District I
1625 N. French Dr , Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company **Williams Production**	Contact **Michael K. Lane**	
Address **PO Box 640**	Telephone No. **505-634-4219**	
Facility Name **Rosa Unit SWD #001 (API: 30-039-27055)**	Facility Type **Well Site**	
Surface Owner **BLM**	Mineral Owner **BLM**	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
I	23	31 N	06W					Rio Arriba

Latitude 36.88435 **Longitude** -107.42719

RCVD MAY 23 '11
OIL CONS. DIV.
DIST. 3

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release ~100 BBL	Volume Recovered ~80BBL
Source of Release Pressure Relief Valve on Water Gathering Filter Pot	Date and Hour of Occurrence Prior to 04/12/11 7:30AM	Date and Hour of Discovery Same
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Brandon Powell, NMOCD-Aztec, Sherrie Landon, BLM-FFO	
By Whom? Myke Lane, WPX (by phone message & followup email)	Date and Hour 4/12/11-11:30AM & 11:57AM	
Was a Watercourse Reached? ☒ Yes ☐ No	If YES, Volume Impacting the Watercourse. <20 BBL	

If a Watercourse was Impacted, Describe Fully. Water from Filter Pot PRV filled below-grade tank on site, and once full water drained off north side of location and into dry ephemeral drainage which is a tributary to Laguna Seca Draw.

Describe Cause of Problem and Remedial Action Taken **Preliminary findings indicate the following:** Transfer valve between filter pots on the Disposal site inlet was not reopened following filter replacements. When automated system attempted to redirect water to backup pot, main filter pot started to over-pressured causing PRV activate. Water from main pot, vented from PRV. The water filled the below-grade tank onsite, and once full the tank overflowed allowing water to drain off north side of location. Immediately following discovery, system temporarily shutin, filters replaced, valve settings verified and system returned to service. Water vac trucks were deployed to recover water from below-grade tank and returned to disposal system. Soil samples were collected along drainage to assess possible impacts and deliver to Envirotech Labs for rush analysis. No offsite remediation was required following consultation with NMOCD. 15 CY of soil were excavated on the site where water ponded and disposed of at Envirotech (Bloomfield Landfarm) and confirmation samples taken. See attached documentation.

Describe Area Affected and Cleanup Action Taken.

Criteria	Site Condition					Ranking Score
Depth to Groundwater	>100 (Cathodic)					0
Wellhead Protection Area	None					0
Surface Water Body	>1000 ft					0
Total Ranking						0
Lab		Results	Results	Results	Cleanup	RAL
	Background	Tail	Mid	Sep	Sep	
Benzene (ppb)	ND	1 4	ND	ND		10,000
BTEX (ppb)	ND	1 4	ND	ND		50,000
TPH by EPA – 8015m (ppm)	ND	ND	1.6	ND		5000
Cl (ppm)	40	100	130	860	500	1000*
Conductivity (umhos/cm)	103	289	378	2380	159	NA
SAR	2.64	3 70	3.16	32.3	4.00	NA
H (su)	8.54	7.47	7.31	8.34	7.78	NA

*Remediation Action Level based on Pit Rule Temp Pit Closure Criteria with GW >=100 ft BGS

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:	OIL CONSERVATION DIVISION	
Printed Name: Michael K. Lane	Approved by District Supervisor:	
Title: SJB EH&S Specialist	Approval Date: 5/23/11	Expiration Date:
E-mail Address: myke.lane@williams.com	Conditions of Approval:	Attached ☐
Date: 5/20/11 Phone: (505) 330-3198	NJK1122354713	

* Attach Additional Sheets If Necessary

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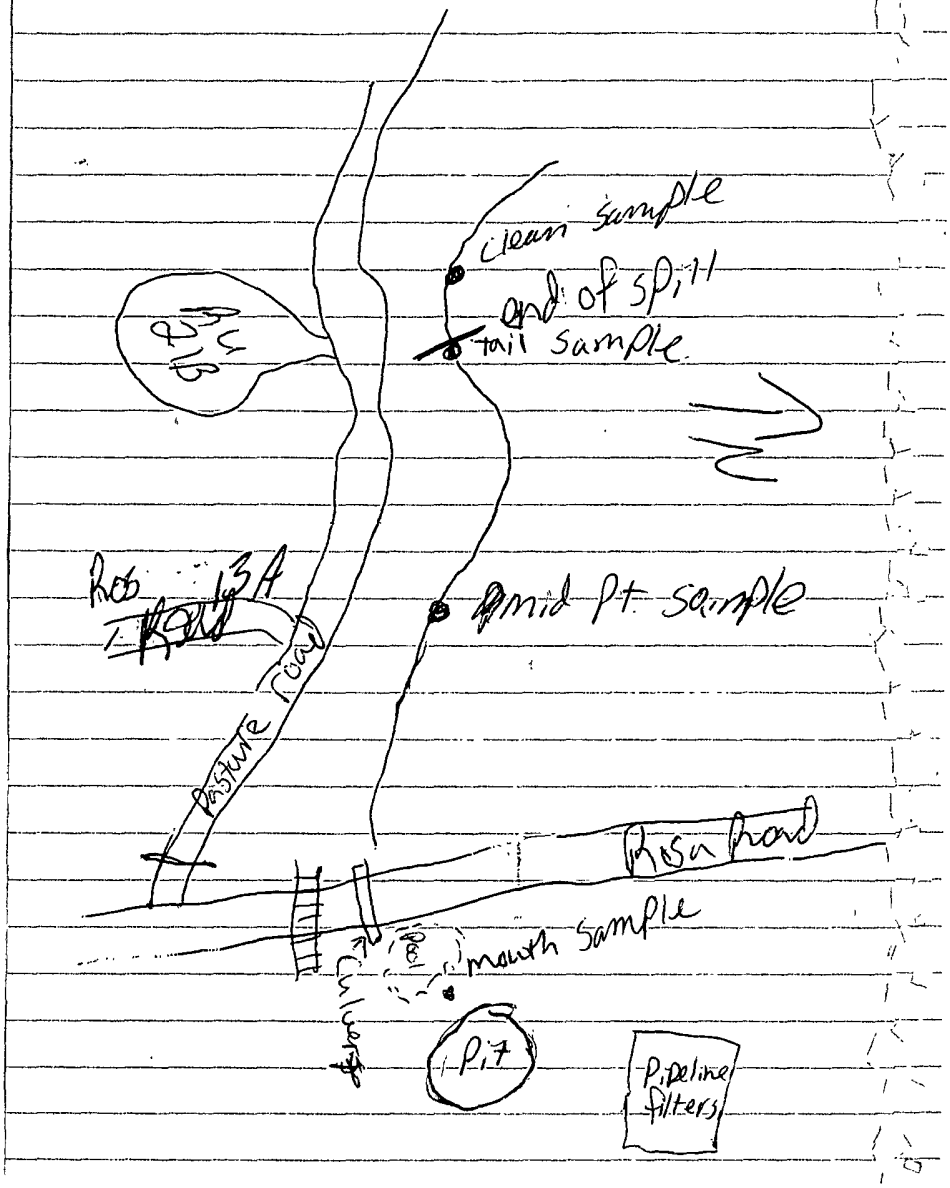
Spill Diagram
4/12/11 Prod. Water
@ Rosa SWD #1
By: Matt Basye



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Analytical Laboratory

AFTER CLEANUP

Chloride

Client:	WPX	Project #:	04108-0136
Sample ID:	On Loc. in Former Spill	Date Reported:	05/02/11
Lab ID#:	58023	Date Sampled:	04/26/11
Sample Matrix:	Soil	Date Received:	04/29/11
Preservative:	Cool	Date Analyzed:	05/02/11
Condition:	Intact	Chain of Custody:	11626

Parameter	Concentration (mg/Kg)
Total Chloride	**500**

Reference: U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983. Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Rosa SWD #1**

Analyst

Review

5796 US Highway 64, Farmington, NM 87401 | Ph (505) 632-0615 Fr (800) 362-1879 Fx (505) 632-1865 lab@envirotech-inc.com envirotech-inc.com

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Analytical Laboratory

After Cleanup

EC, SAR, pH Analysis

Client:	WPX	Project #:	04108-0136
Sample ID:	On Loc. In Former Spill	Date Reported:	05/02/11
Laboratory Number:	58023	Date Sampled:	04/26/11
Chain of Custody:	11626	Date Received:	04/29/11
Sample Matrix:	Soil Extract	Date Extracted:	05/02/11
Preservative:	Cool	Date Analyzed:	05/02/11
Condition:	Intact		

Parameter	Analytical Result	Units
pH	**7.78**	su
Conductivity @ 25° C	**159**	umhos/cm
Calcium	**6.80**	mg/Kg
Magnesium	**< 0.01**	mg/Kg
Sodium	**38.0**	mg/Kg
Sodium Absorption Ratio (SAR)	**4.00**	ratio

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983

Comments: **Rosa SWD #1**

Analyst

Review

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CHAIN OF CUSTODY RECORD

11626

Client:	Project Name / Location:	ANALYSIS / PARAMETERS
WPX	ROSA SWD #1	
Client Address:	Sampler Name:	
	MATT BASYE	
Client Phone No.:	Client No.:	
	04108-0136	

Sample No./ Identification	Sample Date	Sample Time	Lab No.	Sample Matrix	No./Volume of Containers	Preservative: $HgCl_2$	Preservative: HCl	Preservative:	TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	PAH	TPH (418.1)	CHLORIDE	pH	EC	SAR	Sample Cool	Sample Intact
ON LOC. IN	~~4/29~~			Soil Solid Sludge Aqueous																			
FORMER SOIL	4/26	1000	58023	(Soil) Solid Sludge Aqueous	1			N										✓	✓	✓	✓	Y	Y
				Soil Solid Sludge Aqueous																			
				Soil Solid Sludge Aqueous																			
				Soil Solid Sludge Aqueous																			
				Soil Solid Sludge Aqueous																			
				Soil Solid Sludge Aqueous																			
				Soil Solid Sludge Aqueous																			
				Soil Solid Sludge Aqueous																			

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	4/29/11	1447	Randi Vaquera	4/29/11	14:47
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

RUSH

After Custody

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EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Williams Prod.	Project #:	04108-0136
Sample ID:	Rosa 1 Tail	Date Reported:	04-13-11
Laboratory Number:	57885	Date Sampled:	04-12-11
Chain of Custody No:	11558	Date Received:	04-12-11
Sample Matrix:	Soil	Date Extracted:	04-12-11
Preservative:		Date Analyzed:	04-12-11
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	**ND**	**0.2**
Diesel Range (C10 - C28)	**ND**	**0.1**
Total Petroleum Hydrocarbons	**ND**	

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Rosa # SWD**

Analyst

Review

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EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Williams Prod.	Project #:	04108-0136
Sample ID:	Rosa 1 Mid	Date Reported:	04-13-11
Laboratory Number:	57886	Date Sampled:	04-12-11
Chain of Custody No:	11558	Date Received:	04-12-11
Sample Matrix:	Soil	Date Extracted:	04-12-11
Preservative:		Date Analyzed:	04-12-11
Condition:	Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	**1.6**	**0.2**
Diesel Range (C10 - C28)	**ND**	**0.1**
Total Petroleum Hydrocarbons	**1.6**	

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Rosa # SWD**

Analyst

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EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Williams Prod.	Project #:	04108-0136
Sample ID:	Rosa 1 Mouth	Date Reported:	04-13-11
Laboratory Number:	57887	Date Sampled:	04-12-11
Chain of Custody No:	11558	Date Received:	04-12-11
Sample Matrix:	Soil	Date Extracted:	04-12-11
Preservative:		Date Analyzed:	04-12-11
Condition:	In Plastic Bottle	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	**ND**	**0.2**
Diesel Range (C10 - C28)	**ND**	**0.1**
Total Petroleum Hydrocarbons	**ND**	

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Rosa # SWD**

Analyst

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EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Williams Prod.	Project #:	04108-0136
Sample ID:	Rosa 1 Clean	Date Reported:	04-13-11
Laboratory Number:	57888	Date Sampled:	04-12-11
Chain of Custody No:	11558	Date Received:	04-12-11
Sample Matrix:	Soil	Date Extracted:	04-12-11
Preservative:		Date Analyzed:	04-12-11
Condition:	In Plastic Bottle	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	**ND**	**0.2**
Diesel Range (C10 - C28)	**ND**	**0.1**
Total Petroleum Hydrocarbons	**ND**	

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Rosa # SWD**

Analyst

Review

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EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	04-12-11 QA/QC	Date Reported:	04-13-11
Laboratory Number:	57885	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	04-12-11
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
Gasoline Range C5 - C10	04-12-11	9.9960E+002	1.0000E+003	**0.04%**	**0 - 15%**
Diesel Range C10 - C28	04-12-11	9.9960E+002	1.0000E+003	**0.04%**	**0 - 15%**

Blank Conc. (mg/L - mg/Kg)	Concentration	Detection Limit
Gasoline Range C5 - C10	**ND**	**0.2**
Diesel Range C10 - C28	**ND**	**0.1**

Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	**ND**	**ND**	**0.0%**	**0 - 30%**
Diesel Range C10 - C28	**ND**	**ND**	**0.0%**	**0 - 30%**

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	**ND**	**250**	**214**	**85.6%**	**75 - 125%**
Diesel Range C10 - C28	**ND**	**250**	**271**	**109%**	**75 - 125%**

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **QA/QC for Samples 57885-57888, 57890**

Analyst

Review

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EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Williams Prod.	Project #:	04108-0136
Sample ID:	Rosa 1 Tail	Date Reported:	04-13-11
Laboratory Number:	57885	Date Sampled:	04-12-11
Chain of Custody:	11558	Date Received:	04-12-11
Sample Matrix:	Soil	Date Analyzed:	04-12-11
Preservative:		Date Extracted:	04-12-11
Condition:	Intact	Analysis Requested:	BTEX
		Dilution:	10

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	**1.4**	**0.9**
Toluene	**ND**	**1.0**
Ethylbenzene	**ND**	**1.0**
p,m-Xylene	**ND**	**1.2**
o-Xylene	**ND**	**0.9**
Total BTEX	**1.4**	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	**96.2 %**
	1,4-difluorobenzene	**103 %**
	Bromochlorobenzene	**86.5 %**

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

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Rosa # SWD**

Analyst

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EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Williams Prod.	Project #:	04108-0136
Sample ID:	Rosa 1 Mid	Date Reported:	04-13-11
Laboratory Number:	57886	Date Sampled:	04-12-11
Chain of Custody:	11558	Date Received:	04-12-11
Sample Matrix:	Soil	Date Analyzed:	04-12-11
Preservative:		Date Extracted:	04-12-11
Condition:	Intact	Analysis Requested:	BTEX
		Dilution:	10

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	**ND**	**0.9**
Toluene	**ND**	**1.0**
Ethylbenzene	**ND**	**1.0**
p,m-Xylene	**ND**	**1.2**
o-Xylene	**ND**	**0.9**
Total BTEX	**ND**	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	**97.6 %**
	1,4-difluorobenzene	**105 %**
	Bromochlorobenzene	**92.9 %**

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

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Rosa # SWD**

Analyst

Review

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EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Williams Prod.	Project #:	04108-0136
Sample ID:	Rosa 1 Mouth	Date Reported:	04-13-11
Laboratory Number:	57887	Date Sampled:	04-12-11
Chain of Custody:	11558	Date Received:	04-12-11
Sample Matrix:	Soil	Date Analyzed:	04-12-11
Preservative:		Date Extracted:	04-12-11
Condition:	In Plastic Bottle	Analysis Requested:	BTEX
		Dilution:	10

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	**ND**	**0.9**
Toluene	**ND**	**1.0**
Ethylbenzene	**ND**	**1.0**
p,m-Xylene	**ND**	**1.2**
o-Xylene	**ND**	**0.9**
Total BTEX	**ND**	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	**99.7 %**
	1,4-difluorobenzene	**107 %**
	Bromochlorobenzene	**93.2 %**

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

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Rosa # SWD**

Analyst

Review

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EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Williams Prod.	Project #:	04108-0136
Sample ID:	Rosa 1 Clean	Date Reported:	04-13-11
Laboratory Number:	57888	Date Sampled:	04-12-11
Chain of Custody:	11558	Date Received:	04-12-11
Sample Matrix:	Soil	Date Analyzed:	04-12-11
Preservative:		Date Extracted:	04-12-11
Condition:	In Plastic Bottle	Analysis Requested:	BTEX
		Dilution:	10

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	**ND**	**0.9**
Toluene	**ND**	**1.0**
Ethylbenzene	**ND**	**1.0**
p,m-Xylene	**ND**	**1.2**
o-Xylene	**ND**	**0.9**
Total BTEX	**ND**	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	**106 %**
	1,4-difluorobenzene	**115 %**
	Bromochlorobenzene	**96.4 %**

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

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Rosa # SWD**

Analyst

Review

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EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	0412BBLK QA/QC	Date Reported:	04-13-11
Laboratory Number:	57888	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	04-12-11
Condition:	N/A	Analysis:	BTEX
		Dilution:	10

Calibration and Detection Limits (ug/L)	I-Cal RF:	C-Cal RF:	%Diff. Accept Range 0 - 15%	Blank Conc	Detect. Limit
Benzene	4.3137E+006	4.3223E+006	0.2%	ND	0.1
Toluene	1.3841E+006	1.3869E+006	0.2%	ND	0.1
Ethylbenzene	1.0113E+006	1.0133E+006	0.2%	ND	0.1
p,m-Xylene	2.2091E+006	2.2135E+006	0.2%	ND	0.1
o-Xylene	8.1963E+005	8.2127E+005	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	ND	ND	0.0%	0 - 30%	0.9
Toluene	ND	ND	0.0%	0 - 30%	1.0
Ethylbenzene	ND	ND	0.0%	0 - 30%	1.0
p,m-Xylene	ND	ND	0.0%	0 - 30%	1.2
o-Xylene	ND	ND	0.0%	0 - 30%	0.9

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	ND	500	554	111%	39 - 150
Toluene	ND	500	597	119%	46 - 148
Ethylbenzene	ND	500	582	116%	32 - 160
p,m-Xylene	ND	1000	1,150	115%	46 - 148
o-Xylene	ND	500	566	113%	46 - 148

ND - Parameter not detected at the stated detection limit.

Dilution: Spike and spiked sample concentration represent a dilution proportional to sample dilution.

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 Photolonization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: QA/QC for Samples 57885-57888, 57890

Analyst

Review

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Analytical Laboratory

Chloride

Client:	Williams Prod.	Project #:	04108-0136
Sample ID:	Rosa 1 Tail	Date Reported:	04/13/11
Lab ID#:	57885	Date Sampled:	04/12/11
Sample Matrix:	Soil	Date Received:	04/12/11
Preservative:		Date Analyzed:	04/13/11
Condition:	Intact	Chain of Custody:	11558

Parameter	Concentration (mg/Kg)
Total Chloride	**100**

Reference: U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Rosa # SWD**

Analyst

Review

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Analytical Laboratory

Chloride

Client:	Williams Prod.	Project #:	04108-0136
Sample ID:	Rosa 1 Mid	Date Reported:	04/13/11
Lab ID#:	57886	Date Sampled:	04/12/11
Sample Matrix:	Soil	Date Received:	04/12/11
Preservative:		Date Analyzed:	04/13/11
Condition:	Intact	Chain of Custody:	11558

Parameter	Concentration (mg/Kg)
Total Chloride	**130**

Reference: U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Rosa # SWD**

Analyst

Review

5796 US Highway 64, Farmington, NM 87401 | Ph (505) 632-0615 Fr (800) 362-1879 Fx (505) 632-1865 lab@envirotech-inc.com envirotech-inc.com

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Chloride

Client:	Williams Prod.	Project #:	04108-0136
Sample ID:	Rosa 1 Mouth	Date Reported:	04/13/11
Lab ID#:	57887	Date Sampled:	04/12/11
Sample Matrix:	Soil	Date Received:	04/12/11
Preservative:		Date Analyzed:	04/13/11
Condition:	Intact	Chain of Custody:	11558

Parameter	Concentration (mg/Kg)
Total Chloride	**860**

Reference: U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Rosa # SWD**

Analyst

Review

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Chloride

Client:	Williams Prod.	Project #:	04108-0136
Sample ID:	Rosa 1 Clean	Date Reported:	04/13/11
Lab ID#:	57888	Date Sampled:	04/12/11
Sample Matrix:	Soil	Date Received:	04/12/11
Preservative:		Date Analyzed:	04/13/11
Condition:	Intact	Chain of Custody:	11558

Parameter	Concentration (mg/Kg)
Total Chloride	**40**

Reference: U.S.E.P.A., 4500B, "Methods for Chemical Analysis of Water and Wastes", 1983. Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments: **Rosa # SWD**

Analyst

Review

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EC, SAR, pH Analysis

Client:	Williams Prod.	Project #:	04108-0136
Sample ID:	Rosa 1 Tail	Date Reported:	04/13/11
Laboratory Number:	57885	Date Sampled:	04/12/11
Chain of Custody:	11558	Date Received:	04/12/11
Sample Matrix:	Soil Extract	Date Extracted:	04/12/11
Preservative:		Date Analyzed:	04/13/11
Condition:	Intact		

Parameter	Analytical Result	Units
pH	**7.47**	su
Conductivity @ 25° C	**289**	umhos/cm
Calcium	**7.20**	mg/Kg
Magnesium	**< 0.01**	mg/Kg
Sodium	**36.2**	mg/Kg
Sodium Absorption Ratio (SAR)	**3.70**	ratio

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983

Comments: **Rosa # SWD**

Analyst

Review

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EC, SAR, pH Analysis

Client:	Williams Prod.	Project #:	04108-0136
Sample ID:	Rosa 1 Mid	Date Reported:	04/13/11
Laboratory Number:	57886	Date Sampled:	04/12/11
Chain of Custody:	11558	Date Received:	04/12/11
Sample Matrix:	Soil Extract	Date Extracted:	04/12/11
Preservative:		Date Analyzed:	04/13/11
Condition:	Intact		

Parameter	Analytical Result	Units
pH	**7.31**	su
Conductivity @ 25° C	**378**	umhos/cm
Calcium	**16.8**	mg/Kg
Magnesium	**< 0.01**	mg/Kg
Sodium	**47.2**	mg/Kg
Sodium Absorption Ratio (SAR)	**3.16**	ratio

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983

Comments: **Rosa # SWD**

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EC, SAR, pH Analysis

Client:	Williams Prod.	Project #:	04108-0136
Sample ID:	Rosa 1 Mouth	Date Reported:	04/13/11
Laboratory Number:	57887	Date Sampled:	04/12/11
Chain of Custody:	11558	Date Received:	04/12/11
Sample Matrix:	Soil Extract	Date Extracted:	04/12/11
Preservative:		Date Analyzed:	04/13/11
Condition:	Intact		

Parameter	Analytical Result	Units
pH	**8.34**	su
Conductivity @ 25° C	**2,380**	umhos/cm
Calcium	**10.0**	mg/Kg
Magnesium	**1.22**	mg/Kg
Sodium	**407**	mg/Kg
Sodium Absorption Ratio (SAR)	**32.3**	ratio

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983

Comments: **Rosa # SWD**

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EC, SAR, pH Analysis

Client:	Williams Prod.	Project #:	04108-0136
Sample ID:	Rosa 1 Clean	Date Reported:	04/13/11
Laboratory Number:	57888	Date Sampled:	04/12/11
Chain of Custody:	11558	Date Received:	04/12/11
Sample Matrix:	Soil Extract	Date Extracted:	04/12/11
Preservative:		Date Analyzed:	04/13/11
Condition:	Intact		

Parameter	Analytical Result	Units
pH	**8.54**	su
Conductivity @ 25° C	**103**	umhos/cm
Calcium	**6.00**	mg/Kg
Magnesium	**< 0.01**	mg/Kg
Sodium	**23.6**	mg/Kg
Sodium Absorption Ratio (SAR)	**2.64**	ratio

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983

Comments: **Rosa # SWD**

Analyst

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CATION / ANION ANALYSIS

Client:	Williams Prod.	Project #:	04108-0136
Sample ID:	Rosa 1 Water	Date Reported:	04/13/11
Laboratory Number:	57889	Date Sampled:	04/12/11
Chain of Custody:	11558	Date Received:	04/12/11
Sample Matrix:	Aqueous	Date Analyzed:	04/13/11
Preservative:			
Condition:	Intact		

Parameter	Analytical Result	Units		
pH	**8.23**	s.u.		
Conductivity @ 25° C	**13,100**	umhos/cm		
Total Dissolved Solids @ 180C	**7,850**	mg/L		
Total Dissolved Solids (Calc)	**8,280**	mg/L		
SAR	**69.1**	ratio		
Total Alkalinity as CaCO3	**3,910**	mg/L		
Total Hardness as CaCO3	**366**	mg/L		
Bicarbonate as CaCO3	**3,910**	mg/L	64.1	meq/L
Carbonate as CaCO3	**< 0.01**	mg/L	0.000	meq/L
Hydroxide as CaCO3	**< 0.01**	mg/L	0.001	meq/L
Nitrate Nitrogen	**< 0.01**	mg/L	0.000	meq/L
Nitrite Nitrogen	**55.5**	mg/L	1.21	meq/L
Chloride	**2,500**	mg/L	70.5	meq/L
Fluoride	**< 0.01**	mg/L	0.001	meq/L
Phosphate	**54.2**	mg/L	1.71	meq/L
Sulfate	**111**	mg/L	2.31	meq/L
Iron	**0.988**	mg/L	0.035	meq/L
Calcium	**91.9**	mg/L	4.59	meq/L
Magnesium	**33.2**	mg/L	2.73	meq/L
Potassium	**17.0**	mg/L	0.435	meq/L
Sodium	**3,040**	mg/L	132	meq/L
Cations			140	meq/L
Anions			140	meq/L
Cation/Anion Difference			**0.00%**	

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

Comments **Rosa # SWD**

Analyst

Review

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CHAIN OF CUSTODY RECORD RUSH 11558

Client:	Project Name / Location:
Williams Prod.	Rosa # SWD
Client Address:	**Sampler Name:**
Myke Lane	Matt Barye
Client Phone No.: 330-3198 (mok) 505 634-4219 (off)	**Client No.:** 04108-01316

ANALYSIS / PARAMETERS

Sample No./ Identification	Sample Date	Sample Time	Lab No.	Sample Matrix	No./Volume of Containers	Preservative $HgCl_2$	Preservative HCl	TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	PAH	TPH (418.1)	CHLORIDE	SAR /EC /pH			Sample Cool	Sample Intact
Rosa 1 Tail	4/12		57885	(Soil) Solid Sludge Aqueous	4oz			X	X								X	X			1	Y
Rosa 1 Mid			57886	(Soil) Solid Sludge Aqueous	4oz			X	X								X	X			1	Y
Rosa 1 Mouth			57887	(Soil) Solid Sludge Aqueous	Plastic Bottle			X	X								X	X			1	N
Rosa 1 Clean			57888	(Soil) Solid Sludge Aqueous	Plastic Bottle			X	X								X	X			1	N
Rosa 1 Water			57889	Soil (Solid) Sludge (Aqueous)								X									1	Y
				Soil Solid Sludge Aqueous																		
				Soil Solid Sludge Aqueous																		
				Soil Solid Sludge Aqueous																		
				Soil Solid Sludge Aqueous																		
				Soil Solid Sludge Aqueous																		

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Matt Barye	4-12-11	11:13	Sandi Vaquera	4/12/11	11:15
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

RUSH

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04108-0186

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-138
Revised March 12, 2007

*Surface Waste Management Facility Operator and Generator shall maintain and make this documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. **Generator Name and Address:**
Williams Production Co, LLC, PO Box 640, Aztec, NM
Disposal Requested by: Matt Basye (NXEMM335322)

2. **Originating Site:**
Rosa Unit #001 (API: 30-039-27055)

3. **Location of Material (Street Address, City, State or ULSTR):**
I-S23-T31N-R06W, NMPM
Rio Arriba Co., NM

4. **Source and Description of Waste:**
Produced Water Spill
Envirotech Inc is authorized to sign the Generator Waste Testing Certification.
Estimated Volume 5 yd³ / bbls Known Volume (to be entered by the operator at the end of the haul) 15 (yd³) / bbls

5. **GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS**

I, Tasha Meador, representative or authorized agent for **Williams Production Co, LLC**
Generator Signature
do hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☒ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. ***Operator Use Only: Waste Acceptance Frequency*** ☐ ***Monthly*** ☐ ***Weekly*** ☐ ***Per Load***

☐ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, _____ representative for Envirotech Inc do hereby certify that
Representative/Agent Signature
representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 9.15.36 NMAC.

5. **Transporter: Adobe**

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: **Envirotech Inc Soil Remediation Facility Permit #NM-01-0011**

Address of Facility: **Hilltop, NM**

Method of Treatment and/or Disposal:

☐ Evaporation ☐ Injection ☐ Treating Plant ☒ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☒ **APPROVED** ☐ **DENIED** (Must Be Maintained As Permanent Record)

PRINT NAME: April E Pohl TITLE: Land Farm Administrator DATE: 4-15-11

SIGNATURE: April E Pohl TELEPHONE NO.: 505-632-0615
Surface Waste Management Facility Authorized Agent

envirotech

Bill of Lading

MANIFEST # 38321

PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

DATE 4-15-11 JOB# 04108-0186

LOAD NO.	COMPLETE DESCRIPTION OF SHIPMENT						TRANSPORTING COMPANY			
	POINT OF ORIGIN	DESTINATION	MATERIAL	GRID	YDS	BBLS	COMPANY	TRK#	TIME	DRIVER SIGNATURE
1	Williams Rosa E #P	LFII-4	Cont Soil	M-2	5	—	River Bend	101	1259	
#1	Sub				5					

RESULTS:			LANDFARM EMPLOYEE:	NOTES:
<272	CHLORIDE TEST	1	Gary Robinson (aep)	
	PAINT FILTER TEST	1	Certification of above receival & placement	

"I certify the material hauled from the above location has not been added to or mixed with, and is the same material received from the above mentioned Generator, and that no additional materials have been added."

TRANSPORTER CO: River Bend NAME Brian Perry SIGNATURE

COMPANY CONTACT Johnny Stinson PHONE 320-6076 DATE 4-15-11

Signatures required prior to distribution of this legal document.

White - Company Records, Yellow - Billing, Pink - Customer

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Bill of Lading

MANIFEST # 38361

PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

DATE 4-26-11 JOB# 04108-0186

LOAD NO.	COMPLETE DESCRIPTION OF SHIPMENT						TRANSPORTING COMPANY			
	POINT OF ORIGIN	DESTINATION	MATERIAL	GRID	YDS	BBLS	COMPANY	TRK#	TIME	DRIVER SIGNATURE
1	Williams Rosa SWD #1	LFII-4	Cont Soil	C-10	10 / 10		RiverBend	101	1319	

RESULTS:			LANDFARM EMPLOYEE: Gary Robinson	NOTES:
<272	CHLORIDE TEST	/		
	PAINT FILTER TEST	/	Certification of above receival & placement	

"I certify the material hauled from the above location has not been added to or mixed with, and is the same material received from the above ~~mentioned Generator~~, and that no additional materials have been added."

TRANSPORTER CO: RiverBend NAME: Brian Perry SIGNATURE:

COMPANY CONTACT: Brian PHONE: 793-0755 DATE: 4-26-11

Signatures required prior to distribution of this legal document.

White - Company Records, Yellow - Billing, Pink - Customer

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