RECR - 10
Windmill Oil

Water Quality Data

2004

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Mark E. Fesmire, P.E.
Director
Oil Conservation Division

July 29, 2004

Ms. Angela Sutton
1902 Gary Lane
Hobbs, New Mexico 88240

RE: WATER WELL SAMPLE ANALYSES

Dear Ms. Sutton:

On May 6, 2004, in response to your complaint of ground water contamination, the New Mexico Oil Conservation Division (OCD) obtained a ground water sample from a newly drilled water well that you had installed at 1820 Gary Lane in Hobbs, New Mexico. The OCD also sampled the nearby water well of your relatives, the Whitmans, at 1902 Gary Lane. Enclosed you will find a copy of the volatile organic and general chemistry laboratory analytical results of that water samples.

The analyses from the Whitman's water well did not detect any petroleum-related contamination in ground water from the well and the general chemistry results are within New Mexico Water Quality Control Commission (WQCC) standards for domestic water supplies.

The general chemistry analyses from the newly installed water well at 1820 Gary Lane are within New Mexico Water Quality Control Commission standards for domestic water supplies. The volatile organic laboratory analytical results show that the water from this well is contaminated with dissolved hydrocarbons. The water contains 36.9 ug/l of benzene, 1.67 ug/l of ethylbenzene, 68.3 ug/l of total xylenes as well as low levels of benzene isomers. Benzene, ethylbenzene and xylene are common constituents of petroleum products. The health based drinking water standards are 10 ug/l for benzene, 750 ug/l for ethylbenzene and 620 ug/l for xylene. The WQCC does not have any standards for the other benzene isomers. The concentrations of ethylbenzene and xylene are below the WQCC's health based drinking water standards. However, the concentration of benzene in this well water is approximately 4 times the WQCC health based drinking water standard. Benzene is a known human carcinogen. Therefore, the OCD recommends that you do not use this water as a source of drinking water or for bathing purposes.

This well is in the vicinity of Windmill Oil site. Ground water at the Windmill Oil site is contaminated with petroleum dating back to the late 1950's to early 1960's. The source of this

contamination was never previously determined. Last year the OCD initiated an investigation of ground water contamination at the Windmill Oil site. Once the OCD identifies the parties responsible for ground water contamination in the area they will be required to investigate and remediate contamination at the site.

If you have any questions, 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

Olson, William

From: Olson, William
Sent: Thursday, July 29, 2004 4:12 PM
To: Sheeley, Paul
Cc: Anderson, Roger
Subject: Angela Sutton Letter

Paul,

Attached is a cover letter to attach to the analyses.

If you have any questions please let me know.

Sincerely,

William C. Olson
Hydrologist
New Mexico Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505
(505) 476-3491


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contamination was never previously determined. Last year the OCD initiated an investigation of ground water contamination at the Windmill Oil site. Once the OCD identifies the parties responsible for ground water contamination in the area they will be required to investigate and remediate contamination at the site.

If you have any questions, please feel free to call me at (505) 476-3491.

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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
155 McCutcheon, Suite H El Paso, Texas 79932 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Paul Sheeley
OCD-Hobbs
1625 N. French Dr.
Hobbs, NM 88240

Report Date: May 13, 2004

Work Order: 4050728

Project Location: 1820 & 1902 Gary Lane, Virgil Wittman
Project Name: Windmill Oil
Project Number: 040505

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
33349	0405061300	water	2004-05-06	13:00	2004-05-07
33350	0405061320	water	2004-05-06	13:20	2004-05-07

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 16 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Analytical Report

Sample: 33349 - 0405061300

Analysis:	Alkalinity	Analytical Method:	SM 2320B	Prep Method:	N/A
QC Batch:	9582	Date Analyzed:	2004-05-11	Analyzed By:	RS
Prep Batch:	8502	Date Prepared:	2004-05-11	Prepared By:	RS

Parameter	Flag	Result	RL	Units	Dilution	RL
Hydroxide Alkalinity		<1.00		mg/L as CaCo3	1	1.00
Carbonate Alkalinity		<1.00		mg/L as CaCo3	1	1.00
Bicarbonate Alkalinity		134		mg/L as CaCo3	1	4.00
Total Alkalinity		134		mg/L as CaCo3	1	4.00

Sample: 33349 - 0405061300

Analysis:	Cations	Analytical Method:	S 6010B	Prep Method:	S 3005A
QC Batch:	9554	Date Analyzed:	2004-05-11	Analyzed By:	BC
Prep Batch:	8435	Date Prepared:	2004-05-10	Prepared By:	TP

Parameter	Flag	Result	RL	Units	Dilution	RL
Dissolved Calcium		53.4		mg/L	1	0.500
Dissolved Potassium		2.60		mg/L	1	0.500
Dissolved Magnesium		9.40		mg/L	1	0.500
Dissolved Sodium		34.9		mg/L	1	0.500

Sample: 33349 - 0405061300

Analysis:	Conductivity	Analytical Method:	SM 2510B	Prep Method:	N/A
QC Batch:	9537	Date Analyzed:	2004-05-11	Analyzed By:	JSW
Prep Batch:	8463	Date Prepared:	2004-05-11	Prepared By:	JSW

Parameter	Flag	Result	RL	Units	Dilution	RL
Specific Conductance		509		µMHOS/cm	1	0.00

Sample: 33349 - 0405061300

Analysis:	Ion Chromatography	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	9476	Date Analyzed:	2004-05-10	Analyzed By:	JSW
Prep Batch:	8414	Date Prepared:	2004-05-07	Prepared By:	JSW

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		39.9		mg/L	5	0.500
Fluoride		1.33		mg/L	5	0.200
Sulfate		42.7		mg/L	5	0.500

Sample: 33349 - 0405061300

Analysis:	NO3 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	9476	Date Analyzed:	2004-05-10	Analyzed By:	JSW
Prep Batch:	8414	Date Prepared:	2004-05-07	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
Nitrate-N		2.57	mg/L	5	0.200

Sample: 33349 - 0405061300

Analysis:	pH	Analytical Method:	SM 4500-H+	Prep Method:	N/A
QC Batch:	9512	Date Analyzed:	2004-05-07	Analyzed By:	JSW
Prep Batch:	8448	Date Prepared:	2004-05-07	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
pH	[1]	7.67	s.u.	1	0.00

Sample: 33349 - 0405061300

Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	9568	Date Analyzed:	2004-05-12	Analyzed By:	JSW
Prep Batch:	8484	Date Prepared:	2004-05-11	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		332.0	mg/L	1	10.00

Sample: 33349 - 0405061300

Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	9477	Date Analyzed:	2004-05-07	Analyzed By:	JG
Prep Batch:	8415	Date Prepared:	2004-05-07	Prepared By:	JG

Parameter	Flag	RL Result	Units	Dilution	RL
Bromochloromethane		<1.00	µg/L	1	1.00
Dichlorodifluoromethane		<1.00	µg/L	1	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1	1.00
Vinyl Chloride		<1.00	µg/L	1	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	1	5.00
Chloroethane		<1.00	µg/L	1	1.00
Trichlorofluoromethane		<1.00	µg/L	1	1.00
Acetone		<10.0	µg/L	1	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	1	5.00
Carbon Disulfide		<1.00	µg/L	1	1.00
Acrylonitrile		<1.00	µg/L	1	1.00

continued...

[1] received out of holding time

sample 33349 continued...

Parameter	Flag	Result	RL	Units	Dilution	RL
2-Butanone (MEK)		<5.00		µg/L	1	5.00
4-Methyl-2-pentanone (MIBK)		<5.00		µg/L	1	5.00
2-Hexanone		<5.00		µg/L	1	5.00
trans 1,4-Dichloro-2-butene		<10.0		µg/L	1	10.0
1,1-Dichloroethene		<1.00		µg/L	1	1.00
Methylene chloride		<5.00		µg/L	1	5.00
MTBE		<1.00		µg/L	1	1.00
trans-1,2-Dichloroethene		<1.00		µg/L	1	1.00
1,1-Dichloroethane		<1.00		µg/L	1	1.00
cis-1,2-Dichloroethene		<1.00		µg/L	1	1.00
2,2-Dichloropropane		<1.00		µg/L	1	1.00
1,2-Dichloroethane (EDC)		<1.00		µg/L	1	1.00
Chloroform		<1.00		µg/L	1	1.00
1,1,1-Trichloroethane		<1.00		µg/L	1	1.00
1,1-Dichloropropene		<1.00		µg/L	1	1.00
Benzene		36.9		µg/L	1	1.00
Carbon Tetrachloride		<1.00		µg/L	1	1.00
1,2-Dichloropropane		<1.00		µg/L	1	1.00
Trichloroethene (TCE)		<1.00		µg/L	1	1.00
Dibromomethane (methylene bromide)		<1.00		µg/L	1	1.00
Bromodichloromethane		<1.00		µg/L	1	1.00
2-Chloroethyl vinyl ether		<5.00		µg/L	1	5.00
cis-1,3-Dichloropropene		<1.00		µg/L	1	1.00
trans-1,3-Dichloropropene		<1.00		µg/L	1	1.00
Toluene		<1.00		µg/L	1	1.00
1,1,2-Trichloroethane		<1.00		µg/L	1	1.00
1,3-Dichloropropane		<1.00		µg/L	1	1.00
Dibromochloromethane		<1.00		µg/L	1	1.00
1,2-Dibromoethane (EDB)		<1.00		µg/L	1	1.00
Tetrachloroethene (PCE)		<1.00		µg/L	1	1.00
Chlorobenzene		<1.00		µg/L	1	1.00
1,1,1,2-Tetrachloroethane		<1.00		µg/L	1	1.00
Ethylbenzene		1.67		µg/L	1	1.00
m,p-Xylene		36.1		µg/L	1	1.00
Bromoform		<1.00		µg/L	1	1.00
Styrene		<1.00		µg/L	1	1.00
o-Xylene		32.2		µg/L	1	1.00
1,1,2,2-Tetrachloroethane		<1.00		µg/L	1	1.00
2-Chlorotoluene		<1.00		µg/L	1	1.00
1,2,3-Trichloropropane		<1.00		µg/L	1	1.00
Isopropylbenzene		10.8		µg/L	1	1.00
Bromobenzene		<1.00		µg/L	1	1.00
n-Propylbenzene		3.07		µg/L	1	1.00
1,3,5-Trimethylbenzene		3.19		µg/L	1	1.00
tert-Butylbenzene		<1.00		µg/L	1	1.00
1,2,4-Trimethylbenzene		16.2		µg/L	1	1.00
1,4-Dichlorobenzene (para)		<1.00		µg/L	1	1.00
sec-Butylbenzene		1.13		µg/L	1	1.00
1,3-Dichlorobenzene (meta)		<1.00		µg/L	1	1.00
p-Isopropyltoluene		<1.00		µg/L	1	1.00
4-Chlorotoluene		<1.00		µg/L	1	1.00

continued...

sample 33349 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1	1.00
n-Butylbenzene		<1.00	µg/L	1	1.00
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5.00
Naphthalene		<5.00	µg/L	1	5.00
Hexachlorobutadiene		<5.00	µg/L	1	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		52.5	µg/L	1	50.0	105	70 - 130
Toluene-d8		50.9	µg/L	1	50.0	102	70 - 130
4-Bromofluorobenzene (4-BFB)		47.6	µg/L	1	50.0	95	70 - 130

Sample: 33350 - 0405061320

Analysis:	Alkalinity	Analytical Method:	SM 2320B	Prep Method:	N/A
QC Batch:	9582	Date Analyzed:	2004-05-11	Analyzed By:	RS
Prep Batch:	8502	Date Prepared:	2004-05-11	Prepared By:	RS

Parameter	Flag	RL Result	Units	Dilution	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Bicarbonate Alkalinity		232	mg/L as CaCo3	1	4.00
Total Alkalinity		232	mg/L as CaCo3	1	4.00

Sample: 33350 - 0405061320

Analysis:	Cations	Analytical Method:	S 6010B	Prep Method:	S 3005A
QC Batch:	9554	Date Analyzed:	2004-05-11	Analyzed By:	BC
Prep Batch:	8435	Date Prepared:	2004-05-10	Prepared By:	TP

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Calcium		133	mg/L	1	0.500
Dissolved Potassium		4.26	mg/L	1	0.500
Dissolved Magnesium		21.6	mg/L	1	0.500
Dissolved Sodium		128	mg/L	1	0.500

Sample: 33350 - 0405061320

Analysis:	Conductivity	Analytical Method:	SM 2510B	Prep Method:	N/A
QC Batch:	9537	Date Analyzed:	2004-05-11	Analyzed By:	JSW
Prep Batch:	8463	Date Prepared:	2004-05-11	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
Specific Conductance		1450	µMHOS/cm	1	0.00

Sample: 33350 - 0405061320

Analysis:	Ion Chromatography	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	9476	Date Analyzed:	2004-05-10	Analyzed By:	JSW
Prep Batch:	8414	Date Prepared:	2004-05-07	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		201	mg/L	5	0.500
Fluoride		1.17	mg/L	5	0.200
Sulfate		171	mg/L	5	0.500

Sample: 33350 - 0405061320

Analysis:	NO3 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	9476	Date Analyzed:	2004-05-10	Analyzed By:	JSW
Prep Batch:	8414	Date Prepared:	2004-05-07	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
Nitrate-N		8.76	mg/L	5	0.200

Sample: 33350 - 0405061320

Analysis:	pH	Analytical Method:	SM 4500-H+	Prep Method:	N/A
QC Batch:	9512	Date Analyzed:	2004-05-07	Analyzed By:	JSW
Prep Batch:	8448	Date Prepared:	2004-05-07	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
pH	[2]	7.34	s.u.	1	0.00

Sample: 33350 - 0405061320

Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	9568	Date Analyzed:	2004-05-12	Analyzed By:	JSW
Prep Batch:	8484	Date Prepared:	2004-05-11	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		970.0	mg/L	2	10.00

[2]received out of holding time

Sample: 33350 - 0405061320

Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	9477	Date Analyzed:	2004-05-07	Analyzed By:	JG
Prep Batch:	8415	Date Prepared:	2004-05-07	Prepared By:	JG

Parameter	Flag	RL Result	Units	Dilution	RL
Bromochloromethane		<1.00	µg/L	1	1.00
Dichlorodifluoromethane		<1.00	µg/L	1	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1	1.00
Vinyl Chloride		<1.00	µg/L	1	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	1	5.00
Chloroethane		<1.00	µg/L	1	1.00
Trichlorofluoromethane		<1.00	µg/L	1	1.00
Acetone		<10.0	µg/L	1	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	1	5.00
Carbon Disulfide		<1.00	µg/L	1	1.00
Acrylonitrile		<1.00	µg/L	1	1.00
2-Butanone (MEK)		<5.00	µg/L	1	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	1	5.00
2-Hexanone		<5.00	µg/L	1	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	1	10.0
1,1-Dichloroethene		<1.00	µg/L	1	1.00
Methylene chloride		<5.00	µg/L	1	5.00
MTBE		<1.00	µg/L	1	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1	1.00
1,1-Dichloroethane		<1.00	µg/L	1	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1	1.00
2,2-Dichloropropane		<1.00	µg/L	1	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1	1.00
Chloroform		<1.00	µg/L	1	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1	1.00
1,1-Dichloropropene		<1.00	µg/L	1	1.00
Benzene		<1.00	µg/L	1	1.00
Carbon Tetrachloride		<1.00	µg/L	1	1.00
1,2-Dichloropropane		<1.00	µg/L	1	1.00
Trichloroethene (TCE)		<1.00	µg/L	1	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1	1.00
Bromodichloromethane		<1.00	µg/L	1	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	1	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1	1.00
1,3-Dichloropropane		<1.00	µg/L	1	1.00
Dibromochloromethane		<1.00	µg/L	1	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1	1.00
Chlorobenzene		<1.00	µg/L	1	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1	1.00
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
Bromoform		<1.00	µg/L	1	1.00
Styrene		<1.00	µg/L	1	1.00

continued ...

sample 33350 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
o-Xylene		<1.00	µg/L	1	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1	1.00
2-Chlorotoluene		<1.00	µg/L	1	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1	1.00
Isopropylbenzene		<1.00	µg/L	1	1.00
Bromobenzene		<1.00	µg/L	1	1.00
n-Propylbenzene		<1.00	µg/L	1	1.00
1,3,5-Trimethylbenzene		<1.00	µg/L	1	1.00
tert-Butylbenzene		<1.00	µg/L	1	1.00
1,2,4-Trimethylbenzene		<1.00	µg/L	1	1.00
1,4-Dichlorobenzene (para)		<1.00	µg/L	1	1.00
sec-Butylbenzene		<1.00	µg/L	1	1.00
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1	1.00
p-Isopropyltoluene		<1.00	µg/L	1	1.00
4-Chlorotoluene		<1.00	µg/L	1	1.00
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1	1.00
n-Butylbenzene		<1.00	µg/L	1	1.00
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5.00
Naphthalene		<5.00	µg/L	1	5.00
Hexachlorobutadiene		<5.00	µg/L	1	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		54.3	µg/L	1	50.0	109	70 - 130
Toluene-d8		50.7	µg/L	1	50.0	101	70 - 130
4-Bromofluorobenzene (4-BFB)		45.3	µg/L	1	50.0	91	70 - 130

Method Blank (1) QC Batch: 9476

Parameter	Flag	Result	Units	RL
Nitrate-N		<0.200	mg/L	0.2

Method Blank (1) QC Batch: 9476

Parameter	Flag	Result	Units	RL
Chloride		<0.500	mg/L	0.5
Fluoride		<0.200	mg/L	0.2
Sulfate		<0.500	mg/L	0.5

Method Blank (1) QC Batch: 9477

Parameter	Flag	Result	Units	RL
Bromochloromethane		<1.00	µg/L	1
Dichlorodifluoromethane		<1.00	µg/L	1
Chloromethane (methyl chloride)		<1.00	µg/L	1
Vinyl Chloride		<1.00	µg/L	1
Bromomethane (methyl bromide)		<5.00	µg/L	5
Chloroethane		<1.00	µg/L	1
Trichlorofluoromethane		<1.00	µg/L	1
Acetone		<10.0	µg/L	10
Iodomethane (methyl iodide)		<5.00	µg/L	5
Carbon Disulfide		<1.00	µg/L	1
Acrylonitrile		<1.00	µg/L	1
2-Butanone (MEK)		<5.00	µg/L	5
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	5
2-Hexanone		<5.00	µg/L	5
trans 1,4-Dichloro-2-butene		<10.0	µg/L	10
1,1-Dichloroethene		<1.00	µg/L	1
Methylene chloride		<5.00	µg/L	5
MTBE		<1.00	µg/L	1
trans-1,2-Dichloroethene		<1.00	µg/L	1
1,1-Dichloroethane		<1.00	µg/L	1
cis-1,2-Dichloroethene		<1.00	µg/L	1
2,2-Dichloropropane		<1.00	µg/L	1
1,2-Dichloroethane (EDC)		<1.00	µg/L	1
Chloroform		<1.00	µg/L	1
1,1,1-Trichloroethane		<1.00	µg/L	1
1,1-Dichloropropene		<1.00	µg/L	1
Benzene		<1.00	µg/L	1
Carbon Tetrachloride		<1.00	µg/L	1
1,2-Dichloropropane		<1.00	µg/L	1
Trichloroethene (TCE)		<1.00	µg/L	1
Dibromomethane (methylene bromide)		<1.00	µg/L	1
Bromodichloromethane		<1.00	µg/L	1
2-Chloroethyl vinyl ether		<5.00	µg/L	5
cis-1,3-Dichloropropene		<1.00	µg/L	1
trans-1,3-Dichloropropene		<1.00	µg/L	1
Toluene		<1.00	µg/L	1
1,1,2-Trichloroethane		<1.00	µg/L	1
1,3-Dichloropropane		<1.00	µg/L	1
Dibromochloromethane		<1.00	µg/L	1
1,2-Dibromoethane (EDB)		<1.00	µg/L	1
Tetrachloroethene (PCE)		<1.00	µg/L	1
Chlorobenzene		<1.00	µg/L	1
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1
Ethylbenzene		<1.00	µg/L	1
m,p-Xylene		<1.00	µg/L	1
Bromoform		<1.00	µg/L	1
Styrene		<1.00	µg/L	1
o-Xylene		<1.00	µg/L	1
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1
2-Chlorotoluene		<1.00	µg/L	1
1,2,3-Trichloropropane		<1.00	µg/L	1
Isopropylbenzene		<1.00	µg/L	1

continued...

method blank continued . . .

Parameter	Flag	Result	Units	RL
Bromobenzene		<1.00	µg/L	1
n-Propylbenzene		<1.00	µg/L	1
1,3,5-Trimethylbenzene		<1.00	µg/L	1
tert-Butylbenzene		<1.00	µg/L	1
1,2,4-Trimethylbenzene		<1.00	µg/L	1
1,4-Dichlorobenzene (para)		<1.00	µg/L	1
sec-Butylbenzene		<1.00	µg/L	1
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1
p-Isopropyltoluene		<1.00	µg/L	1
4-Chlorotoluene		<1.00	µg/L	1
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1
n-Butylbenzene		<1.00	µg/L	1
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		<5.00	µg/L	5
Hexachlorobutadiene		<5.00	µg/L	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		51.8	µg/L	1	50.0	104	70 - 130
Toluene-d8		50.5	µg/L	1	50.0	101	70 - 130
4-Bromofluorobenzene (4-BFB)		46.9	µg/L	1	50.0	94	70 - 130

Method Blank (1) QC Batch: 9537

Parameter	Flag	Result	Units	RL
Specific Conductance		3.91	µMHOS/cm	

Method Blank (1) QC Batch: 9554

Parameter	Flag	Result	Units	RL
Dissolved Calcium		<0.500	mg/L	0.5
Dissolved Potassium		<0.500	mg/L	0.5
Dissolved Magnesium		<0.500	mg/L	0.5
Dissolved Sodium		<0.500	mg/L	0.5

Method Blank (1) QC Batch: 9568

Parameter	Flag	Result	Units	RL
Total Dissolved Solids		<10.00	mg/L	10

Method Blank (1) QC Batch: 9582

Parameter	Flag	Result	Units	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1
Bicarbonate Alkalinity		<4.00	mg/L as CaCo3	4
Total Alkalinity		<4.00	mg/L as CaCo3	4

Duplicate (1) QC Batch: 9512

Param		Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH	[3]	5.61	5.60	s.u.	1	0	0.4

Duplicate (1) QC Batch: 9537

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Specific Conductance	1450	1450	µMHOS/cm	1	0	2.3

Duplicate (1) QC Batch: 9568

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	940.0	970.0	mg/L	2	3	8.7

Duplicate (1) QC Batch: 9582

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Hydroxide Alkalinity	<1.00	<1.00	mg/L as CaCo3	1	0	20
Carbonate Alkalinity	<1.00	<1.00	mg/L as CaCo3	1	0	20
Bicarbonate Alkalinity	46.0	46.0	mg/L as CaCo3	1	0	20
Total Alkalinity	46.0	46.0	mg/L as CaCo3	1	0	4.8

Laboratory Control Spike (LCS-1) QC Batch: 9476

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Nitrate-N	2.33	2.34	mg/L	1	2.50	<0.0217	93	0	90 - 110	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1) QC Batch: 9476

[3]received out of holding time

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Chloride	11.2	11.2	mg/L	1	12.5	<0.337	90	0	90 - 110	20
Fluoride	2.34	2.33	mg/L	1	2.50	<0.0594	94	0	90 - 110	20
Sulfate	11.5	11.7	mg/L	1	12.5	<0.409	92	2	90 - 110	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1) QC Batch: 9477

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
1,1-Dichloroethene	97.6	101	µg/L	1	100	<0.136	98	3	78 - 120	20
Benzene	96.3	98.3	µg/L	1	100	<0.146	96	2	84.2 - 108	20
Trichloroethene (TCE)	99.3	100	µg/L	1	100	0.24	99	1	85.8 - 106	20
Toluene	93.3	95.0	µg/L	1	100	0.23	93	2	77.2 - 104	20
Chlorobenzene	92.7	95.5	µg/L	1	100	<0.0540	93	3	82.1 - 113	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Dibromofluoromethane	50.4	51.1	µg/L	1	50.0	101	102	70 - 130
Toluene-d8	50.2	50.5	µg/L	1	50.0	100	101	70 - 130
4-Bromofluorobenzene (4-BFB)	48.1	48.2	µg/L	1	50.0	96	96	70 - 130

Laboratory Control Spike (LCS-1) QC Batch: 9554

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Dissolved Calcium	99.6	98.1	mg/L	1	100	<0.102	100	2	85 - 115	20
Dissolved Potassium	98.8	98.7	mg/L	1	100	<0.101	99	0	85 - 115	20
Dissolved Magnesium	101	99.0	mg/L	1	100	<0.110	101	2	85 - 115	20
Dissolved Sodium	104	101	mg/L	1	100	<0.120	104	3	85 - 115	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) QC Batch: 9476

Param	MS Result	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Nitrate-N	2410	2410	mg/L	1000	2.50	<21.7	96	0	79.6 - 109	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) QC Batch: 9476

Param	MS Result	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Chloride	26000	26100	mg/L	1000	12.5	15000	88	0	74.3 - 118	20
Fluoride	2350	2410	mg/L	1000	2.50	<59.4	94	2	84.9 - 104	20
Sulfate	16500	16700	mg/L	1000	12.5	5010	92	1	77.8 - 112	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) QC Batch: 9554

Param		MS Result	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Dissolved Calcium		227	217	mg/L	1	100	137	90	4	75 - 125	20
Dissolved Potassium		116	111	mg/L	1	100	26.1	90	4	75 - 125	20
Dissolved Magnesium		242	242	mg/L	1	100	149	93	0	75 - 125	20
Dissolved Sodium	[4,5]	215	217	mg/L	1	100	155	60	1	75 - 125	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Standard (ICV-1) QC Batch: 9476

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Nitrate-N		mg/L	2.50	2.33	93	90 - 110	2004-05-10

Standard (ICV-1) QC Batch: 9476

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.5	11.3	90	90 - 110	2004-05-10
Fluoride		mg/L	2.50	2.31	92	90 - 110	2004-05-10
Sulfate		mg/L	12.5	11.5	92	90 - 110	2004-05-10

Standard (CCV-1) QC Batch: 9476

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Nitrate-N		mg/L	2.50	2.33	93	90 - 110	2004-05-10

Standard (CCV-1) QC Batch: 9476

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.5	11.2	90	90 - 110	2004-05-10
Fluoride		mg/L	2.50	2.35	94	90 - 110	2004-05-10
Sulfate		mg/L	12.5	11.7	94	90 - 110	2004-05-10

Standard (CCV-1) QC Batch: 9477

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Vinyl Chloride		µg/L	50.0	47.7	95	80 - 120	2004-05-07

continued ...

[4]ms recovery out of limits due to matrix effect, use lcs/lcsd
[5]ms recovery out of limits due to matrix effect, use lcs/lcsd

standard continued . . .

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
1,1-Dichloroethene		µg/L	50.0	49.3	99	80 - 120	2004-05-07
Chloroform		µg/L	50.0	48.7	97	80 - 120	2004-05-07
1,2-Dichloropropane		µg/L	50.0	50.1	100	80 - 120	2004-05-07
Toluene		µg/L	50.0	49.6	99	80 - 120	2004-05-07
Chlorobenzene		µg/L	50.0	49.5	99	80 - 120	2004-05-07
Ethylbenzene		µg/L	50.0	51.1	102	80 - 120	2004-05-07

Standard (ICV-1) QC Batch: 9512

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7.00	7.03	100	98 - 102	2004-05-07

Standard (CCV-1) QC Batch: 9512

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7.00	7.02	100	98 - 102	2004-05-07

Standard (ICV-1) QC Batch: 9537

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		µMHOS/cm	1410	1410	100	90 - 110	2004-05-11

Standard (CCV-1) QC Batch: 9537

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		µMHOS/cm	1410	1410	100	90 - 110	2004-05-11

Standard (ICV-1) QC Batch: 9554

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	25.0	25.1	100	90 - 110	2004-05-11
Dissolved Potassium		mg/L	25.0	24.9	100	90 - 110	2004-05-11
Dissolved Magnesium		mg/L	25.0	24.8	99	90 - 110	2004-05-11
Dissolved Sodium		mg/L	25.0	26.7	107	90 - 110	2004-05-11

Standard (CCV-1) QC Batch: 9554

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	25.0	25.2	101	90 - 110	2004-05-11
Dissolved Potassium		mg/L	25.0	24.3	97	90 - 110	2004-05-11
Dissolved Magnesium		mg/L	25.0	25.2	101	90 - 110	2004-05-11
Dissolved Sodium		mg/L	25.0	25.1	100	90 - 110	2004-05-11

Standard (ICV-1) QC Batch: 9568

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	987.0	99	90 - 110	2004-05-12

Standard (CCV-1) QC Batch: 9568

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	1002	100	90 - 110	2004-05-12

Standard (ICV-1) QC Batch: 9582

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0.00	<1.00		0 - 200	2004-05-11
Carbonate Alkalinity		mg/L as CaCo3	0.00	<1.00		0 - 200	2004-05-11
Bicarbonate Alkalinity		mg/L as CaCo3	0.00	<4.00		0 - 200	2004-05-11
Total Alkalinity		mg/L as CaCo3	250	246	98	90 - 110	2004-05-11

Standard (CCV-1) QC Batch: 9582

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0.00	<1.00		0 - 200	2004-05-11
Carbonate Alkalinity		mg/L as CaCo3	0.00	<1.00		0 - 200	2004-05-11
Bicarbonate Alkalinity		mg/L as CaCo3	0.00	<4.00		0 - 200	2004-05-11
Total Alkalinity		mg/L as CaCo3	250	240	96	90 - 110	2004-05-11

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # 405072 8

Company Name: New Mexico Oil Conservation Div. Phone #: 505.393.6161 x113
Address: (Street, City, Zip) 1625 N. French Dr, Hobbs, NM 88240 Fax #: 393.0720
Contact Person: Paul Sheeley
Invoice to: (If different from above) Ed Martin OCD-Santa Fe 505.476.3492
Project #: 040505 = COC# Project Name: Windmill Oil
Project Location: 1820 & 1902 Gary Lane, Virgil Wittman Sampler Signature:

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO3	H2SO4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
33349	040506 1300	1-P	1-L	X								X		5/6/04	1300
	040506 1300	2-G	40mL	X				X				X		5/6/04	1300
SD	040506 1320	1-P	1-L	X								X		5/6/04	1320
	040506 1320	2-G	40mL	X				X				X		5/6/04	1320

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	General Chemistry					Turn Around Time if different from standard	Hold
															X						
										X											
															X						
										X											

Relinquished by: Date: 5-6-04 Time: 1300 Received by: Date: Time:
Relinquished by: Date: Time: Received by: Date: Time:
Relinquished by: Date: Time: Received at Laboratory by: Date: 5-7-04 Time: 11:45

LAB USE ONLY
Intact (Y) N
Headspace Y (N)
Temp 1°C °
Log-in Review

REMARKS:

☐ Check If Special Reporting Limits Are Needed

Carrier # TNM 903-177-311-3

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

ORIGINAL COPY

Report Date: May 13, 2004
040505

Work Order: 4050728
Windmill Oil

Page Number: 16 of 16
1820 & 1902 Gary Lane, Virgil Wittman

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # 405072 8

Company Name: New Mexico Oil Conservation Div. Phone #: 505.393.6161 x113

Address: (Street, City, Zip) 1625 N. French Dr., Hobbs, NM 88240 Fax #: 393.0720

Contact Person: Paul Sheeley

Invoice to: (If different from above) Ed Martin OCD-Santa Fe 505.476.3492

Project #: 040505 = COC# Project Name: Windmill Oil

Project Location: 1820 & 1902 Gary Lane, Virgil Wittman Sampler Signature:

ANALYSIS REQUEST

(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO3	H2SO4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
33349	040506 1300	1-P	1-L	X								X		5/6/04	1300
	040506 1300	2-G	40mL	X				X				X		5/6/04	1300
SD	040506 1320	1P	1-L	X								X		5/6/04	1320
	040506 1320	2-G	40mL	X				X				X		5/6/04	1320

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	General Chemistry					Turn Around Time if different from standard	Hold
										X					X						
										X											
															X						
										X											

Relinquished by: Date: Time: 5-6-04 1300

Received by: Date: Time:

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Date: Time:

Received at Laboratory by: Date: Time: 5-7-04 11:45

LAB USE ONLY

Intact (Y) N

Headspace Y (N)

Temp 1.0 °C

Log-in Review

REMARKS:

☐ Check If Special Reporting Limits Are Needed

5/13F

Carrier # TNM10 903-177-311-3

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

ORIGINAL COPY

Cation-Anion Balance Sheet

DATE: 5/13/2004

Sample #	Calcium ppm	Magnesium ppm	Sodium ppm	Potassium ppm	Alkalinity ppm	Sulfate ppm	Chloride ppm	Nitrate ppm	Fluoride ppm	Bromide ppm	TDS ppm	EC µMHOs/cm
33350	133	21.6	128	4.26	232	171	201	8.76	1.17		970	1450
33349	53.4	9.4	34.9	2.6	134	42.7	39.9	2.57	1.33		332	509

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	Bromide in meq/L	**Cations in meq/L**	**Anions in meq/L**	**Percentage Error**
33350	6.64	1.78	5.57	0.11	4.64	3.56	5.67	0.6253764	0.0615888	0	14.09	14.56	3.255038915
33349	2.66	0.77	1.52	0.07	2.68	0.89	1.13	0.1834723	0.0700112	0	5.02	4.95	1.499711085

	EC/Cation	EC/Anion				
33350	1409.11348	1455.73952	range	1305	to	1595
33349	502.2844	494.80765	range	458.1	to	559.9

TDS/EC	TDS/Cat	TDS/Anion	
0.67	0.69	0.67	needs to be 0.55-0.77
0.65	0.66	0.67	needs to be 0.55-0.77

Re-Sample 1820 & 1902 Gary Lane

Virgil Whitman attending:
Purged all morning.

Sample ID	Container	well	Test
0405061300	1-L, P	1820 Gary Ln	Gen. Chem
0405061300	40mL G	" New well	8260
0405061300	40mL G	"	8260
0405061320	1-L, P	1902 Gary Lane	Gen. Chem.
0405061320	40-mL G	old well "	8260
0405061320	40-mL G	"	8260

5-11-04 0500 Am

98 bbl spill
Nonnet 1/12 Plains Pipeline
Wayne Roberts
will call 370-7106 on call

5-11-04 MIDLAND MEETNIG

TRRC: Cut in, P = 2135 psi (Dist 8)
P = 2982 psi (Dist 8A)

Largest TRRC project $2 mil.
Snyder Reclamation Plant

Rule The shall not pollute

Your Tank Batterys are not lined??

TDH@state.tx.us/radiation

NORM - Federal
" → No Health Cases directly related to NORM

Pit Liner Spec s [attach a piece to permit]

Emergency pits Notify ASAP?

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Mark E. Fesmire, P.E.
Director
Oil Conservation Division

FAX

TO: Bill Olson

FROM: Paul Sheeley

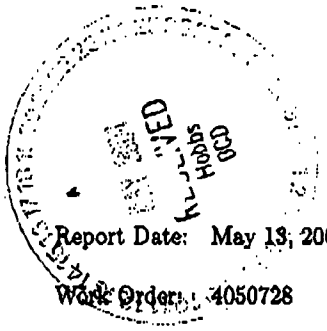
RE: Windmill oil 1820-1903 Roberts Lane

DATE: 7-28

NO. OF PAGES ____________ INCLUDING COVERSHEET

Oil Conservation Division * 1625 N. French Drive * Hobbs, New Mexico 88240
Phone: (505) 393-6161 * Fax (505) 397-0720 * http://www.emnrd.state.nm.us

Summary Report



Paul Sheeley
OCD-Hobbs
1625 N. French Dr.
Hobbs, NM 88240

Report Date: May 13, 2004
Work Order: 4050728

Project Location: 1820 & 1902 Gary Lane,Virgil Wittman
Project Name: Windmill Oil
Project Number: 040505

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
33349	0405061300	water	2004-05-06	13:00	2004-05-07
33350	0405061320	water	2004-05-06	13:20	2004-05-07

Sample: 33349 - 0405061300

Param	Flag	Result	Units	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1.00
Bicarbonate Alkalinity		134	mg/L as CaCo3	4.00
Total Alkalinity		134	mg/L as CaCo3	4.00
Dissolved Calcium		53.4	mg/L	0.500
Dissolved Potassium		2.60	mg/L	0.500
Dissolved Magnesium		9.40	mg/L	0.500
Dissolved Sodium		34.9	mg/L	0.500
Specific Conductance		509	µMHOS/cm	0.00
Chloride		39.9	mg/L	0.500
Fluoride		1.33	mg/L	0.200
Sulfate		42.7	mg/L	0.500
Nitrate-N		2.57	mg/L	0.200
pH	1	7.67	s.u.	0.00
Total Dissolved Solids		332.0	mg/L	10.00
Bromochloromethane		<1.00	µg/L	1.00
Dichlorodifluoromethane		<1.00	µg/L	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1.00
Vinyl Chloride		<1.00	µg/L	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	5.00
Chloroethane		<1.00	µg/L	1.00
Trichlorofluoromethane		<1.00	µg/L	1.00
Acetone		<10.0	µg/L	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	5.00
Carbon Disulfide		<1.00	µg/L	1.00
Acrylonitrile		<1.00	µg/L	1.00

continued ...

[1]received out of holding time

Report Date: May 13, 2004 Work Order: 4050728 Page Number: 2 of 4
040505 Windmill Oil 1820 & 1902 Gary Lane,Virgil Wittman

sample 33349 continued ...

Param	Flag	Result	Units	RL
2-Butanone (MEK)		<5.00	µg/L	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	5.00
2-Hexanone		<5.00	µg/L	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	10.0
1,1-Dichloroethene		<1.00	µg/L	1.00
Methylene chloride		<5.00	µg/L	5.00
MTBE		<1.00	µg/L	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1.00
1,1-Dichloroethane		<1.00	µg/L	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1.00
2,2-Dichloropropane		<1.00	µg/L	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1.00
Chloroform		<1.00	µg/L	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1.00
1,1-Dichloropropene		<1.00	µg/L	1.00
Benzene		36.9	µg/L	1.00
Carbon Tetrachloride		<1.00	µg/L	1.00
1,2-Dichloropropane		<1.00	µg/L	1.00
Trichloroethene (TCE)		<1.00	µg/L	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1.00
Bromodichloromethane		<1.00	µg/L	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1.00
Toluene		<1.00	µg/L	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1.00
1,3-Dichloropropane		<1.00	µg/L	1.00
Dibromochloromethane		<1.00	µg/L	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1.00
Chlorobenzene		<1.00	µg/L	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1.00
Ethylbenzene		1.67	µg/L	1.00
m,p-Xylene		36.1	µg/L	1.00
Bromoform		<1.00	µg/L	1.00
Styrene		<1.00	µg/L	1.00
o-Xylene		32.2	µg/L	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1.00
2-Chlorotoluene		<1.00	µg/L	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1.00
Isopropylbenzene		10.8	µg/L	1.00
Bromobenzene		<1.00	µg/L	1.00
n-Propylbenzene		3.07	µg/L	1.00
1,3,5-Trimethylbenzene		3.19	µg/L	1.00
tert-Butylbenzene		<1.00	µg/L	1.00
1,2,4-Trimethylbenzene		16.2	µg/L	1.00
1,4-Dichlorobenzene (para)		<1.00	µg/L	1.00
sec-Butylbenzene		1.13	µg/L	1.00
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1.00
p-Isopropyltoluene		<1.00	µg/L	1.00
4-Chlorotoluene		<1.00	µg/L	1.00
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1.00
n-Butylbenzene		<1.00	µg/L	1.00

continued ...

sample 33349 continued ...

Param	Flag	Result	Units	RL
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	5.00
Naphthalene		<5.00	µg/L	5.00
Hexachlorobutadiene		<5.00	µg/L	5.00

Sample: 33350 - 0405061320

Param	Flag	Result	Units	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1.00
Bicarbonate Alkalinity		232	mg/L as CaCo3	4.00
Total Alkalinity		232	mg/L as CaCo3	4.00
Dissolved Calcium		133	mg/L	0.500
Dissolved Potassium		4.26	mg/L	0.500
Dissolved Magnesium		21.6	mg/L	0.500
Dissolved Sodium		128	mg/L	0.500
Specific Conductance		1450	µMHOS/cm	0.00
Chloride		201	mg/L	0.500
Fluoride		1.17	mg/L	0.200
Sulfate		171	mg/L	0.500
Nitrate-N		8.76	mg/L	0.200
pH	2	7.34	s.u.	0.00
Total Dissolved Solids		970.0	mg/L	10.00
Bromochloromethane		<1.00	µg/L	1.00
Dichlorodifluoromethane		<1.00	µg/L	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1.00
Vinyl Chloride		<1.00	µg/L	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	5.00
Chloroethane		<1.00	µg/L	1.00
Trichlorofluoromethane		<1.00	µg/L	1.00
Acetone		<10.0	µg/L	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	5.00
Carbon Disulfide		<1.00	µg/L	1.00
Acrylonitrile		<1.00	µg/L	1.00
2-Butanone (MEK)		<5.00	µg/L	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	5.00
2-Hexanone		<5.00	µg/L	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	10.0
1,1-Dichloroethene		<1.00	µg/L	1.00
Methylene chloride		<5.00	µg/L	5.00
MTBE		<1.00	µg/L	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1.00
1,1-Dichloroethane		<1.00	µg/L	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1.00
2,2-Dichloropropane		<1.00	µg/L	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1.00
Chloroform		<1.00	µg/L	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1.00
1,1-Dichloropropene		<1.00	µg/L	1.00

continued ...

[2] received out of holding time

sample 33350 continued ...

Param	Flag	Result	Units	RL
Benzene		<1.00	µg/L	1.00
Carbon Tetrachloride		<1.00	µg/L	1.00
1,2-Dichloropropane		<1.00	µg/L	1.00
Trichloroethene (TCE)		<1.00	µg/L	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1.00
Bromodichloromethane		<1.00	µg/L	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1.00
Toluene		<1.00	µg/L	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1.00
1,3-Dichloropropane		<1.00	µg/L	1.00
Dibromochloromethane		<1.00	µg/L	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1.00
Chlorobenzene		<1.00	µg/L	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1.00
Ethylbenzene		<1.00	µg/L	1.00
m,p-Xylene		<1.00	µg/L	1.00
Bromoform		<1.00	µg/L	1.00
Styrene		<1.00	µg/L	1.00
o-Xylene		<1.00	µg/L	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1.00
2-Chlorotoluene		<1.00	µg/L	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1.00
Isopropylbenzene		<1.00	µg/L	1.00
Bromobenzene		<1.00	µg/L	1.00
n-Propylbenzene		<1.00	µg/L	1.00
1,3,5-Trimethylbenzene		<1.00	µg/L	1.00
tert-Butylbenzene		<1.00	µg/L	1.00
1,2,4-Trimethylbenzene		<1.00	µg/L	1.00
1,4-Dichlorobenzene (para)		<1.00	µg/L	1.00
sec-Butylbenzene		<1.00	µg/L	1.00
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1.00
p-Isopropyltoluene		<1.00	µg/L	1.00
4-Chlorotoluene		<1.00	µg/L	1.00
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1.00
n-Butylbenzene		<1.00	µg/L	1.00
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	5.00
Naphthalene		<5.00	µg/L	5.00
Hexachlorobutadiene		<5.00	µg/L	5.00

P.01

TRANSACTION REPORT

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TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
155 McCutcheon, Suite H El Paso, Texas 79932 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Paul Sheeley
OCD-Hobbs
1625 N. French Dr.
Hobbs, NM 88240

Report Date: May 13, 2004

Work Order: 4050728

Project Location: 1820 & 1902 Gary Lane, Virgil Wittman
Project Name: Windmill Oil
Project Number: 040505

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
33349	0405061300	water	2004-05-06	13:00	2004-05-07
33350	0405061320	water	2004-05-06	13:20	2004-05-07

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 16 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Analytical Report

Sample: 33349 - 0405061300

Analysis:	Alkalinity	Analytical Method:	SM 2320B	Prep Method:	N/A
QC Batch:	9582	Date Analyzed:	2004-05-11	Analyzed By:	RS
Prep Batch:	8502	Date Prepared:	2004-05-11	Prepared By:	RS

Parameter	Flag	Result	RL	Units	Dilution	RL
Hydroxide Alkalinity		<1.00		mg/L as CaCo3	1	1.00
Carbonate Alkalinity		<1.00		mg/L as CaCo3	1	1.00
Bicarbonate Alkalinity		134		mg/L as CaCo3	1	4.00
Total Alkalinity		134		mg/L as CaCo3	1	4.00

Sample: 33349 - 0405061300

Analysis:	Cations	Analytical Method:	S 6010B	Prep Method:	S 3005A
QC Batch:	9554	Date Analyzed:	2004-05-11	Analyzed By:	BC
Prep Batch:	8435	Date Prepared:	2004-05-10	Prepared By:	TP

Parameter	Flag	Result	RL	Units	Dilution	RL
Dissolved Calcium		53.4		mg/L	1	0.500
Dissolved Potassium		2.60		mg/L	1	0.500
Dissolved Magnesium		9.40		mg/L	1	0.500
Dissolved Sodium		34.9		mg/L	1	0.500

Sample: 33349 - 0405061300

Analysis:	Conductivity	Analytical Method:	SM 2510B	Prep Method:	N/A
QC Batch:	9537	Date Analyzed:	2004-05-11	Analyzed By:	JSW
Prep Batch:	8463	Date Prepared:	2004-05-11	Prepared By:	JSW

Parameter	Flag	Result	RL	Units	Dilution	RL
Specific Conductance		509		µMHOS/cm	1	0.00

Sample: 33349 - 0405061300

Analysis:	Ion Chromatography	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	9476	Date Analyzed:	2004-05-10	Analyzed By:	JSW
Prep Batch:	8414	Date Prepared:	2004-05-07	Prepared By:	JSW

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		39.9		mg/L	5	0.500
Fluoride		1.33		mg/L	5	0.200
Sulfate		42.7		mg/L	5	0.500

Sample: 33349 - 0405061300

Analysis:	NO3 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	9476	Date Analyzed:	2004-05-10	Analyzed By:	JSW
Prep Batch:	8414	Date Prepared:	2004-05-07	Prepared By:	JSW

Parameter	Flag	Result	RL	Units	Dilution	RL
Nitrate-N		2.57		mg/L	5	0.200

Sample: 33349 - 0405061300

Analysis:	pH	Analytical Method:	SM 4500-H+	Prep Method:	N/A
QC Batch:	9512	Date Analyzed:	2004-05-07	Analyzed By:	JSW
Prep Batch:	8448	Date Prepared:	2004-05-07	Prepared By:	JSW

Parameter	Flag	Result	RL	Units	Dilution	RL
pH	[1]	7.67		s.u.	1	0.00

Sample: 33349 - 0405061300

Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	9568	Date Analyzed:	2004-05-12	Analyzed By:	JSW
Prep Batch:	8484	Date Prepared:	2004-05-11	Prepared By:	JSW

Parameter	Flag	Result	RL	Units	Dilution	RL
Total Dissolved Solids		332.0		mg/L	1	10.00

Sample: 33349 - 0405061300

Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	9477	Date Analyzed:	2004-05-07	Analyzed By:	JG
Prep Batch:	8415	Date Prepared:	2004-05-07	Prepared By:	JG

Parameter	Flag	Result	RL	Units	Dilution	RL
Bromochloromethane		<1.00		µg/L	1	1.00
Dichlorodifluoromethane		<1.00		µg/L	1	1.00
Chloromethane (methyl chloride)		<1.00		µg/L	1	1.00
Vinyl Chloride		<1.00		µg/L	1	1.00
Bromomethane (methyl bromide)		<5.00		µg/L	1	5.00
Chloroethane		<1.00		µg/L	1	1.00
Trichlorofluoromethane		<1.00		µg/L	1	1.00
Acetone		<10.0		µg/L	1	10.0
Iodomethane (methyl iodide)		<5.00		µg/L	1	5.00
Carbon Disulfide		<1.00		µg/L	1	1.00
Acrylonitrile		<1.00		µg/L	1	1.00

continued...

[1] received out of holding time

sample 33349 continued...

Parameter	Flag	RL Result	Units	Dilution	RL
2-Butanone (MEK)		<5.00	µg/L	1	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	1	5.00
2-Hexanone		<5.00	µg/L	1	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	1	10.0
1,1-Dichloroethene		<1.00	µg/L	1	1.00
Methylene chloride		<5.00	µg/L	1	5.00
MTBE		<1.00	µg/L	1	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1	1.00
1,1-Dichloroethane		<1.00	µg/L	1	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1	1.00
2,2-Dichloropropane		<1.00	µg/L	1	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1	1.00
Chloroform		<1.00	µg/L	1	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1	1.00
1,1-Dichloropropene		<1.00	µg/L	1	1.00
Benzene		36.9	µg/L	1	1.00
Carbon Tetrachloride		<1.00	µg/L	1	1.00
1,2-Dichloropropane		<1.00	µg/L	1	1.00
Trichloroethene (TCE)		<1.00	µg/L	1	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1	1.00
Bromodichloromethane		<1.00	µg/L	1	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	1	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1	1.00
1,3-Dichloropropane		<1.00	µg/L	1	1.00
Dibromochloromethane		<1.00	µg/L	1	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1	1.00
Chlorobenzene		<1.00	µg/L	1	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1	1.00
Ethylbenzene		1.67	µg/L	1	1.00
m,p-Xylene		36.1	µg/L	1	1.00
Bromoform		<1.00	µg/L	1	1.00
Styrene		<1.00	µg/L	1	1.00
o-Xylene		32.2	µg/L	1	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1	1.00
2-Chlorotoluene		<1.00	µg/L	1	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1	1.00
Isopropylbenzene		10.8	µg/L	1	1.00
Bromobenzene		<1.00	µg/L	1	1.00
n-Propylbenzene		3.07	µg/L	1	1.00
1,3,5-Trimethylbenzene		3.19	µg/L	1	1.00
tert-Butylbenzene		<1.00	µg/L	1	1.00
1,2,4-Trimethylbenzene		16.2	µg/L	1	1.00
1,4-Dichlorobenzene (para)		<1.00	µg/L	1	1.00
sec-Butylbenzene		1.13	µg/L	1	1.00
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1	1.00
p-Isopropyltoluene		<1.00	µg/L	1	1.00
4-Chlorotoluene		<1.00	µg/L	1	1.00

continued...

sample 33349 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1	1.00
n-Butylbenzene		<1.00	µg/L	1	1.00
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5.00
Naphthalene		<5.00	µg/L	1	5.00
Hexachlorobutadiene		<5.00	µg/L	1	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		52.5	µg/L	1	50.0	105	70 - 130
Toluene-d8		50.9	µg/L	1	50.0	102	70 - 130
4-Bromofluorobenzene (4-BFB)		47.6	µg/L	1	50.0	95	70 - 130

Sample: 33350 - 0405061320

Analysis:	Alkalinity	Analytical Method:	SM 2320B	Prep Method:	N/A
QC Batch:	9582	Date Analyzed:	2004-05-11	Analyzed By:	RS
Prep Batch:	8502	Date Prepared:	2004-05-11	Prepared By:	RS

Parameter	Flag	RL Result	Units	Dilution	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Bicarbonate Alkalinity		232	mg/L as CaCo3	1	4.00
Total Alkalinity		232	mg/L as CaCo3	1	4.00

Sample: 33350 - 0405061320

Analysis:	Cations	Analytical Method:	S 6010B	Prep Method:	S 3005A
QC Batch:	9554	Date Analyzed:	2004-05-11	Analyzed By:	BC
Prep Batch:	8435	Date Prepared:	2004-05-10	Prepared By:	TP

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Calcium		133	mg/L	1	0.500
Dissolved Potassium		4.26	mg/L	1	0.500
Dissolved Magnesium		21.6	mg/L	1	0.500
Dissolved Sodium		128	mg/L	1	0.500

Sample: 33350 - 0405061320

Analysis:	Conductivity	Analytical Method:	SM 2510B	Prep Method:	N/A
QC Batch:	9537	Date Analyzed:	2004-05-11	Analyzed By:	JSW
Prep Batch:	8463	Date Prepared:	2004-05-11	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
Specific Conductance		1450	µMHOS/cm	1	0.00

Sample: 33350 - 0405061320

Analysis:	Ion Chromatography	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	9476	Date Analyzed:	2004-05-10	Analyzed By:	JSW
Prep Batch:	8414	Date Prepared:	2004-05-07	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		201	mg/L	5	0.500
Fluoride		1.17	mg/L	5	0.200
Sulfate		171	mg/L	5	0.500

Sample: 33350 - 0405061320

Analysis:	NO3 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	9476	Date Analyzed:	2004-05-10	Analyzed By:	JSW
Prep Batch:	8414	Date Prepared:	2004-05-07	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
Nitrate-N		8.76	mg/L	5	0.200

Sample: 33350 - 0405061320

Analysis:	pH	Analytical Method:	SM 4500-H+	Prep Method:	N/A
QC Batch:	9512	Date Analyzed:	2004-05-07	Analyzed By:	JSW
Prep Batch:	8448	Date Prepared:	2004-05-07	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
pH	[2]	7.34	s.u.	1	0.00

Sample: 33350 - 0405061320

Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	9568	Date Analyzed:	2004-05-12	Analyzed By:	JSW
Prep Batch:	8484	Date Prepared:	2004-05-11	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		970.0	mg/L	2	10.00

[2]received out of holding time

Sample: 33350 - 0405061320

Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	9477	Date Analyzed:	2004-05-07	Analyzed By:	JG
Prep Batch:	8415	Date Prepared:	2004-05-07	Prepared By:	JG

Parameter	Flag	RL Result	Units	Dilution	RL
Bromochloromethane		<1.00	µg/L	1	1.00
Dichlorodifluoromethane		<1.00	µg/L	1	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1	1.00
Vinyl Chloride		<1.00	µg/L	1	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	1	5.00
Chloroethane		<1.00	µg/L	1	1.00
Trichlorofluoromethane		<1.00	µg/L	1	1.00
Acetone		<10.0	µg/L	1	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	1	5.00
Carbon Disulfide		<1.00	µg/L	1	1.00
Acrylonitrile		<1.00	µg/L	1	1.00
2-Butanone (MEK)		<5.00	µg/L	1	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	1	5.00
2-Hexanone		<5.00	µg/L	1	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	1	10.0
1,1-Dichloroethene		<1.00	µg/L	1	1.00
Methylene chloride		<5.00	µg/L	1	5.00
MTBE		<1.00	µg/L	1	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1	1.00
1,1-Dichloroethane		<1.00	µg/L	1	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1	1.00
2,2-Dichloropropane		<1.00	µg/L	1	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1	1.00
Chloroform		<1.00	µg/L	1	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1	1.00
1,1-Dichloropropene		<1.00	µg/L	1	1.00
Benzene		<1.00	µg/L	1	1.00
Carbon Tetrachloride		<1.00	µg/L	1	1.00
1,2-Dichloropropane		<1.00	µg/L	1	1.00
Trichloroethene (TCE)		<1.00	µg/L	1	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1	1.00
Bromodichloromethane		<1.00	µg/L	1	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	1	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1	1.00
1,3-Dichloropropane		<1.00	µg/L	1	1.00
Dibromochloromethane		<1.00	µg/L	1	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1	1.00
Chlorobenzene		<1.00	µg/L	1	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1	1.00
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
Bromoform		<1.00	µg/L	1	1.00
Styrene		<1.00	µg/L	1	1.00

continued ...

sample 33350 continued . . .

Parameter	Flag	Result	RL	Units	Dilution	RL
o-Xylene		<1.00		µg/L	1	1.00
1,1,2,2-Tetrachloroethane		<1.00		µg/L	1	1.00
2-Chlorotoluene		<1.00		µg/L	1	1.00
1,2,3-Trichloropropane		<1.00		µg/L	1	1.00
Isopropylbenzene		<1.00		µg/L	1	1.00
Bromobenzene		<1.00		µg/L	1	1.00
n-Propylbenzene		<1.00		µg/L	1	1.00
1,3,5-Trimethylbenzene		<1.00		µg/L	1	1.00
tert-Butylbenzene		<1.00		µg/L	1	1.00
1,2,4-Trimethylbenzene		<1.00		µg/L	1	1.00
1,4-Dichlorobenzene (para)		<1.00		µg/L	1	1.00
sec-Butylbenzene		<1.00		µg/L	1	1.00
1,3-Dichlorobenzene (meta)		<1.00		µg/L	1	1.00
p-Isopropyltoluene		<1.00		µg/L	1	1.00
4-Chlorotoluene		<1.00		µg/L	1	1.00
1,2-Dichlorobenzene (ortho)		<1.00		µg/L	1	1.00
n-Butylbenzene		<1.00		µg/L	1	1.00
1,2-Dibromo-3-chloropropane		<5.00		µg/L	1	5.00
1,2,3-Trichlorobenzene		<5.00		µg/L	1	5.00
1,2,4-Trichlorobenzene		<5.00		µg/L	1	5.00
Naphthalene		<5.00		µg/L	1	5.00
Hexachlorobutadiene		<5.00		µg/L	1	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		54.3	µg/L	1	50.0	109	70 - 130
Toluene-d8		50.7	µg/L	1	50.0	101	70 - 130
4-Bromofluorobenzene (4-BFB)		45.3	µg/L	1	50.0	91	70 - 130

Method Blank (1) QC Batch: 9476

Parameter	Flag	Result	Units	RL
Nitrate-N		<0.200	mg/L	0.2

Method Blank (1) QC Batch: 9476

Parameter	Flag	Result	Units	RL
Chloride		<0.500	mg/L	0.5
Fluoride		<0.200	mg/L	0.2
Sulfate		<0.500	mg/L	0.5

Method Blank (1) QC Batch: 9477

Parameter	Flag	Result	Units	RL
Bromochloromethane		<1.00	µg/L	1
Dichlorodifluoromethane		<1.00	µg/L	1
Chloromethane (methyl chloride)		<1.00	µg/L	1
Vinyl Chloride		<1.00	µg/L	1
Bromomethane (methyl bromide)		<5.00	µg/L	5
Chloroethane		<1.00	µg/L	1
Trichlorofluoromethane		<1.00	µg/L	1
Acetone		<10.0	µg/L	10
Iodomethane (methyl iodide)		<5.00	µg/L	5
Carbon Disulfide		<1.00	µg/L	1
Acrylonitrile		<1.00	µg/L	1
2-Butanone (MEK)		<5.00	µg/L	5
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	5
2-Hexanone		<5.00	µg/L	5
trans 1,4-Dichloro-2-butene		<10.0	µg/L	10
1,1-Dichloroethene		<1.00	µg/L	1
Methylene chloride		<5.00	µg/L	5
MTBE		<1.00	µg/L	1
trans-1,2-Dichloroethene		<1.00	µg/L	1
1,1-Dichloroethane		<1.00	µg/L	1
cis-1,2-Dichloroethene		<1.00	µg/L	1
2,2-Dichloropropane		<1.00	µg/L	1
1,2-Dichloroethane (EDC)		<1.00	µg/L	1
Chloroform		<1.00	µg/L	1
1,1,1-Trichloroethane		<1.00	µg/L	1
1,1-Dichloropropene		<1.00	µg/L	1
Benzene		<1.00	µg/L	1
Carbon Tetrachloride		<1.00	µg/L	1
1,2-Dichloropropane		<1.00	µg/L	1
Trichloroethene (TCE)		<1.00	µg/L	1
Dibromomethane (methylene bromide)		<1.00	µg/L	1
Bromodichloromethane		<1.00	µg/L	1
2-Chloroethyl vinyl ether		<5.00	µg/L	5
cis-1,3-Dichloropropene		<1.00	µg/L	1
trans-1,3-Dichloropropene		<1.00	µg/L	1
Toluene		<1.00	µg/L	1
1,1,2-Trichloroethane		<1.00	µg/L	1
1,3-Dichloropropane		<1.00	µg/L	1
Dibromochloromethane		<1.00	µg/L	1
1,2-Dibromoethane (EDB)		<1.00	µg/L	1
Tetrachloroethene (PCE)		<1.00	µg/L	1
Chlorobenzene		<1.00	µg/L	1
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1
Ethylbenzene		<1.00	µg/L	1
m,p-Xylene		<1.00	µg/L	1
Bromoform		<1.00	µg/L	1
Styrene		<1.00	µg/L	1
o-Xylene		<1.00	µg/L	1
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1
2-Chlorotoluene		<1.00	µg/L	1
1,2,3-Trichloropropane		<1.00	µg/L	1
Isopropylbenzene		<1.00	µg/L	1

continued...

method blank continued . . .

Parameter	Flag	Result	Units	RL
Bromobenzene		<1.00	µg/L	1
n-Propylbenzene		<1.00	µg/L	1
1,3,5-Trimethylbenzene		<1.00	µg/L	1
tert-Butylbenzene		<1.00	µg/L	1
1,2,4-Trimethylbenzene		<1.00	µg/L	1
1,4-Dichlorobenzene (para)		<1.00	µg/L	1
sec-Butylbenzene		<1.00	µg/L	1
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1
p-Isopropyltoluene		<1.00	µg/L	1
4-Chlorotoluene		<1.00	µg/L	1
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1
n-Butylbenzene		<1.00	µg/L	1
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		<5.00	µg/L	5
Hexachlorobutadiene		<5.00	µg/L	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		51.8	µg/L	1	50.0	104	70 - 130
Toluene-d8		50.5	µg/L	1	50.0	101	70 - 130
4-Bromofluorobenzene (4-BFB)		46.9	µg/L	1	50.0	94	70 - 130

Method Blank (1) QC Batch: 9537

Parameter	Flag	Result	Units	RL
Specific Conductance		3.91	µMHOS/cm	

Method Blank (1) QC Batch: 9554

Parameter	Flag	Result	Units	RL
Dissolved Calcium		<0.500	mg/L	0.5
Dissolved Potassium		<0.500	mg/L	0.5
Dissolved Magnesium		<0.500	mg/L	0.5
Dissolved Sodium		<0.500	mg/L	0.5

Method Blank (1) QC Batch: 9568

Parameter	Flag	Result	Units	RL
Total Dissolved Solids		<10.00	mg/L	10

Method Blank (1) QC Batch: 9582

Parameter	Flag	Result	Units	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1
Bicarbonate Alkalinity		<4.00	mg/L as CaCo3	4
Total Alkalinity		<4.00	mg/L as CaCo3	4

Duplicate (1) QC Batch: 9512

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH [3]	5.61	5.60	s.u.	1	0	0.4

Duplicate (1) QC Batch: 9537

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Specific Conductance	1450	1450	µMHOS/cm	1	0	2.3

Duplicate (1) QC Batch: 9568

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	940.0	970.0	mg/L	2	3	8.7

Duplicate (1) QC Batch: 9582

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Hydroxide Alkalinity	<1.00	<1.00	mg/L as CaCo3	1	0	20
Carbonate Alkalinity	<1.00	<1.00	mg/L as CaCo3	1	0	20
Bicarbonate Alkalinity	46.0	46.0	mg/L as CaCo3	1	0	20
Total Alkalinity	46.0	46.0	mg/L as CaCo3	1	0	4.8

Laboratory Control Spike (LCS-1) QC Batch: 9476

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Nitrate-N	2.33	2.34	mg/L	1	2.50	<0.0217	93	0	90 - 110	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1) QC Batch: 9476

[3] received out of holding time

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Chloride	11.2	11.2	mg/L	1	12.5	<0.337	90	0	90 - 110	20
Fluoride	2.34	2.33	mg/L	1	2.50	<0.0594	94	0	90 - 110	20
Sulfate	11.5	11.7	mg/L	1	12.5	<0.409	92	2	90 - 110	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1) QC Batch: 9477

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
1,1-Dichloroethene	97.6	101	µg/L	1	100	<0.136	98	3	78 - 120	20
Benzene	96.3	98.3	µg/L	1	100	<0.146	96	2	84.2 - 108	20
Trichloroethene (TCE)	99.3	100	µg/L	1	100	0.24	99	1	85.8 - 106	20
Toluene	93.3	95.0	µg/L	1	100	0.23	93	2	77.2 - 104	20
Chlorobenzene	92.7	95.5	µg/L	1	100	<0.0540	93	3	82.1 - 113	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Dibromofluoromethane	50.4	51.1	µg/L	1	50.0	101	102	70 - 130
Toluene-d8	50.2	50.5	µg/L	1	50.0	100	101	70 - 130
4-Bromofluorobenzene (4-BFB)	48.1	48.2	µg/L	1	50.0	96	96	70 - 130

Laboratory Control Spike (LCS-1) QC Batch: 9554

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Dissolved Calcium	99.6	98.1	mg/L	1	100	<0.102	100	2	85 - 115	20
Dissolved Potassium	98.8	98.7	mg/L	1	100	<0.101	99	0	85 - 115	20
Dissolved Magnesium	101	99.0	mg/L	1	100	<0.110	101	2	85 - 115	20
Dissolved Sodium	104	101	mg/L	1	100	<0.120	104	3	85 - 115	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) QC Batch: 9476

Param	MS Result	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Nitrate-N	2410	2410	mg/L	1000	2.50	<21.7	96	0	79.6 - 109	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) QC Batch: 9476

Param	MS Result	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Chloride	26000	26100	mg/L	1000	12.5	15000	88	0	74.3 - 118	20
Fluoride	2350	2410	mg/L	1000	2.50	<59.4	94	2	84.9 - 104	20
Sulfate	16500	16700	mg/L	1000	12.5	5010	92	1	77.8 - 112	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) QC Batch: 9554

Param		MS Result	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Dissolved Calcium		227	217	mg/L	1	100	137	90	4	75 - 125	20
Dissolved Potassium		116	111	mg/L	1	100	26.1	90	4	75 - 125	20
Dissolved Magnesium		242	242	mg/L	1	100	149	93	0	75 - 125	20
Dissolved Sodium	[4S]	215	217	mg/L	1	100	155	60	1	75 - 125	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Standard (ICV-1) QC Batch: 9476

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Nitrate-N		mg/L	2.50	2.33	93	90 - 110	2004-05-10

Standard (ICV-1) QC Batch: 9476

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.5	11.3	90	90 - 110	2004-05-10
Fluoride		mg/L	2.50	2.31	92	90 - 110	2004-05-10
Sulfate		mg/L	12.5	11.5	92	90 - 110	2004-05-10

Standard (CCV-1) QC Batch: 9476

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Nitrate-N		mg/L	2.50	2.33	93	90 - 110	2004-05-10

Standard (CCV-1) QC Batch: 9476

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.5	11.2	90	90 - 110	2004-05-10
Fluoride		mg/L	2.50	2.35	94	90 - 110	2004-05-10
Sulfate		mg/L	12.5	11.7	94	90 - 110	2004-05-10

Standard (CCV-1) QC Batch: 9477

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Vinyl Chloride		µg/L	50.0	47.7	95	80 - 120	2004-05-07

continued...

[4]ms recovery out of limits due to matrix effect, use lcs/lcsd
[5]ms recovery out of limits due to matrix effect, use lcs/lcsd

standard continued ...

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
1,1-Dichloroethene		µg/L	50.0	49.3	99	80 - 120	2004-05-07
Chloroform		µg/L	50.0	48.7	97	80 - 120	2004-05-07
1,2-Dichloropropane		µg/L	50.0	50.1	100	80 - 120	2004-05-07
Toluene		µg/L	50.0	49.6	99	80 - 120	2004-05-07
Chlorobenzene		µg/L	50.0	49.5	99	80 - 120	2004-05-07
Ethylbenzene		µg/L	50.0	51.1	102	80 - 120	2004-05-07

Standard (ICV-1) QC Batch: 9512

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7.00	7.03	100	98 - 102	2004-05-07

Standard (CCV-1) QC Batch: 9512

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7.00	7.02	100	98 - 102	2004-05-07

Standard (ICV-1) QC Batch: 9537

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		µMHOS/cm	1410	1410	100	90 - 110	2004-05-11

Standard (CCV-1) QC Batch: 9537

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		µMHOS/cm	1410	1410	100	90 - 110	2004-05-11

Standard (ICV-1) QC Batch: 9554

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	25.0	25.1	100	90 - 110	2004-05-11
Dissolved Potassium		mg/L	25.0	24.9	100	90 - 110	2004-05-11
Dissolved Magnesium		mg/L	25.0	24.8	99	90 - 110	2004-05-11
Dissolved Sodium		mg/L	25.0	26.7	107	90 - 110	2004-05-11

Standard (CCV-1) QC Batch: 9554

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	25.0	25.2	101	90 - 110	2004-05-11
Dissolved Potassium		mg/L	25.0	24.3	97	90 - 110	2004-05-11
Dissolved Magnesium		mg/L	25.0	25.2	101	90 - 110	2004-05-11
Dissolved Sodium		mg/L	25.0	25.1	100	90 - 110	2004-05-11

Standard (ICV-1) QC Batch: 9568

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	987.0	99	90 - 110	2004-05-12

Standard (CCV-1) QC Batch: 9568

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	1002	100	90 - 110	2004-05-12

Standard (ICV-1) QC Batch: 9582

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0.00	<1.00		0 - 200	2004-05-11
Carbonate Alkalinity		mg/L as CaCo3	0.00	<1.00		0 - 200	2004-05-11
Bicarbonate Alkalinity		mg/L as CaCo3	0.00	<4.00		0 - 200	2004-05-11
Total Alkalinity		mg/L as CaCo3	250	246	98	90 - 110	2004-05-11

Standard (CCV-1) QC Batch: 9582

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0.00	<1.00		0 - 200	2004-05-11
Carbonate Alkalinity		mg/L as CaCo3	0.00	<1.00		0 - 200	2004-05-11
Bicarbonate Alkalinity		mg/L as CaCo3	0.00	<4.00		0 - 200	2004-05-11
Total Alkalinity		mg/L as CaCo3	250	240	96	90 - 110	2004-05-11

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

155 McCutcheon, Suite H
El Paso, Texas 79932
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1 (888) 588-3443

TraceAnalysis, Inc.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # 405072 8

Company Name: New Mexico Oil Conservation Div. Phone #: 505.393.6161 x113
Address: (Street, City, Zip) 1625 N. French Dr., Hobbs, NM 88240 Fax #: 393.0720
Contact Person: Paul Sheeley
Invoice to: (If different from above) Ed Martin OCD-Santa Fe 505.476.3472
Project #: 040505 = COC# Project Name: Windmill Oil
Project Location: 1820 & 1902 Gary Lane, Virgil Wittman Sampler Signature:

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
33349	0405061300	1-P	1-L	X								X		5/6/04	1300
	0405061300	2-G	40 mL	X				X				X		5/6/04	1300
SD	0405061320	1-P	1-L	X								X		5/6/04	1320
	0405061320	2-G	40 mL	X				X				X		5/6/04	1320

ANALYSIS REQUEST (Circle or Specify Method No.)

MTBE 8021B/8602	BTEX 8021B/8602	TPH 418.1/TX1005	PAH 8270C	Texas 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	General Chemistry	Turn Around Time if different from standard	Hold
										X					X		
										X					X		
											X						

Relinquished by: Date: Time: 5-6-04 1300
Received by: Date: Time:
Relinquished by: Date: Time:
Received by: Date: Time:
Relinquished by: Date: Time:
Received at Laboratory by: Date: Time: 5-7-04 11:45

LAB USE ONLY
Intact (Y) N
Headspace Y (N)
Temp 1°C
Log-in Review

REMARKS:

☐ Check if Special Reporting Limits Are Needed

Carrier # TRANS 903-177-311-3

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

ORIGINAL COPY

Report Date: May 13, 2004 Work Order: 4050728 Page Number: 16 of 16
040505 Windmill Oil 1820 & 1902 Gary Lane, Virgil Witman

33349-30

Page ___ of ___

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TraceAnalysis, Inc.

155 McCutcheon, Suite H
El Paso, Texas 79932
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # 405072 8

Company Name: New Mexico Oil Conservation Div. Phone #: 505. 393.6161 x113

Address: (Street, City, Zip) 1625 N. French Dr., Hobbs, NM 88240 Fax #: 393.0720

Contact Person: Paul Sheeley

Invoice to: (If different from above) Ed Martin OCD-Santa Fe 505. 476. 3492

Project #: 040505 = COC# Project Name: Windmill Oil

Project Location: 1820 & 1902 Gary Lane, Virgil Witman Sampler Signature:

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
33349	040506 1300	1-P	1-L	X								X		5/6/04	1300
	040506 1300	2-G	40mL	X				X				X		5/6/04	1300
SD	040506 1320	1P	1-L	X								X		5/6/04	1320
	040506 1320	2-G	40mL	X				X				X		5/6/04	1320

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	General Chemistry	Turn Around Time if different from standard	Hold
										X				X	X		
										X							

	Relinquished by:	Date:	Time:	Received by:	Date:	Time:
		5-6-04	1300			
	Relinquished by:	Date:	Time:	Received by:	Date:	Time:
	Relinquished by:	Date:	Time:	Received by:	Date:	Time:
					5/7/04	11:45

LAB USE ONLY

Intact (Y) N

Headspace Y (N)

Temp 6.0 °

Log-In Review

REMARKS:

☐ Check If Special Reporting Limits Are Needed

5/13F

Carrier # TraxTD 903-177-311-3

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

ORIGINAL COPY

Cation-Anion Balance Sheet

DATE: 5/13/2004

Sample #	Calcium ppm	Magnesium ppm	Sodium ppm	Potassium ppm	Alkalinity ppm	Sulfate ppm	Chloride ppm	Nitrate ppm	Fluoride ppm	Bromide ppm	TDS ppm	EC µMHOs/cm
33350	133	21.6	128	4.26	232	171	201	8.78	1.17		970	1450
33349	53.4	9.4	34.9	2.8	134	42.7	39.9	2.57	1.33		332	509

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	Bromide in meq/L	Cations in meq/L	Anions in meq/L	Percentage Error
33350	6.64	1.78	5.57	0.11	4.64	3.56	5.67	0.6253764	0.0615868	0	14.09	14.56	3.256038915
33349	2.66	0.77	1.52	0.07	2.68	0.89	1.13	0.1834723	0.0700112	0	5.02	4.95	1.499711085

	EC/Cation	EC/Anion				
33350	1409.11348	1455.73952	range	1305	to	1595
33349	502.2844	494.60765	range	458.1	to	559.9

TDS/EC	TDS/Cat	TDS/Anion	
0.67	0.69	0.67	needs to be 0.55-0.77
0.65	0.66	0.67	needs to be 0.55-0.77

Re-Sample 1820 & 1902 Gary Lane

Virgil Whitman attending:
Purged all morning.

Sample ID	container	well	test
0405061300	1-L P	1820 Gary Ln New well	Gen Chem
0405061300	40mL G	11	8260
0405061300	40mL G	11	8260
0405061320	1-L P	1902 Gary Lane	Gen Chem
0405061320	40-mL G	old well 11	8260
0405061320	40-mL G	11	8260

5-11-04 0500 Am

98 bbl spill
Plains Pipeline

Wayne Roberts
will call 370-7106 on cell

5-11-04 MIDLAND MEETNIG

TRRC: Dist 8 P = 2135 psi
Dist 8A P = 2982 psi

Largest TRRC project $2 mil
Snyder Reclamation Plan

Rule The shall not pollute

Your Tank Batterys are not lined?

TPH@state.tx.us/[illegible]

NORM - [illegible]

→ No Health Cases directly related to N.

Pit Liner Spec's { attach a piece to permit }

Emergency Pits Notify ASAP?

Summary Report

Paul Sheeley
OCD-Hobbs
1625 N. French Dr.
Hobbs, NM 88240

Report Date: May 13, 2004

Work Order: 4050728

Project Location: 1820 & 1902 Gary Lane,Virgil Wittman
Project Name: Windmill Oil
Project Number: 040505

New Well 1820 Gary Lane

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
33349	0405061300	water	2004-05-06	13:00	2004-05-07
33350	0405061320	water	2004-05-06	13:20	2004-05-07

old well 1902 Gary Lane

Sample: 33349 - 0405061300

Param	Flag	Result	Units	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1.00
Bicarbonate Alkalinity		134	mg/L as CaCo3	4.00
Total Alkalinity		134	mg/L as CaCo3	4.00
Dissolved Calcium		53.4	mg/L	0.500
Dissolved Potassium		2.60	mg/L	0.500
Dissolved Magnesium		9.40	mg/L	0.500
Dissolved Sodium		34.9	mg/L	0.500
Specific Conductance		509	µMHOS/cm	0.00
Chloride		39.9	mg/L	0.500
Fluoride		1.33	mg/L	0.200
Sulfate		42.7	mg/L	0.500
Nitrate-N		2.57	mg/L	0.200
pH	[1]	7.67	s.u.	0.00
Total Dissolved Solids		332.0	mg/L	10.00
Bromochloromethane		<1.00	µg/L	1.00
Dichlorodifluoromethane		<1.00	µg/L	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1.00
Vinyl Chloride		<1.00	µg/L	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	5.00
Chloroethane		<1.00	µg/L	1.00
Trichlorofluoromethane		<1.00	µg/L	1.00
Acetone		<10.0	µg/L	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	5.00
Carbon Disulfide		<1.00	µg/L	1.00
Acrylonitrile		<1.00	µg/L	1.00

continued ...

[1] received out of holding time

sample 33349 continued ...

Param	Flag	Result	Units	RL
2-Butanone (MEK)		<5.00	µg/L	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	5.00
2-Hexanone		<5.00	µg/L	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	10.0
1,1-Dichloroethene		<1.00	µg/L	1.00
Methylene chloride		<5.00	µg/L	5.00
MTBE		<1.00	µg/L	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1.00
1,1-Dichloroethane		<1.00	µg/L	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1.00
2,2-Dichloropropane		<1.00	µg/L	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1.00
Chloroform		<1.00	µg/L	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1.00
1,1-Dichloropropene		<1.00	µg/L	1.00
Benzene		36.9	µg/L	1.00
Carbon Tetrachloride		<1.00	µg/L	1.00
1,2-Dichloropropane		<1.00	µg/L	1.00
Trichloroethene (TCE)		<1.00	µg/L	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1.00
Bromodichloromethane		<1.00	µg/L	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1.00
Toluene		<1.00	µg/L	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1.00
1,3-Dichloropropane		<1.00	µg/L	1.00
Dibromochloromethane		<1.00	µg/L	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1.00
Chlorobenzene		<1.00	µg/L	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1.00
Ethylbenzene		1.67	µg/L	1.00
m,p-Xylene		36.1	µg/L	1.00
Bromoform		<1.00	µg/L	1.00
Styrene		<1.00	µg/L	1.00
o-Xylene		32.2	µg/L	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1.00
2-Chlorotoluene		<1.00	µg/L	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1.00
Isopropylbenzene		10.8	µg/L	1.00
Bromobenzene		<1.00	µg/L	1.00
n-Propylbenzene		3.07	µg/L	1.00
1,3,5-Trimethylbenzene		3.19	µg/L	1.00
tert-Butylbenzene		<1.00	µg/L	1.00
1,2,4-Trimethylbenzene		16.2	µg/L	1.00
1,4-Dichlorobenzene (para)		<1.00	µg/L	1.00
sec-Butylbenzene		1.13	µg/L	1.00
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1.00
p-Isopropyltoluene		<1.00	µg/L	1.00
4-Chlorotoluene		<1.00	µg/L	1.00
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1.00
n-Butylbenzene		<1.00	µg/L	1.00

continued ...

sample 33349 continued ...

Param	Flag	Result	Units	RL
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	5.00
Naphthalene		<5.00	µg/L	5.00
Hexachlorobutadiene		<5.00	µg/L	5.00

Sample: 33350 - 0405061320

Param	Flag	Result	Units	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1.00
Bicarbonate Alkalinity		232	mg/L as CaCo3	4.00
Total Alkalinity		232	mg/L as CaCo3	4.00
Dissolved Calcium		133	mg/L	0.500
Dissolved Potassium		4.26	mg/L	0.500
Dissolved Magnesium		21.6	mg/L	0.500
Dissolved Sodium		128	mg/L	0.500
Specific Conductance		1450	µMHOS/cm	0.00
Chloride		201	mg/L	0.500
Fluoride		1.17	mg/L	0.200
Sulfate		171	mg/L	0.500
Nitrate-N		8.76	mg/L	0.200
pH	[2]	7.34	s.u.	0.00
Total Dissolved Solids		970.0	mg/L	10.00
Bromochloromethane		<1.00	µg/L	1.00
Dichlorodifluoromethane		<1.00	µg/L	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1.00
Vinyl Chloride		<1.00	µg/L	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	5.00
Chloroethane		<1.00	µg/L	1.00
Trichlorofluoromethane		<1.00	µg/L	1.00
Acetone		<10.0	µg/L	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	5.00
Carbon Disulfide		<1.00	µg/L	1.00
Acrylonitrile		<1.00	µg/L	1.00
2-Butanone (MEK)		<5.00	µg/L	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	5.00
2-Hexanone		<5.00	µg/L	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	10.0
1,1-Dichloroethene		<1.00	µg/L	1.00
Methylene chloride		<5.00	µg/L	5.00
MTBE		<1.00	µg/L	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1.00
1,1-Dichloroethane		<1.00	µg/L	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1.00
2,2-Dichloropropane		<1.00	µg/L	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1.00
Chloroform		<1.00	µg/L	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1.00
1,1-Dichloropropene		<1.00	µg/L	1.00

continued ...

[2]received out of holding time

sample 33350 continued ...

Param	Flag	Result	Units	RL
Benzene		<1.00	µg/L	1.00
Carbon Tetrachloride		<1.00	µg/L	1.00
1,2-Dichloropropane		<1.00	µg/L	1.00
Trichloroethene (TCE)		<1.00	µg/L	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1.00
Bromodichloromethane		<1.00	µg/L	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1.00
Toluene		<1.00	µg/L	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1.00
1,3-Dichloropropane		<1.00	µg/L	1.00
Dibromochloromethane		<1.00	µg/L	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1.00
Chlorobenzene		<1.00	µg/L	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1.00
Ethylbenzene		<1.00	µg/L	1.00
m,p-Xylene		<1.00	µg/L	1.00
Bromoform		<1.00	µg/L	1.00
Styrene		<1.00	µg/L	1.00
o-Xylene		<1.00	µg/L	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1.00
2-Chlorotoluene		<1.00	µg/L	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1.00
Isopropylbenzene		<1.00	µg/L	1.00
Bromobenzene		<1.00	µg/L	1.00
n-Propylbenzene		<1.00	µg/L	1.00
1,3,5-Trimethylbenzene		<1.00	µg/L	1.00
tert-Butylbenzene		<1.00	µg/L	1.00
1,2,4-Trimethylbenzene		<1.00	µg/L	1.00
1,4-Dichlorobenzene (para)		<1.00	µg/L	1.00
sec-Butylbenzene		<1.00	µg/L	1.00
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1.00
p-Isopropyltoluene		<1.00	µg/L	1.00
4-Chlorotoluene		<1.00	µg/L	1.00
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1.00
n-Butylbenzene		<1.00	µg/L	1.00
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	5.00
Naphthalene		<5.00	µg/L	5.00
Hexachlorobutadiene		<5.00	µg/L	5.00

33349-50

Page 1 of 1

6701 Aberdeen Avenue, Ste. 9
Lubbock, Texas 79424
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1 (800) 378-1296

TraceAnalysis, Inc.

155 McCutcheon, Suite H
El Paso, Texas 79932
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # 405072 8

Company Name: New Mexico Oil Conservation Div. Phone #: 505.393.6161 x113

Address: (Street, City, Zip) 1625 N. French Dr., Hobbs, NM 88240 Fax #: 393.0720

Contact Person: Paul Sheeley

Invoice to: (If different from above) Ed Martin OCD-Santa Fe 505.476.3492

Project #: 040505 = COC# Project Name: Windmill Oil

Project Location: 1820 & 1902 Gary Lane, Virgil Wittman Sampler Signature:

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
33349	040506 1300	1-P	1-L	X								X		5/6/04	1300
	040506 1300	2-G	40mL	X				X				X		5/6/04	1300
SD	040506 1320	1P	1-L	X								X		5/6/04	1320
	040506 1320	2-G	40mL	X				X				X		5/6/04	1320

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	General Chemistry					Turn Around Time if different from standard	Hold
										X					X						
										X											
										X					X						
										X											

Relinquished by: Date: Time: 5-6-04 1300 Received by: Date: Time:

Relinquished by: Date: Time: Received by: Date: Time:

Relinquished by: Date: Time: Received at Laboratory by: Date: Time: 5-7-04 11:45

LAB USE ONLY
Intact (Y) N
Headspace Y (N)
Temp 1.0 °C
Log-in Review

REMARKS:

☐ Check If Special Reporting Limits Are Needed

5/13F

Carrier # TNM10 903-177-311-3

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

ORIGINAL COPY

Cation-Anion Balance Sheet

DATE: 5/13/2004

Sample #	Calcium ppm	Magnesium ppm	Sodium ppm	Potassium ppm	Alkalinity ppm	Sulfate ppm	Chloride ppm	Nitrate ppm	Fluoride ppm	Bromide ppm	TDS ppm	EC µMHOs/cm
33350	133	21.6	128	4.26	232	171	201	8.76	1.17		970	1450
33349	53.4	9.4	34.9	2.6	134	42.7	39.9	2.57	1.33		332	509

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	Bromide in meq/L	**Cations In meq/L**	**Anions In meq/L**	**Percentage Error**
33350	6.64	1.78	5.57	0.11	4.64	3.56	5.67	0.6253764	0.0615888	0	14.09	14.56	3.255038915
33349	2.66	0.77	1.52	0.07	2.68	0.89	1.13	0.1834723	0.0700112	0	5.02	4.95	1.499711085

	EC/Cation	EC/Anion				
33350	1409.11348	1455.73952	range	1305	to	1595
33349	502.2844	494.80765	range	458.1	to	559.9

TDS/EC	TDS/Cat	TDS/Anion	
0.67	0.69	0.67	needs to be 0.55-0.77
0.65	0.66	0.67	needs to be 0.55-0.77

Summary Report

Paul Sheeley
OCD-Hobbs
1625 N. French Dr.
Hobbs, NM 88240

Report Date: May 13, 2004
Work Order: 4050728

Project Location: 1820 & 1902 Gary Lane,Virgil Wittman
Project Name: Windmill Oil
Project Number: 040505

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
33349	0405061300	water	2004-05-06	13:00	2004-05-07
33350	0405061320	water	2004-05-06	13:20	2004-05-07

Sample: 33349 - 0405061300

Param	Flag	Result	Units	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1.00
Bicarbonate Alkalinity		134	mg/L as CaCo3	4.00
Total Alkalinity		134	mg/L as CaCo3	4.00
Dissolved Calcium		53.4	mg/L	0.500
Dissolved Potassium		2.60	mg/L	0.500
Dissolved Magnesium		9.40	mg/L	0.500
Dissolved Sodium		34.9	mg/L	0.500
Specific Conductance		509	µMHOS/cm	0.00
Chloride		39.9	mg/L	0.500
Fluoride		1.33	mg/L	0.200
Sulfate		42.7	mg/L	0.500
Nitrate-N		2.57	mg/L	0.200
pH	1	7.67	s.u.	0.00
Total Dissolved Solids		332.0	mg/L	10.00
Bromochloromethane		<1.00	µg/L	1.00
Dichlorodifluoromethane		<1.00	µg/L	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1.00
Vinyl Chloride		<1.00	µg/L	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	5.00
Chloroethane		<1.00	µg/L	1.00
Trichlorofluoromethane		<1.00	µg/L	1.00
Acetone		<10.0	µg/L	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	5.00
Carbon Disulfide		<1.00	µg/L	1.00
Acrylonitrile		<1.00	µg/L	1.00

continued ...

[1] received out of holding time

sample 33349 continued ...

Param	Flag	Result	Units	RL
2-Butanone (MEK)		<5.00	µg/L	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	5.00
2-Hexanone		<5.00	µg/L	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	10.0
1,1-Dichloroethene		<1.00	µg/L	1.00
Methylene chloride		<5.00	µg/L	5.00
MTBE		<1.00	µg/L	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1.00
1,1-Dichloroethane		<1.00	µg/L	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1.00
2,2-Dichloropropane		<1.00	µg/L	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1.00
Chloroform		<1.00	µg/L	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1.00
1,1-Dichloropropene		<1.00	µg/L	1.00
Benzene		36.9	µg/L	1.00
Carbon Tetrachloride		<1.00	µg/L	1.00
1,2-Dichloropropane		<1.00	µg/L	1.00
Trichloroethene (TCE)		<1.00	µg/L	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1.00
Bromodichloromethane		<1.00	µg/L	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1.00
Toluene		<1.00	µg/L	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1.00
1,3-Dichloropropane		<1.00	µg/L	1.00
Dibromochloromethane		<1.00	µg/L	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1.00
Chlorobenzene		<1.00	µg/L	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1.00
Ethylbenzene		1.67	µg/L	1.00
m,p-Xylene		36.1	µg/L	1.00
Bromoform		<1.00	µg/L	1.00
Styrene		<1.00	µg/L	1.00
o-Xylene		32.2	µg/L	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1.00
2-Chlorotoluene		<1.00	µg/L	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1.00
Isopropylbenzene		10.8	µg/L	1.00
Bromobenzene		<1.00	µg/L	1.00
n-Propylbenzene		3.07	µg/L	1.00
1,3,5-Trimethylbenzene		3.19	µg/L	1.00
tert-Butylbenzene		<1.00	µg/L	1.00
1,2,4-Trimethylbenzene		16.2	µg/L	1.00
1,4-Dichlorobenzene (para)		<1.00	µg/L	1.00
sec-Butylbenzene		1.13	µg/L	1.00
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1.00
p-Isopropyltoluene		<1.00	µg/L	1.00
4-Chlorotoluene		<1.00	µg/L	1.00
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1.00
n-Butylbenzene		<1.00	µg/L	1.00

continued ...

sample 33349 continued ...

Param	Flag	Result	Units	RL
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	5.00
Naphthalene		<5.00	µg/L	5.00
Hexachlorobutadiene		<5.00	µg/L	5.00

Sample: 33350 - 0405061320

Param	Flag	Result	Units	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1.00
Bicarbonate Alkalinity		232	mg/L as CaCo3	4.00
Total Alkalinity		232	mg/L as CaCo3	4.00
Dissolved Calcium		133	mg/L	0.500
Dissolved Potassium		4.26	mg/L	0.500
Dissolved Magnesium		21.6	mg/L	0.500
Dissolved Sodium		128	mg/L	0.500
Specific Conductance		1450	µMHOS/cm	0.00
Chloride		201	mg/L	0.500
Fluoride		1.17	mg/L	0.200
Sulfate		171	mg/L	0.500
Nitrate-N		8.76	mg/L	0.200
pH	[2]	7.34	s.u.	0.00
Total Dissolved Solids		970.0	mg/L	10.00
Bromochloromethane		<1.00	µg/L	1.00
Dichlorodifluoromethane		<1.00	µg/L	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1.00
Vinyl Chloride		<1.00	µg/L	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	5.00
Chloroethane		<1.00	µg/L	1.00
Trichlorofluoromethane		<1.00	µg/L	1.00
Acetone		<10.0	µg/L	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	5.00
Carbon Disulfide		<1.00	µg/L	1.00
Acrylonitrile		<1.00	µg/L	1.00
2-Butanone (MEK)		<5.00	µg/L	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	5.00
2-Hexanone		<5.00	µg/L	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	10.0
1,1-Dichloroethene		<1.00	µg/L	1.00
Methylene chloride		<5.00	µg/L	5.00
MTBE		<1.00	µg/L	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1.00
1,1-Dichloroethane		<1.00	µg/L	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1.00
2,2-Dichloropropane		<1.00	µg/L	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1.00
Chloroform		<1.00	µg/L	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1.00
1,1-Dichloropropene		<1.00	µg/L	1.00

continued ...

[2]received out of holding time

sample 33350 continued ...

Param	Flag	Result	Units	RL
Benzene		<1.00	µg/L	1.00
Carbon Tetrachloride		<1.00	µg/L	1.00
1,2-Dichloropropane		<1.00	µg/L	1.00
Trichloroethene (TCE)		<1.00	µg/L	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1.00
Bromodichloromethane		<1.00	µg/L	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1.00
Toluene		<1.00	µg/L	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1.00
1,3-Dichloropropane		<1.00	µg/L	1.00
Dibromochloromethane		<1.00	µg/L	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1.00
Chlorobenzene		<1.00	µg/L	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1.00
Ethylbenzene		<1.00	µg/L	1.00
m,p-Xylene		<1.00	µg/L	1.00
Bromoform		<1.00	µg/L	1.00
Styrene		<1.00	µg/L	1.00
o-Xylene		<1.00	µg/L	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1.00
2-Chlorotoluene		<1.00	µg/L	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1.00
Isopropylbenzene		<1.00	µg/L	1.00
Bromobenzene		<1.00	µg/L	1.00
n-Propylbenzene		<1.00	µg/L	1.00
1,3,5-Trimethylbenzene		<1.00	µg/L	1.00
tert-Butylbenzene		<1.00	µg/L	1.00
1,2,4-Trimethylbenzene		<1.00	µg/L	1.00
1,4-Dichlorobenzene (para)		<1.00	µg/L	1.00
sec-Butylbenzene		<1.00	µg/L	1.00
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1.00
p-Isopropyltoluene		<1.00	µg/L	1.00
4-Chlorotoluene		<1.00	µg/L	1.00
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1.00
n-Butylbenzene		<1.00	µg/L	1.00
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	5.00
Naphthalene		<5.00	µg/L	5.00
Hexachlorobutadiene		<5.00	µg/L	5.00

TRACEANALYSIS, INC.

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E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Paul Sheeley
OCD-Hobbs
1625 N. French Dr.
Hobbs, NM 88240

Report Date: May 13, 2004

Work Order: 4050728

Project Location: 1820 & 1902 Gary Lane,Virgil Wittman
Project Name: Windmill Oil
Project Number: 040505

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
33349	0405061300	water	2004-05-06	13:00	2004-05-07
33350	0405061320	water	2004-05-06	13:20	2004-05-07

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.

Dr. Blair Leftwich, Director

Analytical Report

Sample: 33349 - 0405061300

Analysis:	Alkalinity	Analytical Method:	SM 2320B	Prep Method:	N/A
QC Batch:	9582	Date Analyzed:	2004-05-11	Analyzed By:	RS
Prep Batch:	8502	Date Prepared:	2004-05-11	Prepared By:	RS

Parameter	Flag	RL Result	Units	Dilution	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Bicarbonate Alkalinity		134	mg/L as CaCo3	1	4.00
Total Alkalinity		134	mg/L as CaCo3	1	4.00

Sample: 33349 - 0405061300

Analysis:	Cations	Analytical Method:	S 6010B	Prep Method:	S 3005A
QC Batch:	9554	Date Analyzed:	2004-05-11	Analyzed By:	BC
Prep Batch:	8435	Date Prepared:	2004-05-10	Prepared By:	TP

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Calcium		53.4	mg/L	1	0.500
Dissolved Potassium		2.60	mg/L	1	0.500
Dissolved Magnesium		9.40	mg/L	1	0.500
Dissolved Sodium		34.9	mg/L	1	0.500

Sample: 33349 - 0405061300

Analysis:	Conductivity	Analytical Method:	SM 2510B	Prep Method:	N/A
QC Batch:	9537	Date Analyzed:	2004-05-11	Analyzed By:	JSW
Prep Batch:	8463	Date Prepared:	2004-05-11	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
Specific Conductance		509	µMHOS/cm	1	0.00

Sample: 33349 - 0405061300

Analysis:	Ion Chromatography	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	9476	Date Analyzed:	2004-05-10	Analyzed By:	JSW
Prep Batch:	8414	Date Prepared:	2004-05-07	Prepared By:	JSW

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		39.9	mg/L	5	0.500
Fluoride		1.33	mg/L	5	0.200
Sulfate		42.7	mg/L	5	0.500

Sample: 33349 - 0405061300

Analysis:	NO3 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	9476	Date Analyzed:	2004-05-10	Analyzed By:	JSW
Prep Batch:	8414	Date Prepared:	2004-05-07	Prepared By:	JSW

Parameter	Flag	Result	RL	Units	Dilution	RL
Nitrate-N		2.57		mg/L	5	0.200

Sample: 33349 - 0405061300

Analysis:	pH	Analytical Method:	SM 4500-H+	Prep Method:	N/A
QC Batch:	9512	Date Analyzed:	2004-05-07	Analyzed By:	JSW
Prep Batch:	8448	Date Prepared:	2004-05-07	Prepared By:	JSW

Parameter	Flag	Result	RL	Units	Dilution	RL
pH	[1]	7.67		s.u.	1	0.00

Sample: 33349 - 0405061300

Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	9568	Date Analyzed:	2004-05-12	Analyzed By:	JSW
Prep Batch:	8484	Date Prepared:	2004-05-11	Prepared By:	JSW

Parameter	Flag	Result	RL	Units	Dilution	RL
Total Dissolved Solids		332.0		mg/L	1	10.00

Sample: 33349 - 0405061300

Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	9477	Date Analyzed:	2004-05-07	Analyzed By:	JG
Prep Batch:	8415	Date Prepared:	2004-05-07	Prepared By:	JG

Parameter	Flag	Result	RL	Units	Dilution	RL
Bromochloromethane		<1.00		µg/L	1	1.00
Dichlorodifluoromethane		<1.00		µg/L	1	1.00
Chloromethane (methyl chloride)		<1.00		µg/L	1	1.00
Vinyl Chloride		<1.00		µg/L	1	1.00
Bromomethane (methyl bromide)		<5.00		µg/L	1	5.00
Chloroethane		<1.00		µg/L	1	1.00
Trichlorofluoromethane		<1.00		µg/L	1	1.00
Acetone		<10.0		µg/L	1	10.0
Iodomethane (methyl iodide)		<5.00		µg/L	1	5.00
Carbon Disulfide		<1.00		µg/L	1	1.00
Acrylonitrile		<1.00		µg/L	1	1.00

continued . . .

[1] received out of holding time

sample 33349 continued...

Parameter	Flag	Result	RL	Units	Dilution	RL
2-Butanone (MEK)		<5.00		µg/L	1	5.00
4-Methyl-2-pentanone (MIBK)		<5.00		µg/L	1	5.00
2-Hexanone		<5.00		µg/L	1	5.00
trans 1,4-Dichloro-2-butene		<10.0		µg/L	1	10.0
1,1-Dichloroethene		<1.00		µg/L	1	1.00
Methylene chloride		<5.00		µg/L	1	5.00
MTBE		<1.00		µg/L	1	1.00
trans-1,2-Dichloroethene		<1.00		µg/L	1	1.00
1,1-Dichloroethane		<1.00		µg/L	1	1.00
cis-1,2-Dichloroethene		<1.00		µg/L	1	1.00
2,2-Dichloropropane		<1.00		µg/L	1	1.00
1,2-Dichloroethane (EDC)		<1.00		µg/L	1	1.00
Chloroform		<1.00		µg/L	1	1.00
1,1,1-Trichloroethane		<1.00		µg/L	1	1.00
1,1-Dichloropropene		<1.00		µg/L	1	1.00
Benzene		36.9		µg/L	1	1.00
Carbon Tetrachloride		<1.00		µg/L	1	1.00
1,2-Dichloropropane		<1.00		µg/L	1	1.00
Trichloroethene (TCE)		<1.00		µg/L	1	1.00
Dibromomethane (methylene bromide)		<1.00		µg/L	1	1.00
Bromodichloromethane		<1.00		µg/L	1	1.00
2-Chloroethyl vinyl ether		<5.00		µg/L	1	5.00
cis-1,3-Dichloropropene		<1.00		µg/L	1	1.00
trans-1,3-Dichloropropene		<1.00		µg/L	1	1.00
Toluene		<1.00		µg/L	1	1.00
1,1,2-Trichloroethane		<1.00		µg/L	1	1.00
1,3-Dichloropropane		<1.00		µg/L	1	1.00
Dibromochloromethane		<1.00		µg/L	1	1.00
1,2-Dibromoethane (EDB)		<1.00		µg/L	1	1.00
Tetrachloroethene (PCE)		<1.00		µg/L	1	1.00
Chlorobenzene		<1.00		µg/L	1	1.00
1,1,1,2-Tetrachloroethane		<1.00		µg/L	1	1.00
Ethylbenzene		1.67		µg/L	1	1.00
m,p-Xylene		36.1		µg/L	1	1.00
Bromoform		<1.00		µg/L	1	1.00
Styrene		<1.00		µg/L	1	1.00
o-Xylene		32.2		µg/L	1	1.00
1,1,2,2-Tetrachloroethane		<1.00		µg/L	1	1.00
2-Chlorotoluene		<1.00		µg/L	1	1.00
1,2,3-Trichloropropane		<1.00		µg/L	1	1.00
Isopropylbenzene		10.8		µg/L	1	1.00
Bromobenzene		<1.00		µg/L	1	1.00
n-Propylbenzene		3.07		µg/L	1	1.00
1,3,5-Trimethylbenzene		3.19		µg/L	1	1.00
tert-Butylbenzene		<1.00		µg/L	1	1.00
1,2,4-Trimethylbenzene		16.2		µg/L	1	1.00
1,4-Dichlorobenzene (para)		<1.00		µg/L	1	1.00
sec-Butylbenzene		1.13		µg/L	1	1.00
1,3-Dichlorobenzene (meta)		<1.00		µg/L	1	1.00
p-Isopropyltoluene		<1.00		µg/L	1	1.00
4-Chlorotoluene		<1.00		µg/L	1	1.00

continued...

sample 33349 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1	1.00
n-Butylbenzene		<1.00	µg/L	1	1.00
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5.00
Naphthalene		<5.00	µg/L	1	5.00
Hexachlorobutadiene		<5.00	µg/L	1	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		52.5	µg/L	1	50.0	105	70 - 130
Toluene-d8		50.9	µg/L	1	50.0	102	70 - 130
4-Bromofluorobenzene (4-BFB)		47.6	µg/L	1	50.0	95	70 - 130

Sample: 33350 - 0405061320

Analysis:	Alkalinity	Analytical Method:	SM 2320B	Prep Method:	N/A
QC Batch:	9582	Date Analyzed:	2004-05-11	Analyzed By:	RS
Prep Batch:	8502	Date Prepared:	2004-05-11	Prepared By:	RS

Parameter	Flag	RL Result	Units	Dilution	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Bicarbonate Alkalinity		232	mg/L as CaCo3	1	4.00
Total Alkalinity		232	mg/L as CaCo3	1	4.00

Sample: 33350 - 0405061320

Analysis:	Cations	Analytical Method:	S 6010B	Prep Method:	S 3005A
QC Batch:	9554	Date Analyzed:	2004-05-11	Analyzed By:	BC
Prep Batch:	8435	Date Prepared:	2004-05-10	Prepared By:	TP

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Calcium		133	mg/L	1	0.500
Dissolved Potassium		4.26	mg/L	1	0.500
Dissolved Magnesium		21.6	mg/L	1	0.500
Dissolved Sodium		128	mg/L	1	0.500

Sample: 33350 - 0405061320

Analysis:	Conductivity	Analytical Method:	SM 2510B	Prep Method:	N/A
QC Batch:	9537	Date Analyzed:	2004-05-11	Analyzed By:	JSW
Prep Batch:	8463	Date Prepared:	2004-05-11	Prepared By:	JSW

Parameter	Flag	Result	RL	Units	Dilution	RL
Specific Conductance		1450		µMHOS/cm	1	0.00

Sample: 33350 - 0405061320

Analysis:	Ion Chromatography	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	9476	Date Analyzed:	2004-05-10	Analyzed By:	JSW
Prep Batch:	8414	Date Prepared:	2004-05-07	Prepared By:	JSW

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		201		mg/L	5	0.500
Fluoride		1.17		mg/L	5	0.200
Sulfate		171		mg/L	5	0.500

Sample: 33350 - 0405061320

Analysis:	NO3 (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	9476	Date Analyzed:	2004-05-10	Analyzed By:	JSW
Prep Batch:	8414	Date Prepared:	2004-05-07	Prepared By:	JSW

Parameter	Flag	Result	RL	Units	Dilution	RL
Nitrate-N		8.76		mg/L	5	0.200

Sample: 33350 - 0405061320

Analysis:	pH	Analytical Method:	SM 4500-H+	Prep Method:	N/A
QC Batch:	9512	Date Analyzed:	2004-05-07	Analyzed By:	JSW
Prep Batch:	8448	Date Prepared:	2004-05-07	Prepared By:	JSW

Parameter	Flag	Result	RL	Units	Dilution	RL
pH	[2]	7.34		s.u.	1	0.00

Sample: 33350 - 0405061320

Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	9568	Date Analyzed:	2004-05-12	Analyzed By:	JSW
Prep Batch:	8484	Date Prepared:	2004-05-11	Prepared By:	JSW

Parameter	Flag	Result	RL	Units	Dilution	RL
Total Dissolved Solids		970.0		mg/L	2	10.00

[2]received out of holding time

Sample: 33350 - 0405061320

Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	9477	Date Analyzed:	2004-05-07	Analyzed By:	JG
Prep Batch:	8415	Date Prepared:	2004-05-07	Prepared By:	JG

Parameter	Flag	RL Result	Units	Dilution	RL
Bromochloromethane		<1.00	µg/L	1	1.00
Dichlorodifluoromethane		<1.00	µg/L	1	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1	1.00
Vinyl Chloride		<1.00	µg/L	1	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	1	5.00
Chloroethane		<1.00	µg/L	1	1.00
Trichlorofluoromethane		<1.00	µg/L	1	1.00
Acetone		<10.0	µg/L	1	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	1	5.00
Carbon Disulfide		<1.00	µg/L	1	1.00
Acrylonitrile		<1.00	µg/L	1	1.00
2-Butanone (MEK)		<5.00	µg/L	1	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	1	5.00
2-Hexanone		<5.00	µg/L	1	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	1	10.0
1,1-Dichloroethene		<1.00	µg/L	1	1.00
Methylene chloride		<5.00	µg/L	1	5.00
MTBE		<1.00	µg/L	1	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1	1.00
1,1-Dichloroethane		<1.00	µg/L	1	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1	1.00
2,2-Dichloropropane		<1.00	µg/L	1	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1	1.00
Chloroform		<1.00	µg/L	1	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1	1.00
1,1-Dichloropropene		<1.00	µg/L	1	1.00
Benzene		<1.00	µg/L	1	1.00
Carbon Tetrachloride		<1.00	µg/L	1	1.00
1,2-Dichloropropane		<1.00	µg/L	1	1.00
Trichloroethene (TCE)		<1.00	µg/L	1	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1	1.00
Bromodichloromethane		<1.00	µg/L	1	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	1	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1	1.00
1,3-Dichloropropane		<1.00	µg/L	1	1.00
Dibromochloromethane		<1.00	µg/L	1	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1	1.00
Chlorobenzene		<1.00	µg/L	1	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1	1.00
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
Bromoform		<1.00	µg/L	1	1.00
Styrene		<1.00	µg/L	1	1.00

continued ...

sample 33350 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
o-Xylene		<1.00	µg/L	1	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1	1.00
2-Chlorotoluene		<1.00	µg/L	1	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1	1.00
Isopropylbenzene		<1.00	µg/L	1	1.00
Bromobenzene		<1.00	µg/L	1	1.00
n-Propylbenzene		<1.00	µg/L	1	1.00
1,3,5-Trimethylbenzene		<1.00	µg/L	1	1.00
tert-Butylbenzene		<1.00	µg/L	1	1.00
1,2,4-Trimethylbenzene		<1.00	µg/L	1	1.00
1,4-Dichlorobenzene (para)		<1.00	µg/L	1	1.00
sec-Butylbenzene		<1.00	µg/L	1	1.00
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1	1.00
p-Isopropyltoluene		<1.00	µg/L	1	1.00
4-Chlorotoluene		<1.00	µg/L	1	1.00
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1	1.00
n-Butylbenzene		<1.00	µg/L	1	1.00
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5.00
Naphthalene		<5.00	µg/L	1	5.00
Hexachlorobutadiene		<5.00	µg/L	1	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		54.3	µg/L	1	50.0	109	70 - 130
Toluene-d8		50.7	µg/L	1	50.0	101	70 - 130
4-Bromofluorobenzene (4-BFB)		45.3	µg/L	1	50.0	91	70 - 130

Method Blank (1) QC Batch: 9476

Parameter	Flag	Result	Units	RL
Nitrate-N		<0.200	mg/L	0.2

Method Blank (1) QC Batch: 9476

Parameter	Flag	Result	Units	RL
Chloride		<0.500	mg/L	0.5
Fluoride		<0.200	mg/L	0.2
Sulfate		<0.500	mg/L	0.5

Method Blank (1) QC Batch: 9477

Parameter	Flag	Result	Units	RL
Bromochloromethane		<1.00	µg/L	1
Dichlorodifluoromethane		<1.00	µg/L	1
Chloromethane (methyl chloride)		<1.00	µg/L	1
Vinyl Chloride		<1.00	µg/L	1
Bromomethane (methyl bromide)		<5.00	µg/L	5
Chloroethane		<1.00	µg/L	1
Trichlorofluoromethane		<1.00	µg/L	1
Acetone		<10.0	µg/L	10
Iodomethane (methyl iodide)		<5.00	µg/L	5
Carbon Disulfide		<1.00	µg/L	1
Acrylonitrile		<1.00	µg/L	1
2-Butanone (MEK)		<5.00	µg/L	5
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	5
2-Hexanone		<5.00	µg/L	5
trans 1,4-Dichloro-2-butene		<10.0	µg/L	10
1,1-Dichloroethene		<1.00	µg/L	1
Methylene chloride		<5.00	µg/L	5
MTBE		<1.00	µg/L	1
trans-1,2-Dichloroethene		<1.00	µg/L	1
1,1-Dichloroethane		<1.00	µg/L	1
cis-1,2-Dichloroethene		<1.00	µg/L	1
2,2-Dichloropropane		<1.00	µg/L	1
1,2-Dichloroethane (EDC)		<1.00	µg/L	1
Chloroform		<1.00	µg/L	1
1,1,1-Trichloroethane		<1.00	µg/L	1
1,1-Dichloropropene		<1.00	µg/L	1
Benzene		<1.00	µg/L	1
Carbon Tetrachloride		<1.00	µg/L	1
1,2-Dichloropropane		<1.00	µg/L	1
Trichloroethene (TCE)		<1.00	µg/L	1
Dibromomethane (methylene bromide)		<1.00	µg/L	1
Bromodichloromethane		<1.00	µg/L	1
2-Chloroethyl vinyl ether		<5.00	µg/L	5
cis-1,3-Dichloropropene		<1.00	µg/L	1
trans-1,3-Dichloropropene		<1.00	µg/L	1
Toluene		<1.00	µg/L	1
1,1,2-Trichloroethane		<1.00	µg/L	1
1,3-Dichloropropane		<1.00	µg/L	1
Dibromochloromethane		<1.00	µg/L	1
1,2-Dibromoethane (EDB)		<1.00	µg/L	1
Tetrachloroethene (PCE)		<1.00	µg/L	1
Chlorobenzene		<1.00	µg/L	1
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1
Ethylbenzene		<1.00	µg/L	1
m,p-Xylene		<1.00	µg/L	1
Bromoform		<1.00	µg/L	1
Styrene		<1.00	µg/L	1
o-Xylene		<1.00	µg/L	1
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1
2-Chlorotoluene		<1.00	µg/L	1
1,2,3-Trichloropropane		<1.00	µg/L	1
Isopropylbenzene		<1.00	µg/L	1

continued ...

method blank continued . . .

Parameter	Flag	Result	Units	RL
Bromobenzene		<1.00	µg/L	1
n-Propylbenzene		<1.00	µg/L	1
1,3,5-Trimethylbenzene		<1.00	µg/L	1
tert-Butylbenzene		<1.00	µg/L	1
1,2,4-Trimethylbenzene		<1.00	µg/L	1
1,4-Dichlorobenzene (para)		<1.00	µg/L	1
sec-Butylbenzene		<1.00	µg/L	1
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1
p-Isopropyltoluene		<1.00	µg/L	1
4-Chlorotoluene		<1.00	µg/L	1
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1
n-Butylbenzene		<1.00	µg/L	1
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		<5.00	µg/L	5
Hexachlorobutadiene		<5.00	µg/L	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		51.8	µg/L	1	50.0	104	70 - 130
Toluene-d8		50.5	µg/L	1	50.0	101	70 - 130
4-Bromofluorobenzene (4-BFB)		46.9	µg/L	1	50.0	94	70 - 130

Method Blank (1) QC Batch: 9537

Parameter	Flag	Result	Units	RL
Specific Conductance		3.91	µMHOS/cm	

Method Blank (1) QC Batch: 9554

Parameter	Flag	Result	Units	RL
Dissolved Calcium		<0.500	mg/L	0.5
Dissolved Potassium		<0.500	mg/L	0.5
Dissolved Magnesium		<0.500	mg/L	0.5
Dissolved Sodium		<0.500	mg/L	0.5

Method Blank (1) QC Batch: 9568

Parameter	Flag	Result	Units	RL
Total Dissolved Solids		<10.00	mg/L	10

Method Blank (1) QC Batch: 9582

Parameter	Flag	Result	Units	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1
Bicarbonate Alkalinity		<4.00	mg/L as CaCo3	4
Total Alkalinity		<4.00	mg/L as CaCo3	4

Duplicate (1) QC Batch: 9512

Param		Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH	[3]	5.61	5.60	s.u.	1	0	0.4

Duplicate (1) QC Batch: 9537

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Specific Conductance	1450	1450	µMHOS/cm	1	0	2.3

Duplicate (1) QC Batch: 9568

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	940.0	970.0	mg/L	2	3	8.7

Duplicate (1) QC Batch: 9582

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Hydroxide Alkalinity	<1.00	<1.00	mg/L as CaCo3	1	0	20
Carbonate Alkalinity	<1.00	<1.00	mg/L as CaCo3	1	0	20
Bicarbonate Alkalinity	46.0	46.0	mg/L as CaCo3	1	0	20
Total Alkalinity	46.0	46.0	mg/L as CaCo3	1	0	4.8

Laboratory Control Spike (LCS-1) QC Batch: 9476

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Nitrate-N	2.33	2.34	mg/L	1	2.50	<0.0217	93	0	90 - 110	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1) QC Batch: 9476

[3]received out of holding time

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Chloride	11.2	11.2	mg/L	1	12.5	<0.337	90	0	90 - 110	20
Fluoride	2.34	2.33	mg/L	1	2.50	<0.0594	94	0	90 - 110	20
Sulfate	11.5	11.7	mg/L	1	12.5	<0.409	92	2	90 - 110	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1) QC Batch: 9477

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
1,1-Dichloroethene	97.6	101	µg/L	1	100	<0.136	98	3	78 - 120	20
Benzene	96.3	98.3	µg/L	1	100	<0.146	96	2	84.2 - 108	20
Trichloroethene (TCE)	99.3	100	µg/L	1	100	0.24	99	1	85.8 - 106	20
Toluene	93.3	95.0	µg/L	1	100	0.23	93	2	77.2 - 104	20
Chlorobenzene	92.7	95.5	µg/L	1	100	<0.0540	93	3	82.1 - 113	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Dibromofluoromethane	50.4	51.1	µg/L	1	50.0	101	102	70 - 130
Toluene-d8	50.2	50.5	µg/L	1	50.0	100	101	70 - 130
4-Bromofluorobenzene (4-BFB)	48.1	48.2	µg/L	1	50.0	96	96	70 - 130

Laboratory Control Spike (LCS-1) QC Batch: 9554

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Dissolved Calcium	99.6	98.1	mg/L	1	100	<0.102	100	2	85 - 115	20
Dissolved Potassium	98.8	98.7	mg/L	1	100	<0.101	99	0	85 - 115	20
Dissolved Magnesium	101	99.0	mg/L	1	100	<0.110	101	2	85 - 115	20
Dissolved Sodium	104	101	mg/L	1	100	<0.120	104	3	85 - 115	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) QC Batch: 9476

Param	MS Result	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Nitrate-N	2410	2410	mg/L	1000	2.50	<21.7	96	0	79.6 - 109	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) QC Batch: 9476

Param	MS Result	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Chloride	26000	26100	mg/L	1000	12.5	15000	88	0	74.3 - 118	20
Fluoride	2350	2410	mg/L	1000	2.50	<59.4	94	2	84.9 - 104	20
Sulfate	16500	16700	mg/L	1000	12.5	5010	92	1	77.8 - 112	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) QC Batch: 9554

Param		MS Result	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Dissolved Calcium		227	217	mg/L	1	100	137	90	4	75 - 125	20
Dissolved Potassium		116	111	mg/L	1	100	26.1	90	4	75 - 125	20
Dissolved Magnesium		242	242	mg/L	1	100	149	93	0	75 - 125	20
Dissolved Sodium	[4,5]	215	217	mg/L	1	100	155	60	1	75 - 125	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Standard (ICV-1) QC Batch: 9476

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Nitrate-N		mg/L	2.50	2.33	93	90 - 110	2004-05-10

Standard (ICV-1) QC Batch: 9476

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.5	11.3	90	90 - 110	2004-05-10
Fluoride		mg/L	2.50	2.31	92	90 - 110	2004-05-10
Sulfate		mg/L	12.5	11.5	92	90 - 110	2004-05-10

Standard (CCV-1) QC Batch: 9476

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Nitrate-N		mg/L	2.50	2.33	93	90 - 110	2004-05-10

Standard (CCV-1) QC Batch: 9476

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.5	11.2	90	90 - 110	2004-05-10
Fluoride		mg/L	2.50	2.35	94	90 - 110	2004-05-10
Sulfate		mg/L	12.5	11.7	94	90 - 110	2004-05-10

Standard (CCV-1) QC Batch: 9477

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Vinyl Chloride		µg/L	50.0	47.7	95	80 - 120	2004-05-07

continued ...

[4]ms recovery out of limits due to matrix effect, use lcs/lcsd
[5]ms recovery out of limits due to matrix effect, use lcs/lcsd

standard continued . . .

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
1,1-Dichloroethene		µg/L	50.0	49.3	99	80 - 120	2004-05-07
Chloroform		µg/L	50.0	48.7	97	80 - 120	2004-05-07
1,2-Dichloropropane		µg/L	50.0	50.1	100	80 - 120	2004-05-07
Toluene		µg/L	50.0	49.6	99	80 - 120	2004-05-07
Chlorobenzene		µg/L	50.0	49.5	99	80 - 120	2004-05-07
Ethylbenzene		µg/L	50.0	51.1	102	80 - 120	2004-05-07

Standard (ICV-1) QC Batch: 9512

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7.00	7.03	100	98 - 102	2004-05-07

Standard (CCV-1) QC Batch: 9512

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7.00	7.02	100	98 - 102	2004-05-07

Standard (ICV-1) QC Batch: 9537

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		µMHOS/cm	1410	1410	100	90 - 110	2004-05-11

Standard (CCV-1) QC Batch: 9537

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		µMHOS/cm	1410	1410	100	90 - 110	2004-05-11

Standard (ICV-1) QC Batch: 9554

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	25.0	25.1	100	90 - 110	2004-05-11
Dissolved Potassium		mg/L	25.0	24.9	100	90 - 110	2004-05-11
Dissolved Magnesium		mg/L	25.0	24.8	99	90 - 110	2004-05-11
Dissolved Sodium		mg/L	25.0	26.7	107	90 - 110	2004-05-11

Standard (CCV-1) QC Batch: 9554

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	25.0	25.2	101	90 - 110	2004-05-11
Dissolved Potassium		mg/L	25.0	24.3	97	90 - 110	2004-05-11
Dissolved Magnesium		mg/L	25.0	25.2	101	90 - 110	2004-05-11
Dissolved Sodium		mg/L	25.0	25.1	100	90 - 110	2004-05-11

Standard (ICV-1) QC Batch: 9568

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	987.0	99	90 - 110	2004-05-12

Standard (CCV-1) QC Batch: 9568

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	1002	100	90 - 110	2004-05-12

Standard (ICV-1) QC Batch: 9582

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0.00	<1.00		0 - 200	2004-05-11
Carbonate Alkalinity		mg/L as CaCo3	0.00	<1.00		0 - 200	2004-05-11
Bicarbonate Alkalinity		mg/L as CaCo3	0.00	<4.00		0 - 200	2004-05-11
Total Alkalinity		mg/L as CaCo3	250	246	98	90 - 110	2004-05-11

Standard (CCV-1) QC Batch: 9582

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0.00	<1.00		0 - 200	2004-05-11
Carbonate Alkalinity		mg/L as CaCo3	0.00	<1.00		0 - 200	2004-05-11
Bicarbonate Alkalinity		mg/L as CaCo3	0.00	<4.00		0 - 200	2004-05-11
Total Alkalinity		mg/L as CaCo3	250	240	96	90 - 110	2004-05-11

Report Date: May 13, 2004
040505

Work Order: 4050728
Windmill Oil

Page Number: 16 of 16
1820 & 1902 Gary Lane, Virgil Witman

Page 1 of 1

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1 (800) 378-1296

TraceAnalysis, Inc.

155 McCutcheon, Suite H
El Paso, Texas 79932
Tel (915) 585-3443
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1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # 4050728

Company Name: New Mexico Oil Conservation Div. Phone #: 505.393.6161 x113
Address: (Street, City, Zip) 1625 N. French Dr., Hobbs, NM 88240 Fax #: 393.0720
Contact Person: Paul Sheeley
Invoice to: (If different from above) Ed Martin OCD-Santa Fe 505.476.3492
Project #: 040505 = COC# Project Name: Windmill Oil
Project Location: 1820 & 1902 Gary Lane, Virgil Wittman Sampler Signature:

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
33349	0405061300	1-P	1-L	X								X		5/6/04	1300
	0405061300	2-G	40mL	X				X				X		5/6/04	1300
SD	040506 1320	1P	1-L	X								X		5/6/04	1320
	0405061320	2-G	40mL	X				X				X		5/6/04	1320

MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/2007	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	General Chemistry					Turn Around Time if different from standard	Hold
										X					X						
										X											
															X						

	Date:	Time:		Date:	Time:
Relinquished by:	5-6-04	1300	Received by:		
Relinquished by:			Received by:		
Relinquished by:			Received at Laboratory by:	5-7-04	11:45

LAB USE ONLY
Intact (Y) N
Headspace Y (N)
Temp 1° C °
Log-in Review

REMARKS:

☐ Check If Special Reporting Limits Are Needed

Carrier # TNM40 903-177-311-3

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

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33349-50

Page 1 of 1

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El Paso, Texas 79932
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1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # 405072 8

Company Name: New Mexico Oil Conservation Div. Phone #: 505. 393.6161 x113

Address: (Street, City, Zip) 1625 N. French Dr., Hobbs, NM 88240 Fax #: 393.0720

Contact Person: Paul Sheeley

Invoice to: (If different from above) Ed Martin OCD-Santa Fe 505. 476. 3492

Project #: 040505 = COC# Project Name: Windmill Oil

Project Location: 1820 & 1902 Gary Lane, Virgil Wittman Sampler Signature:

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
33349	040506 1300	1-P	1-L	X								X		5/6/04	1300
	040506 1300	2-G	40mL	X				X				X		5/6/04	1300
SO	040506 1320	1-P	1-L	X								X		5/6/04	1320
	040506 1320	2-G	40mL	X				X				X		5/6/04	1320

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	General Chemistry					Turn Around Time if different from standard	Hold
															X						
										X											
															X						
										X											

Relinquished by: Date: Time: 5-6-04 1300 Received by: Date: Time:

Relinquished by: Date: Time: Received by: Date: Time:

Relinquished by: Date: Time: Received at Laboratory by: Date: Time: 5.7.04 11:45

LAB USE ONLY

Intact (Y) N

Headspace Y (N)

Temp 1°C °

Log-in Review

REMARKS:

☐ Check If Special Reporting Limits Are Needed

5/13F

Carrier # TNM10 903-177-311-3

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

ORIGINAL COPY

Cation-Anion Balance Sheet

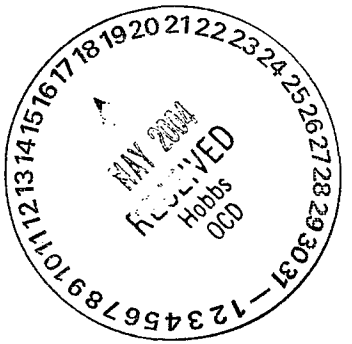
DATE: 5/13/2004

Sample #	Calcium ppm	Magnesium ppm	Sodium ppm	Potassium ppm	Alkalinity ppm	Sulfate ppm	Chloride ppm	Nitrate ppm	Fluoride ppm	Bromide ppm	TDS ppm	EC µMHOs/cm
33350	133	21.6	128	4.26	232	171	201	8.76	1.17		970	1450
33349	53.4	9.4	34.9	2.6	134	42.7	39.9	2.57	1.33		332	509

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	Bromide in meq/L	**Cations in meq/L**	**Anions in meq/L**	**Percentage Error**
33350	6.64	1.78	5.57	0.11	4.64	3.56	5.67	0.6253764	0.0615888	0	14.09	14.56	3.255038915
33349	2.66	0.77	1.52	0.07	2.68	0.89	1.13	0.1834723	0.0700112	0	5.02	4.95	1.499711085

	EC/Cation	EC/Anion				
33350	1409.11348	1455.73952	range	1305	to	1595
33349	502.2844	494.80765	range	458.1	to	559.9

TDS/EC	TDS/Cat	TDS/Anion	
0.67	0.69	0.67	needs to be 0.55-0.77
0.65	0.66	0.67	needs to be 0.55-0.77



Re-Sample 1820 & 1902 Gary Lane

Virgil Whitman attending: Purged all morning.

Sample ID	Container	well	Test
0405061300	1-L, P	1820 Gary Ln New well	Gen. Chem
0405061300	40mL G	"	8260
0405061300	40mL G	"	8260
0405061320	1-L, P	1902 Gary Lane old well	Gen. Chem.
0405061320	40-mL G	"	8260
0405061320	40-mL G	"	8260

5-11-04 0500 Am

98 bbl spill

Plains Pipeline

Kermit 1/12

Wayne Roberts

will call 370-7106 on call

5-11-04 MIDLAND MEETNIG

TRRC: Chue in, P = 2135 psi Dist 8

P = 2982 psi Dist 8A

Largest TRRC project $2 mil.

Snyder Reclamation Plant

Rule Tho shall not pollute

Your Tank Batterys are not lined??

TDH@state.tx.us/radiation

NORM - heckel

" → No Health Cases directly related to NORM

Pit Liner Specs [attach a piece to permit]

Emergency pits Notify ASAP?