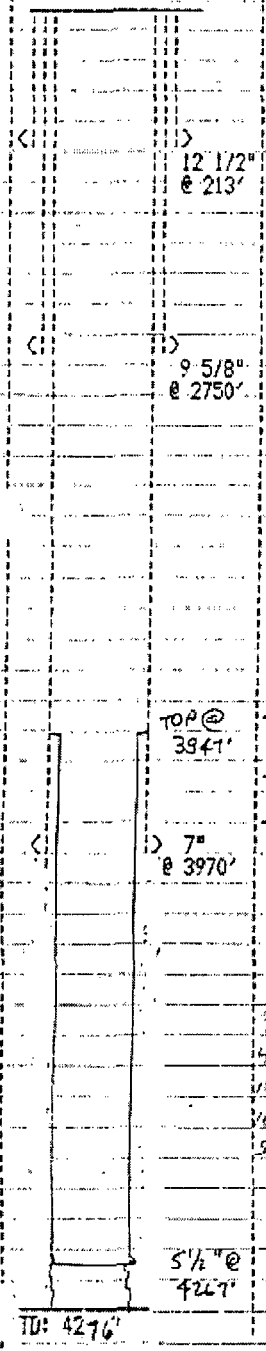
RECOMPLETION DATE:

LOCATION: 330' FSL & 330' FEL SECTION: 30-P SATELLITE: 30

SURVEY: T-18-S R-38-E COUNTY: LEA COUNTY, NEW MEXICO

DATUM: 3646' G.L. ELEV: TD: 4276' PBTD: ( )

7 1/2' ABOVE CHF



CASING RECORD * CALCULATED AT 50% EFFICIENCY

SIZE	WEIGHT	DEPTH	CMT.	TOC	HOLE SIZE
12 1/2"	50#	213'	200SX	CIRC*	18"
9 5/8"	36#	2750'	650SX	365'*	12"
7"	26#	3970'	300SX	2624'CBL	8 3/4"
5½" FL4S LNR		3847-4267'	50 sx		

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
8/69	DA	SIDEWELL NEUT.	
3/82	SWS	CBL	3907-SURF
10/83		PROD. TRACER	
12/86	CAMC	X-FLOW	
12/86	BELL	CALIPER	
12/86	DAES	CBL	

LOGTOPS

ZONE	TOP	SUBSEA
TSALT	1540'	2106'
YATES	2629'	1017'
7RIVERS	2860'	786'
BOWERS	3164'	482'
QUEEN	3375'	271'
BYERS	3549'	97'
GRYBRG	3730'	-84'
GU	3885'	-239'
GL	3990'	-344'
SAI	4006'	-360'
SAII	4070'	-424'
SAIIIU	4170'	-524'
SAIIIL	4237'*	-591'*
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
8/30	G,1	3970-4070	OH
10/47		2000,2500	SQZ HOLES
1/83	2,3U	4070-4221	OH
12/30/86	2,3U	4113,17',29,30',42,43',51,54',65,68,76,77' 4178',83',84',95',4200',01'	2 JSPF
9-2-87	243	4094-4109	2 JSPF 2 JSPF

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
10/47	2000'	160SZ CMT. SQZ'D INTO FORMATION BEHIND 7" CSG (CSG LEAK REPAIRED)
1/83		SQZ OH W/4000G FLOCHECK & 200SX CMT FOR WSO (SAII)
9-2-87	4110	CIBP + Dump 8-15-81

STIMULATION (O,W,G)

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
4/1/34	G,1,2,3U	1000G DOWELL XX	AT		
11/3/35	G,1,2,3U	1000G	AT		
11/7/35	G,1,2,3U	2000G	AT		
11/25/35	G,1,2,3U	1000G	AT		
6/16/59	G,1,2,3U	250G 15% LT	AT 3970'-4221'		49 BOPD
8/21/84	2,3U	3000G INHB 15% NE HCL W/800# RS	AT 4100'-4221'		
12/30/86	2,3U	7800G 15% HCl	AT w/ SOA		
9-2-87	243	1000g 15% HCl	4094-4109'		
9-2-90	243	2200g 15% HCl	PPI 4094-4109		
10-12-90	243	4200g 15% HCl	PKR/RBP 4145-42	01	
10-13-92	243	6300g 15% HCl	PKR/RBP 4094-41	54	
5-25-93	243	3000g 15% HCl	PKR/RBP 4094-42	00	

OPT: 8/28/30 — 629 BFPH — 99.5% OIL

DATA AVAILABLE: DST CORE PVT OTHER

REMARKS: FORMATION PKR. SET @ 4063' TO REDUCE GOR IN 1/36; PKR. PULLED IN 1947
LYNS PKR RUN 8/69; PULLED PKR 3/82 8/84: RAN SUBMERSIBLE 12/86 Deepened from 4221-4276'. Install 5½" FL4S LNR

DATE: ~~9/84~~ 1/21/87 DDP SMA

2-20-91 RP

NORTH HOBBS #30-442W

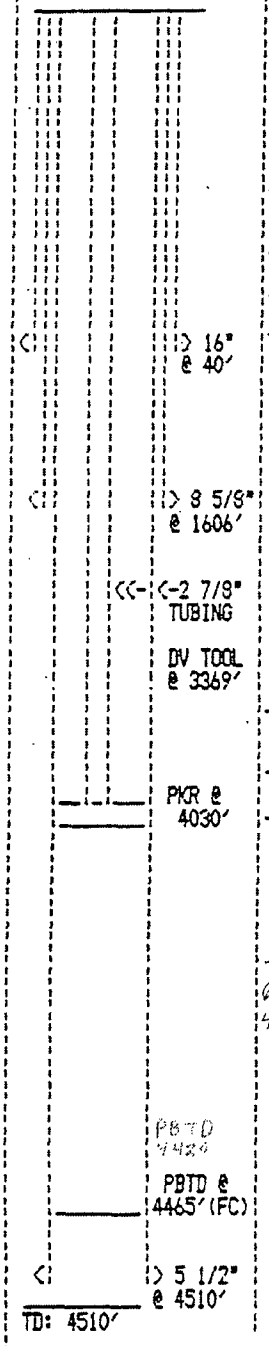
COMPLETION DATE: 5/08/81

RECOMPLETION DATE:

LOCATION: 1300′ FSL & 1050′ FEL SECTION: 30-P SATELLITE:

SURVEY: TWP-18-S, R-38-E COUNTY: LEA COUNTY, NEW MEXICO

DATUM: 3657′ KB G.L. ELEV: 3645.5′ TD: 4510′ PBTD: 4465′ (FC)



CASING RECORD (* CALCULATED AT 50% EFFICIENCY)

SIZE	WEIGHT	DEPTH	CMT.	TOC	HOLE SIZE
16"	COND	40′	40SX	CIRC	
8 5/8"	24#	1606′	850SX	CIRC	12 1/4"
5 1/2"	14#	4510′	1075SX	CIRC	7 7/8"

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
11/ /80	SWS	LATER LOG	4508-2500
11/ /80	SWS	SNP	4508-3750
11/ /80	SWS	SONIC	4506-1565
4/ /81	SWS	CBL	4452-SURF
3/24/84	CARD	PROFILE SVY	

(* ESTIMATED DEPTH) LOGTOPS

ZONE	TOP	SUBSEA
YATES	2634′	+1023′
7RIVERS	2866′	+791′
BOWERS	3172′	+485′
QUEEN	3387′	+270′
GU	3708′	-51′
GL	3894′	-237′
SAI	3997′	-340′
SAII	4074′	-417′
SAIIIU	4167′	-510′
SAIIIL	4260′	-603′

NORTH HOBBS #30-443W

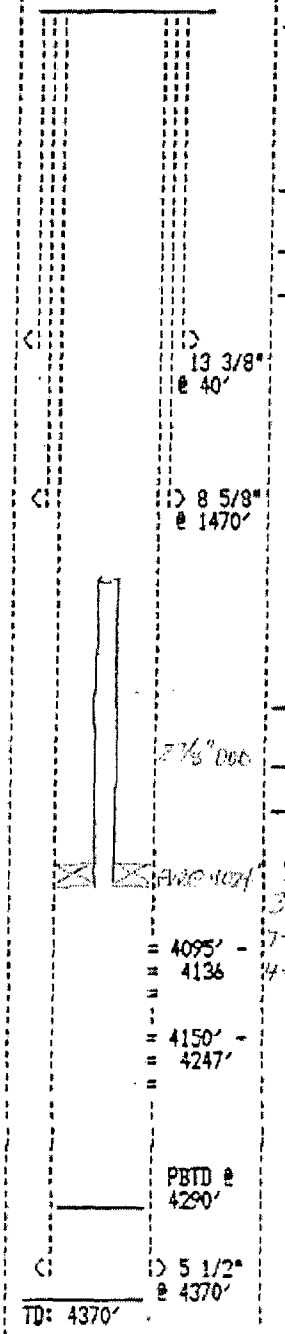
COMPLETION DATE: 1/21/85

RECOMPLETION DATE:

LOCATION: 1300' FSL & 106' FEL SECTION: 30-P SATELLITE:

SURVEY: T-18-S, R-38-E COUNTY: LEA COUNTY, NEW MEXICO

DATUM: 3659' KB G.L. ELEV: 3648' TD: 4370' PBTD: 4290' ( )



CASING RECORD (* CALCULATED AT 50% EFFICIENCY)

SIZE	WEIGHT	DEPTH	CMT.	TOC	HOLE SIZE
13 3/8"		40'			
8 5/8"	24#	1470'	425SX	SURF	
5 1/2"	14#	4370'	340SX	858'	

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
1/17/85	SWS	BHC, CNL	3600-4278
1/17/85	SWS	CBL/VDL/CCL	100-4235'
1/17/85	SWS	CEL	3000-4235

(* ESTIMATED DEPTH) LOGTOPS

ZONE	TOP	SUBSEA
SAI	3989'	-330
SAII	4062'	-403
SAIIIU	4146'	-487
SAIIIL	4246'	-587
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
1/18/85	II	4094',4103,20,29,36'	2 JSPF
1/18/85	IIIU	4150',58,67,74,81,93'	2 JSPF
1/18/85	IIIU, SL	4200',06,15,23,28,35,41,47'	2 JSPF

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
4-11-90	4185	CIBP

STIMULATION (O,W,G)

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
1/21/85	II, IIIU	5700G 15% HCL NEA	STRADDLE PACKERS	NWC	1905 @ 0 PSI
9-28-85	II, IIIU	1000G 15% HCL NEA	DUMP		
2-2-87	IIIU	2000G 15% HCL			
7-17-87	IIIU	300G Xylene + 1200G 15% HCL	Dump		
4-11-90	2+3	2000G 15% HCL + B.S	Dump		

= 4095' - 4136
= 4150' - 4247'

OPT:

DATA AVAILABLE: DST CORE PVT OTHER

REMARKS: INJECTION EQUIP: 129 JTS 2 7/8" 8RD DUOLINE TBG. XL ON/OFF TOOL 5 1/2" X 2 7/8" W/1.78 PROFILE NIPPLE 4015'-4017'. SET GUIB 5 1/2 X 2 3/8" PKR @ 4024' W/12000# TENSION.

DATE: ~~5/29/85 DVD~~ 1/86 JEO

R:

2-20-01 BB

NORTH HOBBS #30-444

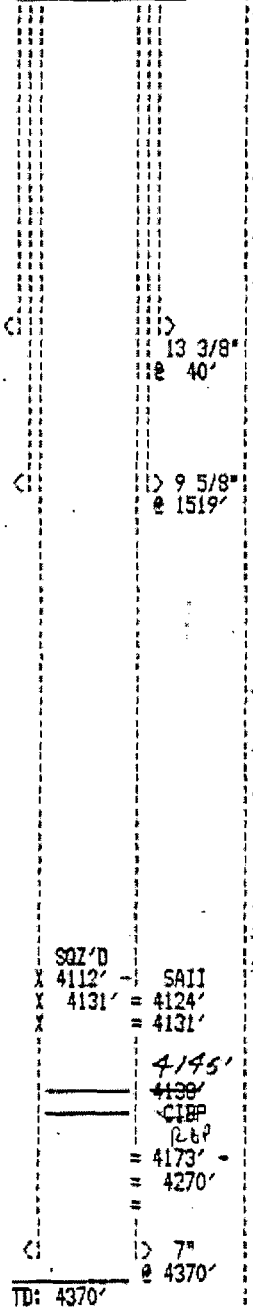
COMPLETION DATE: 4/03/85

RECOMPLETION DATE:

LOCATION: 215' FSL & 1255' FEL SECTION: 30-P SATELLITE:

SURVEY: T-18-S, R-38-E COUNTY: LEA COUNTY, NEW MEXICO

DATUM: 3655' KB G.L. ELEV: 3644' TD: 4370' PBTD: 4138' (CIBP)



CASING RECORD (* CALCULATED AT 50% EFFICIENCY)

SIZE	WEIGHT	DEPTH	CMT.	TOC	HOLE SIZE
13 3/8"		40'			
9 5/8"	24#	1519'	500SX	CIRC	
7"	20-26#	4369'	1035SX	3900	
			1270SX	CIRC	

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
3/11/85	SWS	CBL/VDL/CCL	0'-4312'
3/11/85	SWS	CNL/GR/CCL	
3/14/85	SWS	CBL/VDL/GR/CCL	0'-4324'

(* ESTIMATED DEPTH) LOGTOPS

ZONE	TOP	SUBSEA
SAII	4088'	-933
SAIIIU	4171'	-516
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
3/11/85	3850	4 WAY SQZ HOLES	4 SPF
3/14/85	II	(*4112',18,24,31),55,65'	2 JSPF
3/14/85	IIIU	*4173',79,91,4200,09,56,61,70'	2 JSPF
4/03/85	II	4124',31'	2 JSPF
10-19-88	243	4112,18,24,31	2 JSPF

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
3/11/85	3850'-SURF	CIRC 1070 SX LIGHTWEIGHT 4-HE CMT + 200 SX HIGH ENERGY CMT OUTSIDE 7" CSG.
3/30/85	4112'-31'	SQZ'D W/180 SX CLASS "C" CMT W/.2% HALAD-4
9-16-85	4145'	RESET PBP FROM 4185' (#175 + 452 + 22)

STIMULATION (O,W,G)

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
3/15/85	II,IIIU	4200G 15% NE HCL	STRADDLE PACKER-14 STAGES		
4/03/85	II	600G 15% HCL NEA 4124',31'	STRADDLE PACKER-2 STAGES	NWC	
10-19-88	243	3000 G 15% HCL 300# B.S	PMP		
5-21-91	243	3000 G 15% HCL + B.S	PMP		
5-9-93	243	3000 G 15% HCL + B.S	PMP		

OPT: DATA AVAILABLE: DST CORE PVT OTHER

REMARKS:

DATE: 6/13/85 DTD 1/24/220

2-20-01 BP

R:

WR-3198 B

SECTION 30 - UNIT WELL NO. 141 W

COMPLETION DATE 10-7-55 — MARATHON STATE 30 NO. 9 — COMPLETION INTERNAL: 4006-4114(C)

RECOMPLETION DATE ____ — HOBBS (G-SA) UNIT

LOCATION 990' FSL & 990' FWL — SECTION 30M — BLOCK ____

SURVEY T-18-S, R-38-E — COUNTY Lea County, New Mexico

DATUM 3663' [DF] G.L. ELEV. 3651 — TD 4273' — PBTD 4227' [ ]

CASING RECORD *CALCULATED **ESTIMATE

SIZE	WT.	DEPTH	CMT.	TOC	HOLE SIZE
10 3/4"	32.75#	368	200	Circ.	13 3/4"
5 1/2"	15.5 #	4273	3000	2558* CBL	8 3/4"

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
4-13-82	SCHL	CBL/GCL/GR	4039'-200'

LOG TOPS

ZONE	TOP	SUBSEA
B Salt	2606	
Yates	2690	
7 Riv	2928	
Queen	3480	
GU	3962	-299
GL	4107	-444
I	4123	-460
II	4187	-524
IIIU	4246	-583
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

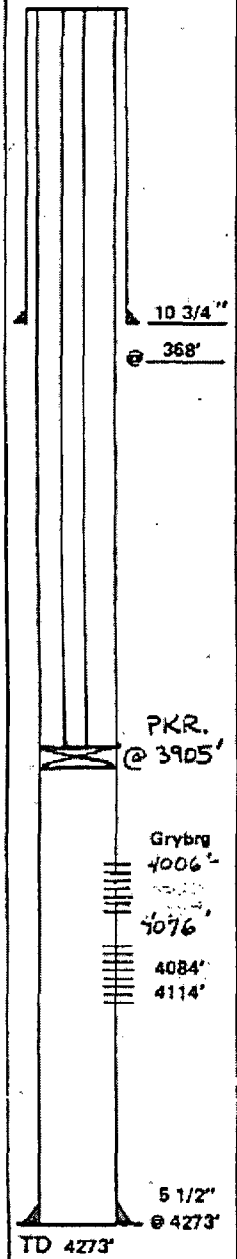
DATE	ZONE	DEPTHS	DENS & SIZE
10/55	G	*4007-12, 4016-30, 4040-	6 JPF
		52, 4062-74	
11/65	G	4084-4114	1 SPF
1/73	G	4084-90, 4099-4101, 4107-	
		14	15 HOLES
4-14-82	G	4006-12, 20-32, 40-52, 64-76	4 JSPF

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
11/65	4007-74	Sqz'd w/150 sx cmt.
12/72	4084-90	Sqz'd w/75 sx cmt. (to reduce GOR)
4/10/82	4150	CIBP
6/30/98	3956	CIBP

STIMULATION

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
10/55	G	500 gal. AT; 10x10 frac			46BO
11/65	G	1000 gal. 15% AT;			
		20x35 frac.			
8/70	G	1000 gal. 15%	AT		47BO, SW
1/73	G	2000 gal. 15%	AT		18BO, 66
4-14-82	G	3000 g 15% HCL NEA	SPOT ACID @ 4006'-4076'		
4-16-82	G	4,700 g ACID 4 STAGES	PUMPED ACID @ 4000'-4052'		CTI
6-5-84	G	PUMP 1,000g 15% HCL	AT	400/620	145 BO
6-23-98	G	[illegible] 20% NEA + 83 TON [illegible]	[illegible]		



OPT

DATA AVAILABLE DST ☐ CORE ☐ PVT ☐ OTHER

REMARKS: TOC @ 2558'

CTI 4-17-82 Will TA - 6-30-98

DATE: 5/98 [illegible]

25 2-13-01 BP

NORTH HOBBS #30-131
FORMER NAME: MARATHON STATE SEC.30 #3

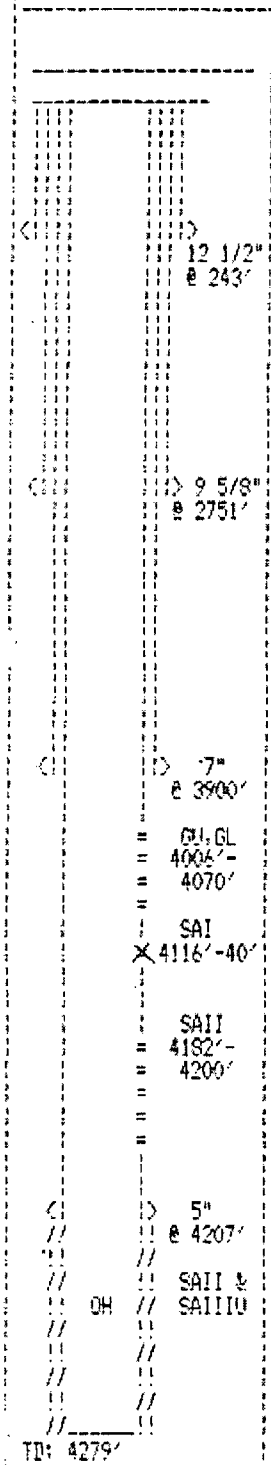
COMPLETION DATE: 10/30

RECOMPLETION DATE:

LOCATION: 2310' FSL & 330' FWL SECTION: 30-L SATELLITE: 25

SURVEY: T-18-S, R-39-E COUNTY: LEA COUNTY, NEW MEXICO

DATUM: 3665'DF G.L. ELEV: 3656' TD: 4279' PBTD: ( )



CASING RECORD (* CALCULATED AT 50% EFFICIENCY)

SIZE	WEIGHT	DEPTH	CMT.	TOC	HOLE SIZE
12 1/2"	50#	243'	225SX	CIRC	16" **
9 5/8"	40#	2751'	550SX	739'*	11 3/4"**
7"	24#	3900'	350SX	1783'*	8 3/4"
5"	15#	4207'	50SX	3770'CBL	6 1/4"**

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL
2/ /57	WLX	GR-N	4213-SURF
3/ /83	SWS	CBL	

(* ESTIMATED DEPTH) LOGTOPS

ZONE	TOP	SUBSEA
ANHY	1500'	2165'
TSALT	1600'	2065'
YATES	2685'	980'
7RIVERS	2925'	740'
BOWERS	3230'	435'
QUEEN	3452'	213'
BYERS	3628'	37'
GRYBRG	3817'	-152'
GU	3964'	-299'
GL	4067'	-402'
SAI	4099'	-423'
SAII	4165'	-500'
SAIIIU	4235'*	-570'
SAIIIL		
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
9/ /30	G,1,2	*3900-4212	OH
2/06/57	G	*3834-35	4 JSPF
2/07/57	-	*1200	4 JSPF
9/16/60	1	*4116-40	4 JSPF
7/18/72	GL	*4053,56,59,60,62,63,66,67,69,70,74,76,77	1 JSPF
4/05/83	GU,GL	4006,08,20,23,30,32,42,44,53,56,59,60,62,	(CONT'D)

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
2/01/57		SET BP @ 3855' W/1 SX CMT TO 3850'
2/06/57		SET CR @ 3784'
2/07/57		SET CR @ 1147' & SQZ'D 250 SX BEHIND 7" CSG
2/13/57		SQZ'D ADD'L 200SX @ 1200'
7/16/72	4116'-4140'	SET MODEL N PLUG @ 4108' W/1SX CMT TO 4098'
3/30/83	4053'-4077'	WSO SAI W/50 SX CMT

STIMULATION (O,W,G)

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
1934	G,1,2	1,000G REG	AT 3900'-4209' OH		
7/18/72	GL	2,600G 15% HCL W/DIVERT	AT 4053'-4077'		105,104,-
4/06/83		750G 15% HCL	AT		
7/20/83	2	2,200G 15% HCL NEA W/BS + NALCO	AT 4182'-4200'	1,9,30	
2/07/85	G,1,11	220G NALCO 4987 SCALE INHIBITOR	DUMP SQZ W/200 BBLS BRINE	90,383,35	

OPT: 9/60: PPD 150 BOPD + 37 BWPD

DATA AVAILABLE: DST CORE PVT OTHER

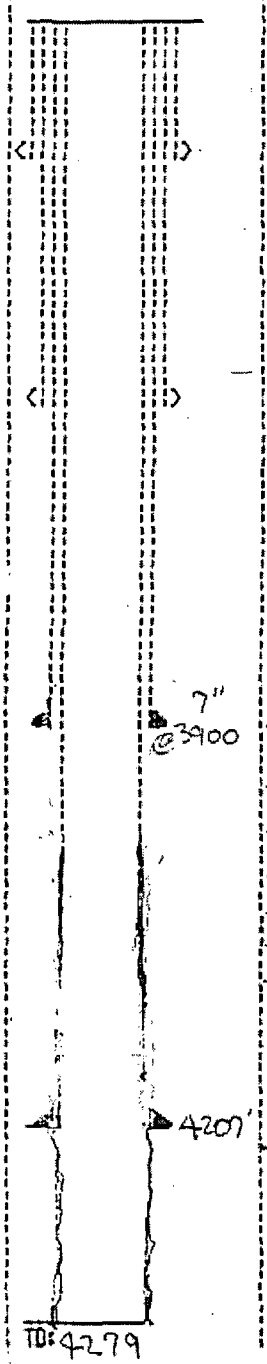
REMARKS: 2/57: CMT CIRC TO SURF BEHIND 7" CSG TO PROTECT FRESH WTR SANDS FROM POSS. CONTAMINATION FROM HOBBS, BYERS & BOWERS ZONES; IAL . 9/60: RAN 5" CSG

DATE: ~~4/15/85 DVD~~

2-13-61 BP

NORTH HOBBS #30-131
FORMER NAME: MARATHON STATE SEC.30 #3

COMPLETION DATE: 10/30
RECOMPLETION DATE:
LOCATION: 2310' FSL & 330' FWL SECTION: 30-L SATELLITE: 25
SURVEY: T-18-S, R-38-E COUNTY: LEA COUNTY, NEW MEXICO
DATUM: 3665'DF G.L. ELEV: 3656' TD: 4279' PBTD: ( )



CASING RECORD * CALCULATED AT 50% EFFICIENCY

SIZE	WEIGHT	DEPTH	CMT.	TOC	HOLE SIZE
12 1/2"	50#	243'	225SX	CIRC	16" **
9 5/8"	40#	2751'	550SX	733'*	11 3/4"**
7"	24#	3900'	350SX	1783'*	8 3/4"
5"	15#	4207'	50SX	3770'CBL	6 1/4"**

LOGGING RECORD

DATE	CO.	TYPE	INTERVAL

(* ESTIMATED DEPTH) LOGTOPS

ZONE	TOP	SUBSEA
ANHY		
TSALT		
YATES		
7RIVERS		
BOWERS		
QUEEN		
BYERS		
GRYBRG		
GU		
GL		
SAI		
SAII		
SAIIIU		
SAIIIL		
GOC		
OWC		

PERFORATIONS AND/OR OPEN HOLE * NOT OPEN NOW

DATE	ZONE	DEPTHS	DENS & SIZE
(CONT.)		4083,66,67,69,70	2 JSPF
7/19/83	2	4182,83,84,85,86,87,91,92,93,98,99,4200	2 JSPF
7/19/83	2,3U	4207-4279	OH
10-28-85	SA I	*4127, 35	4 JSPF
2-23-89	II	4082, 83, 84, 91, 93, 4093, 95, 96, 4102, 04, 06, 07, 08	2 JSPF

SQUEEZE & REPAIR

DATE	DEPTH	WORK DONE
10-29-85	4116 - 4190	Sqzd SAI w 1500 G of flowchek and 50 sx Class C Cmt
10-30-85	" "	Resqzd SAI w/50 sx Class C Cmt
1-28-89	4204	CIBP - SAIII 4147
2-9-89	4116-4190	Sqz w/ 125 sxs
2-23-89	4116	CIBP - SAIII 4147

STIMULATION (O,W,G)

DATE	ZONE	AMOUNT & TYPE	METHOD	BEFORE	AFTER
11-5-85	SA II, III U	3000 G 15% NCL NEFE W/R.S.	AT 3 W/1500# RS	53/810/0	98/496/40
3-10-89	II-4 III U	10000 G 15% HCL w/RS	PMP (4182-4200)		
3-11-89	II	7500 G 15% HCL w/RS	+ O.H.		
3-28-89	II	9000 G 15% HCL + RS	PMP (4083-4102)		

OPT: DATA AVAILABLE: DST CORE PVT OTHER

REMARKS:

DATE: ~~4/84~~ JDP

R:

2-13-01 BP 1/6/86 RDC