



District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 South First, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Form C-141
Revised March 17, 1999

Submit 2 Copies to appropriate
District Office in accordance
with Rule 116 on back
side of form

Release Notification and Corrective Action

30-039-26286

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company	Williams Field Service	Contact	Mark Bareta
Address	188 CR 4900 Bloomfield NM 87413	Telephone No.	505-632-4634
Facility Name	Rosa #171	Facility Type	Well Reserve Pit
Surface Owner	Mineral Owner	Lease No.	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	12	31N	5W					Rio Arriba

NATURE OF RELEASE

Type of Release	Produced water	Volume of Release	50-80 barrels	Volume Recovered	
Source of Release	Leak in Liner	Date and Hour of Occurrence	7/17/00 2:00pm	Date and Hour of Discovery	7/18/00 2:00pm
Was Immediate Notice Given?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	Denny Foust		
By Whom?	Clara Garcia	Date and Hour	7/20/00 11:00 a.m.		
Was a Watercourse Reached?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.*

See Attachment A

Describe Cause of Problem and Remedial Action Taken.*

See Attachment B

Describe Area Affected and Cleanup Action Taken.*

See Attachment C



I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: Clara M. Garcia	OIL CONSERVATION DIVISION	
Printed Name: Clara M. Garcia	Approved by: Denny Foust	District Supervisor: for Frank Chavez
Title: Compliance Administrator	Approval Date: 8/11/00	Expiration Date:
Date: Aug 1, 2000 Phone: 634-4956	Conditions of Approval:	Attached <input type="checkbox"/>

* Attach Additional Sheets If Necessary

h DGF00214290

ATTACHMENT A

Watercourse Impact

Based on the amount of wet soil, we approximate 50-80 barrels of water flowed from a seep below the reserve pit (Rosa #171) and went approximately 200' to a wash, and ran down the wash approximately 200' stopping approximately 300' short of Navajo Lake. This may have been produced water, a combination of produced water and ground water, or ground water only.

ATTACHMENT B

Cause of Problem/Remedial Action Taken

The reserve pit liner appears to have leaked releasing produced water (coal seam water) with hardness of 300 mg/L, an alkalinity of 7000 ppm, a TDS of 10,000 ppm, with no hydrocarbon or sulfur. The pit was drained and a new liner along with a rock liner was added. It is believed that the leak occurred as a result of ground settling below the pit upon filling it with water. An additional small existing pit (Dakota #108) adjacent to the reserve pit was emptied and a steel tank was set up to replace it. The Rosa #171 will be drained again and a containment area will be set up to catch the seepage, which will later be tested to determine its source. Continued operation at this site may consider a closed mud system or moving the location of the pit.

ATTACHMENT C

Area Affected/Cleanup Action

In the initial verbal report it was stated that the spill had reached Navajo Lake. Upon further investigation produced water was not released into the lake. The area affected includes that area from the site 200' to the draw and then 200' down the draw. Because of the characteristics of the spilled material no cleanup of the soil is proposed. A small seep of what is believed to be naturally occurring ground water continues to flow from the area of the leak. The seep flows 25'-50' towards the wash with an estimated flow of 2-3 gallons/minute. It has a TDS of 7000 ppm.



*Frac Tank
Water Analysis Work Sheet*

Company	Williams Production	Sample I D.	Pit sample 171
Well	Pit sample 171	Date Sampled	7/25/2000
S/T/R	0	Date Tested	7/25/2000
Tank #		Submitted By:	Ron Cochran

Results

pH	8.29	Potassium . K+	15
Resistivity	0.7	Temperature	75
H ₂ S	n/a	Sulfate	20
Fe +2 : Ferric	0	Fe +3 : Ferrous	n/a
Specific Gravity	1	Specific Gravity @ 60	1 003
Bicarbonate : HCO ₃ - (mg/l)	7076	Total Hardness (mg/l)	220
Calcium : Ca +2 (mg/l)	68	Magnesium : Mg +2 (mg/l)	12
Chloride : Cl - (mg/l)	1999	Sodium : Na + (mg/l)	3953
Total Dissolved Solids (mg/l)	13299		

Comments:



*Frac Tank
Water Analysis Work Sheet*

Company	Williams Production	Sample I.D.	Under Pit 171
Well	Under Pit 171	Date Sampled	7/25/2000
S/T/R	0	Date Tested	7/25/2000
Tank #		Submitted By:	Ron Cochran

Results

pH	7.31	Potassium : K ⁺	23
Resistivity	1	Temperature	75
H ₂ S	n/a	Sulfate	190
Fe +2 : Ferric	0	Fe +3 : Ferrous	n/a
Specific Gravity	1	Specific Gravity @ 60	1.003
Bicarbonate : HCO ₃ ⁻ (mg/l)	2928	Total Hardness (mg/l)	1230
Calcium : Ca +2 (mg/l)	481	Magnesium : Mg +2 (mg/l)	7
Chloride : Cl ⁻ (mg/l)	2199	Sodium : Na ⁺ (mg/l)	2053
Total Dissolved Solids (mg/l)	7859		

Comments:



*Frac Tank
Water Analysis Work Sheet*

Company	Williams Production	Sample I.D.	Pit 119 DK
Well	Pit sample 119 DK	Date Sampled	7/25/2000
S/T/R	DK	Date Tested	7/25/2000
Tank #		Submitted By:	Ron Cochran

Results

pH	7.98	Potassium : K+	180
Resistivity	0.25	Temperature	75
H ₂ S	n/a	Sulfate	3000
Fe +2 : Ferric	0	Fe +3 : Ferrous	n/a
Specific Gravity	1.015	Specific Gravity @ 60	1.018
Bicarbonate : HCO ₃ - (mg/l)	1061	Total Hardness (mg/l)	1050
Calcium : Ca +2 (mg/l)	361	Magnesium : Mg +2 (mg/l)	36
Chloride : Cl - (mg/l)	14795	Sodium : Na + (mg/l)	10940
Total Dissolved Solids (mg/l)	30194		

Comments:



Frac Tank
Water Analysis Work Sheet

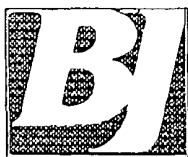
Company	Williams Prod.	Sample I.D.	7/26/2000
Well	Rosa #171	Date Sampled	7/26/2000
S/T/R	0	Date Tested	7/31/2000
Tank #		Submitted By:	Ron Cochran

Results

pH	7.14	Potassium : K+	22
Resistivity	1.4	Temperature	75
H ₂ S	n/a	Sulfate	50
Fe +2 : Ferric	0	Fe +3 : Ferrous	n/a
Specific Gravity	1	Specific Gravity @ 60	1.003
Bicarbonate : HCO ₃ - (mg/l)	2440	Total Hardness (mg/l)	1050
Calcium : Ca +2 (mg/l)	285	Magnesium : Mg +2 (mg/l)	83
Chloride : Cl - (mg/l)	1600	Sodium : Na + (mg/l)	1497
Total Dissolved Solids (mg/l)	5954		

Comments.

Prepared By: D. Shepherd



Frac Tank
Water Analysis Work Sheet

Company	Williams Prod.	Sample I.D.	7/28/2000
Well	Rosa #171	Date Sampled	7/28/2000
S/T/R	0	Date Tested	7/31/2000
Tank #		Submitted By:	Ron Cochran

Results

pH	7.21	Potassium : K+	21
Resistivity	1.55	Temperature	75
H ₂ S	n/a	Sulfate	130
Fe +2 : Ferric	0	Fe +3 : Ferrous	n/a
Specific Gravity	1	Specific Gravity @ 60	1.003
Bicarbonate : HCO ₃ - (mg/l)	1793	Total Hardness (mg/l)	2030
Calcium : Ca +2 (mg/l)	545	Magnesium : Mg +2 (mg/l)	163
Chloride : Cl - (mg/l)	1600	Sodium : Na + (mg/l)	841
Total Dissolved Solids (mg/l)	5072		

Comments:

Prepared By: D. Shepherd



*Frac Tank
Water Analysis Work Sheet*

Company	Williams Prod	Sample I.D.	7/29/2000
Well	Rosa #171	Date Sampled	7/29/2000
S/T/R	0	Date Tested	7/31/2000
Tank #		Submitted By:	Ron Cochran
<i>Results</i>			
pH	7.18	Potassium : K+	22
Resistivity	1.6	Temperature	75
H ₂ S	n/a	Sulfate	110
Fe +2 : Ferric	0	Fe +3 : Ferrous	n/a
Specific Gravity	1	Specific Gravity @ 60	1.003
Bicarbonate : HCO ₃ - (mg/l)	1769	Total Hardness (mg/l)	2110
Calcium : Ca +2 (mg/l)	621	Magnesium : Mg +2 (mg/l)	136
Chloride : Cl - (mg/l)	1600	Sodium : Na + (mg/l)	785
Total Dissolved Solids (mg/l)	5021		

Comments:

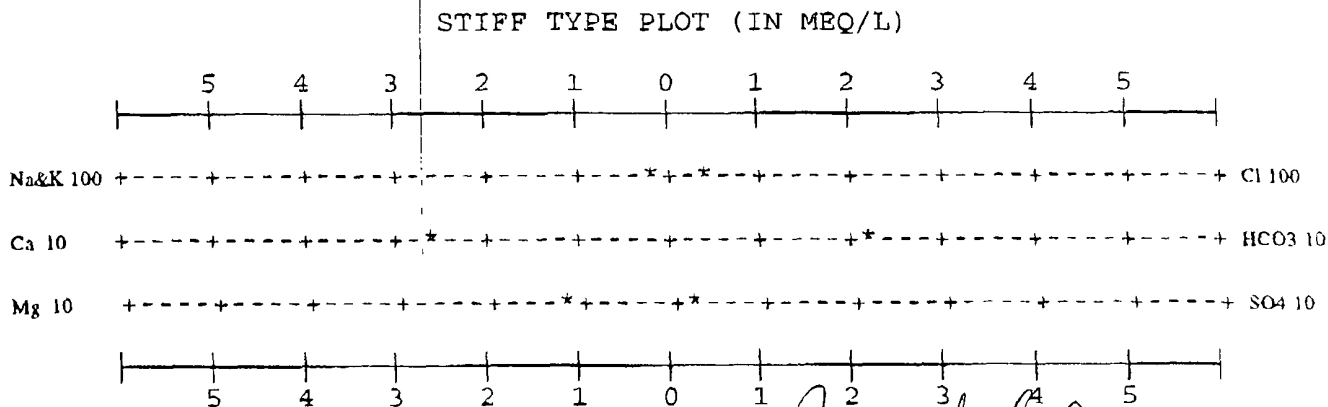
Prepared By: D. Shepherd

D. SHEPHERD

BJ SERVICES COMPANY
WATER ANALYSIS #FW01W931
FARMINGTON LAB

GENERAL INFORMATION		
OPERATOR:	WILLIAMS PRODUCTION	DEPTH:
WELL:	ROSA #171	DATE SAMPLED: 07/31/00
FIELD:		DATE RECEIVED: 08/02/00
SUBMITTED BY:	RON COCHRAN	COUNTY: RIO ARriba
WORKED BY:	D. SHEPHERD	STATE: NM
PHONE NUMBER:		FORMATION:

SAMPLE DESCRIPTION	
sample from pit 7/31/00	
PHYSICAL AND CHEMICAL DETERMINATIONS	
SPECIFIC GRAVITY:	1.000 @ 74°F PH: 7.13
RESISTIVITY (MEASURED):	1.450 ohms @ 75°F
IRON (FE++) :	0 ppm SULFATE: 140 ppm
CALCIUM:	541 ppm TOTAL HARDNESS 1,951 ppm
MAGNESIUM:	146 ppm BICARBONATE: 1,403 ppm
CHLORIDE:	1,400 ppm SODIUM CHLORIDE (Calc) 2,302 ppm
SODIUM+POTASS:	608 ppm TOT. DISSOLVED SOLIDS: 5,502 ppm
H2S: no trace	POTASSIUM (PPM): 16
REMARKS	



ANALYST

D. SHEPHERD

ENVIROTECH LABS

Practical Solutions for a Better Tomorrow

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Williams	Project #:	006801
Sample ID:	Seep	Date Reported:	07-28-00
Chain of Custody:	8095	Date Sampled:	07-27-00
Laboratory Number:	H827	Date Received:	07-27-00
Sample Matrix:	Water	Date Analyzed:	07-28-00
Preservative:	HgCl ₂ & Cool	Analysis Requested:	BTEX
Condition:	Cool & Intact		0

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Benzene	5.0	1	0.2
Toluene	11.2	1	0.2
Ethylbenzene	7.9	1	0.2
p,m-Xylene	19.0	1	0.2
o-Xylene	7.5	1	0.1

Total BTEX 50.6

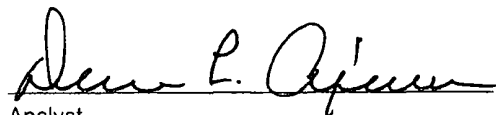
ND - Parameter not detected at the stated detection limit.

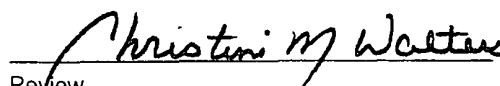
Surrogate Recoveries:	Parameter	Percent Recovery
	Trifluorotoluene	100 %
	Bromofluorobenzene	100 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: Rosa - 171.


Analyst


Review

Rosa Unit #171 & 171A Seep Observations

1. The seep has almost ceased. Flow is greatly reduced and is just a trickle at this time.
2. The water analysis indicates the seep is unique and fresher than produced/drilling water.
3. The original liner was damaged during pit settling that occurred the initial filling.
4. The pit has been relined with a geotextile lining and an additional liner.
5. The original pit was improperly filled via the "blow" pit. The original water hauler has been terminated.

WPX Recommendations

1. WPX proposes to install an additional liner in the pit resulting in a double lined pit.
2. WPX further proposes to install a double geotextile/liner on the blow pit.
3. WPX proposes to test/fill the existing pit by filling it to approximately 70 – 75 % of capacity with lake water and monitor the seep. If OK, then drill the wells under the original design. Drill water will be maintained at approximately 50 % of capacity during drilling and completion. The water level will be maintained at the minimal required level during operation.
4. WPX proposes to monitor the seep and capture/analyze any flow. Note that the seep flow is currently being contained and pumped back to containment.
5. WPX further proposes that following completion of the second well that all fluids will be removed from the pit and the pit will be closed/reclaimed.

WPX Concerns

1. The blow/flare pit is required. This is a safety issue, resulting from potentially explosive gas venting during drilling and cleanup.
2. A closed mud system is achieved for all practical purposes with lined pits.

Undesirable Options

1. Flip location/pits to the high side. This would increase the surface disturbance and potentially impact archeological sites.



NEW MEXICO OIL CONSERVATION DIVISION

Case Narrative

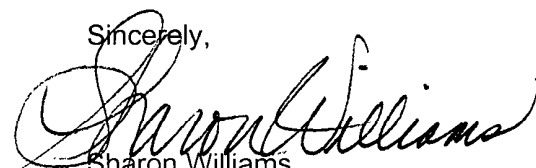
On July 27, 2000, two water samples were submitted to Inter-Mountain Laboratories - Farmington for analysis. Analysis for Benzene-Toluene-Ethylbenzene-Xylenes (BTEX) were performed on the samples as per the accompanying Chain of Custody document. The samples were analyzed within the required holding times.

BTEX analysis on the samples were performed by EPA Method 5030, Purge and Trap, and EPA Method 8021B, Aromatic Volatile Hydrocarbons, using an Tekmar ALS 2016 Purge and Trap and a Hewlett-Packard 5890 Gas Chromatograph, equipped with a photoionization detector. No BTEX analytes were detected in the samples as indicated in the enclosed reports.

It is the policy of this laboratory to employ, whenever possible, preparatory and analytical methods which have been approved by regulatory agencies. The methods used in the analyses of the samples reported herein are found in Test Methods for Evaluation of Solid Waste, SW-846, USEPA, 1986 and Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, USEPA, 1983.

If there are questions regarding the information presented in this report package, please feel free to contact our office at your convenience.

Sincerely,


Sharon Williams
Organic Analyst/IML-Farmington





Inter-Mountain Laboratories, Inc.

Phone (505) 326-4737 Fax (505) 325-4182

2506 West Main Street, Farmington, NM 87401

Client: **NMOCD**

Project: **WPX Rosa #171**

Sample ID: 727001230

Lab ID: 0300W03063

Matrix: Water

Condition: Intact

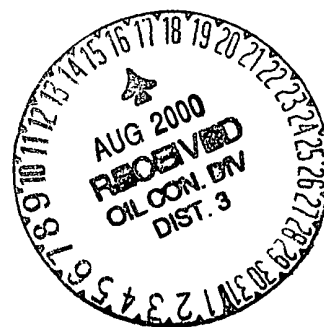
Date Reported: 08/14/00

Date Sampled: 07/27/00

Date Received: 07/27/00

Parameter	Analytical Result	PQL	Units
BTEX-Method 8021B			
Benzene	<1	1	µg/L
Toluene	<1	1	µg/L
Ethylbenzene	<1	1	µg/L
Xylenes (total)	<3	3	µg/L

Quality Control - Surrogate Recovery	%	QC Limits
4-Bromofluorobenzene(SUR-8021B)	99	70 - 130
a,a,a-Trifluorotoluene(SUR-8021B)	86	70 - 130



Reference: Method 8021, Volatile Organic Compounds, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, United States Environmental Protection Agency, SW-846, Volume IB, December 1987.

Reviewed By: William Lipps

William Lipps



Inter-Mountain Laboratories, Inc.

Phone (505) 326-4737 Fax (505) 325-4182

2506 West Main Street, Farmington, NM 87401

Client: NMOCD
Project: WPX Rosa #171
Sample ID: 727001215
Lab ID: 0300W03064
Matrix: Water
Condition: Intact

Date Reported: 08/14/00

Date Sampled: 07/27/00

Date Received: 07/27/00

Parameter	Analytical Result	PQL	Units
BTEX-Method 8021B			
Benzene	<1	1	µg/L
Toluene	<1	1	µg/L
Ethylbenzene	<1	1	µg/L
Xylenes (total)	<3	3	µg/L

Quality Control - Surrogate Recovery	%	QC Limits
4-Bromofluorobenzene(SUR-8021B)	100	70 - 130
a,a,a-Trifluorotoluene(SUR-8021B)	101	70 - 130

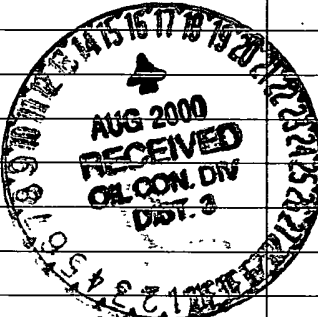


Reference: Method 8021, Volatile Organic Compounds, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, United States Environmental Protection Agency, SW-846, Volume IB, December 1987.

Reviewed By: _____

William Lipps

CHAIN OF CUSTODY RECORD

Client/Project Name New Mexico Oil Conservation			Project Location WPX ROSA #171			ANALYSES / PARAMETERS															
Sampler: (Signature) <i>Denny Feunt</i>			Chain of Custody Tape No.			Remarks															
Sample No./ Identification	Date	Time	Lab Number	Matrix	No. of Containers																
7/23/00 001230	7/23/00	12:30			2	✓ BTEX															
7/23/00 001215	7/23/00	12:15			2	✓															
																					
Relinquished by: (Signature) <i>Denny Feunt</i>			Date 7/23/00	Time 12:15	Received by: (Signature) <i>[Signature]</i>			Date	Time												
Relinquished by: (Signature) <i>[Signature]</i>			Date	Time	Received by: (Signature)			Date	Time												
Relinquished by: (Signature) <i>[Signature]</i>			Date	Time	Received by laboratory: (Signature) <i>[Signature]</i>			Date 7/27/00	Time 16:15												
Inter-Mountain Laboratories, Inc.								67484													
<input type="checkbox"/> 555 Absaraka Sheridan, Wyoming 82801 Telephone (307) 674-7506	<input type="checkbox"/> 1633 Terra Avenue Sheridan, Wyoming 82801 Telephone (307) 672-8945	<input type="checkbox"/> 1701 Phillips Circle Gillette, Wyoming 82718 Telephone (307) 682-8945	<input type="checkbox"/> 2506 West Main Street Farmington, NM 87401 Telephone (505) 326-4737	<input type="checkbox"/> 11183 State Hwy. 30 College Station, TX 77845 Telephone (979) 776-8945																	