



Exploration & Production  
PO Box 640  
Aztec, NM 84710  
505/634-4219  
505/634-4205 Fax

July 23, 2007

Mr. William Jones  
New Mexico Oil Conservation Division  
Engineering and Geological Services Bureau  
1220 South St. Francis Drive  
Santa Fe, NM 87505

Re: Request to Expand Use and Allow Acceptance of Produced Water for Injection

Dear Mr. Jones:

Williams Four Corners, LLC (WFS) would like to use the following injections wells operated by Williams Production Company, LLC (WPX) for the disposal of recovered produced water from some of their facilities located in Rio Arriba Co., New Mexico.

Per discussions with your office and the Aztec District Office, WPX request permission from NMOCD to expand use of the following Injection wells which we operate under the reference permits.

**Verification of Permit Status:**

**API Number**      **ULSTR**      **Footages**  
3003923035      K-16-31N-5W      1650 FSL & 1820 FWL

**Well Name & Number:** ROSA UNIT No. 094

**Operator:** WILLIAMS PRODUCTION COMPANY, LLC

**Permit:** Case 9401 R-8685

**API Number**      **ULSTR**      **Footages**  
3003927055      I-23-31N-6W      2420 FSL & 1210 FEL

**Well Name & Number:** ROSA UNIT SWD No. 001

**Operator:** WILLIAMS PRODUCTION COMPANY, LLC

**Permit:** SWD-916

**Allowance within Permit for Expansion:**

The produced water will be coming from the following compressor stations/CDP operated by WFS and located in Rio Arriba Co, NM.

Facility	GW/Discharge Permit	STR
Eul Canyon		S24 T32N R6W
Bancos Canyon		S32 T32N R5W
Quintana Mesa	GW 309	S32 T32N R5W
Laguna Seca	GW 307	S19 T31N R5W
Martinez Draw	GW 308	S17 T31N R5W
31-6 CDP	GW 118	S1 T31N R6W
30-5 CDP	GW 108	S18 T30N R5W

July 23, 2007

Produced water samples were collected from each of the listed sites earlier this spring and copies of the analytical are attached. All produced water to be received from WFS is according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, RCRA Exempt (Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste).

Injection of this produced water is consistent with each permit. Both wells are permitted as Class II UIC injection wells, permitted to inject produced water meeting the RCRA Exempt waste status, and there is no restrictions regarding the source of the produced water in the permits (e.g. production wells, location or volumes). Please refer to the highlighted sections of each permit, attached.

**Time Period of Expanded Use:**

If approved by the Division, WPX would like to accept the subject produced water from WFS as long as the wells are operational.

**Temporary Water Storage Restrictions:**

There will be no change in the water storage system associated with either well. No water will be stored in pits or ponds following acceptance at the facility and prior to injection.

**Notice to the Surface Management Agency**

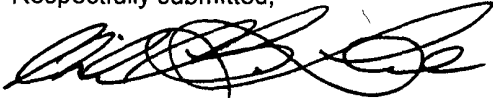
Please refer to the attached formal notice to the Bureau of Land Management –FFO of our intent to expand use of the subject injection wells.

**Certification:**

WPX is not requesting any variance from the general permit conditions, NMOCD rules, regulations, and/or any pertinent orders governing the operation and use of these wells.

Please contact myself (505) 634-4219 for Williams Production Co, LLC and Mr. David Bays of Williams Four Corners, LLC (505) 634-4951 if you require any additional information. Thank you for your time and consideration.

Respectfully submitted,



Michael K. Lane  
EHS Specialist  
Williams Production - San Juan Basin Operations

CC: Charlie Perrin, NMOCD Aztec District Office  
David Bays, WFS  
Mark Lepich, WPX Coal Team Lead  
WPX Env. Well Files

Encl: Analytical  
Permits  
BLM-FFO Sundries

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## CATION / ANION ANALYSIS

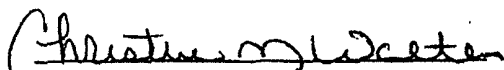
Client: Williams Four Corners  
Sample ID: Produced Water  
Laboratory Number: 40719  
Chain of Custody: 2332  
Sample Matrix: Water  
Preservative: Cool  
Condition: Cool & Intact

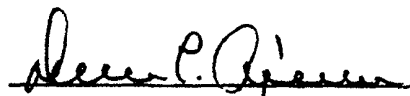
Project #: 00068-005  
Date Reported: 04-06-07  
Date Sampled: 04-03-07  
Date Received: 04-03-07  
Date Extracted: N/A  
Date Analyzed: 04-05-07

Parameter	Analytical Result	Units			
pH	6.82	s.u.			
Conductivity @ 25° C	5,230	umhos/cm			
Total Dissolved Solids @ 180C	3,030	mg/L			
Total Dissolved Solids (Calc)	3,010	mg/L			
SAR	26.6	ratio			
Total Alkalinity as CaCO3	774	mg/L			
Total Hardness as CaCO3	294	mg/L			
Bicarbonate as HCO3	774	mg/L	12.69	meq/L	
Carbonate as CO3	<0.1	mg/L	0.00	meq/L	
Hydroxide as OH	<0.1	mg/L	0.00	meq/L	
Nitrate Nitrogen	2.3	mg/L	0.04	meq/L	
Nitrite Nitrogen	<0.001	mg/L	0.00	meq/L	
Chloride	1,360	mg/L	38.37	meq/L	
Fluoride	<0.01	mg/L	0.00	meq/L	
Phosphate	19.4	mg/L	0.61	meq/L	
Sulfate	<0.1	mg/L	0.00	meq/L	
Iron	14.7	mg/L	0.53	meq/L	
Calcium	93.6	mg/L	4.67	meq/L	
Magnesium	14.7	mg/L	1.21	meq/L	
Potassium	2.00	mg/L	0.05	meq/L	
Sodium	1,050	mg/L	45.68	meq/L	
Cations			51.60	meq/L	
Anions			51.70	meq/L	
Cation/Anion Difference			0.19%		

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: Eul

  
Analyst

  
Review

# CHAIN OF CUSTODY RECORD

2332

Client / Project Name <b>Williams Four Corners</b>			Project Location <b>Eul</b>		ANALYSIS / PARAMETERS										
Sampler: <i>Stan Park</i>			Client No. <b>00068-005</b>		No. of Containers	PH	TDS	Anions	Cations			Remarks			
Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix											
<b>Produced H<sub>2</sub>O</b>	<b>4-3-07</b>	<b>1200</b>	<b>40719</b>	<b>Water</b>	<b>1</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>						
Relinquished by: (Signature) <i>Stan Park</i>			Date <b>4-3-07</b>	Time <b>4:30p</b>	Received by: (Signature) <i>Carol Abeyta</i>			Date <b>4-3-07</b>	Time <b>430</b>						
Relinquished by: (Signature)					Received by: (Signature)										
Relinquished by: (Signature)					Received by: (Signature)										
<b>ENVIROTECH INC.</b> 5796 U.S. Highway 64 Farmington, New Mexico 87401 (505) 632-0615										Sample Receipt					
											Y	N	N/A		
										Received Intact					
										Cool - Ice/Blue Ice					

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

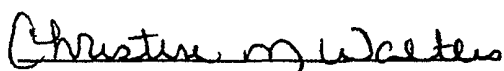
## CATION / ANION ANALYSIS

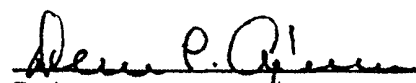
Client:	Williams	Project #:	00068-005
Sample ID:	Produced Water	Date Reported:	04-06-07
Laboratory Number:	40720	Date Sampled:	04-03-07
Chain of Custody:	2333	Date Received:	04-03-07
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	04-05-07
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		
pH	7.83	S.U.		
Conductivity @ 25° C	11,700	umhos/cm		
Total Dissolved Solids @ 180C	6,970	mg/L		
Total Dissolved Solids (Calc)	6,930	mg/L		
SAR	114	ratio		
Total Alkalinity as CaCO3	3,710	mg/L		
Total Hardness as CaCO3	102	mg/L		
Bicarbonate as HCO3	3,710	mg/L	60.81	meq/L
Carbonate as CO3	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	2.7	mg/L	0.04	meq/L
Nitrite Nitrogen	0.006	mg/L	0.00	meq/L
Chloride	1,970	mg/L	55.57	meq/L
Fluoride	0.77	mg/L	0.04	meq/L
Phosphate	15.2	mg/L	0.48	meq/L
Sulfate	<0.1	mg/L	0.00	meq/L
Iron	1.23	mg/L	0.04	meq/L
Calcium	32.0	mg/L	1.60	meq/L
Magnesium	5.37	mg/L	0.44	meq/L
Potassium	8.85	mg/L	0.23	meq/L
Sodium	2,640	mg/L	114.84	meq/L
Cations			117.11	meq/L
Anions			116.94	meq/L
Cation/Anion Difference			0.14%	

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: **Bancos**

  
Analyst

  
Review

# CHAIN OF CUSTODY RECORD

2333

Client / Project Name <b>Williams</b>			Project Location <b>BANCOS</b>		ANALYSIS / PARAMETERS									
Sampler: <i>Stan Park</i>			Client No. <b>00068 -005</b>		No. of Containers	PH	TDS	Anions	Cations			Remarks		
Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix										
Produced H <sub>2</sub> O	4-3-07	1135	40720	Water	1	X	X	X	X					
Relinquished by: (Signature) <i>Stan Park</i>			Date 4-3-07	Time 4:30pm	Received by: (Signature) <i>Carol Abate</i>					Date 4-3-07	Time 4:30			
Relinquished by: (Signature)					Received by: (Signature)									
Relinquished by: (Signature)					Received by: (Signature)									
<b>ENVIROTECH INC.</b> 5796 U.S. Highway 64 Farmington, New Mexico 87401 (505) 632-0615										Sample Receipt				
											Y	N	N/A	
										Received Intact				
										Cool - Ice/Blue Ice				

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## CATION / ANION ANALYSIS

Client: Williams  
Sample ID: Produced Water  
Laboratory Number: 40721  
Chain of Custody: 2334  
Sample Matrix: Water  
Preservative: Cool  
Condition: Cool & Intact

Project #: 00068-005  
Date Reported: 04-06-07  
Date Sampled: 04-03-07  
Date Received: 04-03-07  
Date Extracted: N/A  
Date Analyzed: 04-05-07

Parameter	Analytical Result	Units
pH	7.21	s.u.
Conductivity @ 25° C	4,230	umhos/cm
Total Dissolved Solids @ 180C	3,490	mg/L
Total Dissolved Solids (Calc)	3,320	mg/L
SAR	22.7	ratio
Total Alkalinity as CaCO <sub>3</sub>	1,360	mg/L
Total Hardness as CaCO <sub>3</sub>	436	mg/L

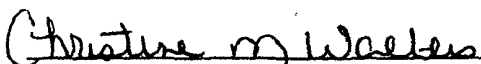
Bicarbonate as HCO <sub>3</sub>	1,360	mg/L	22.29	meq/L
Carbonate as CO <sub>3</sub>	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	6.5	mg/L	0.10	meq/L
Nitrite Nitrogen	0.030	mg/L	0.00	meq/L
Chloride	1,160	mg/L	32.72	meq/L
Fluoride	<0.01	mg/L	0.00	meq/L
Phosphate	48.1	mg/L	1.52	meq/L
Sulfate	<0.1	mg/L	0.00	meq/L
Iron	0.495	mg/L	0.02	meq/L
Calcium	170	mg/L	8.46	meq/L
Magnesium	2.92	mg/L	0.24	meq/L
Potassium	19.2	mg/L	0.49	meq/L
Sodium	1,090	mg/L	47.42	meq/L

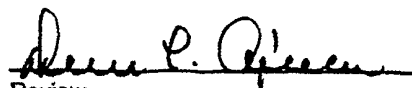
Cations 56.61 meq/L  
Anions 56.64 meq/L

Cation/Anion Difference 0.05%

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: Quintana Mesa

  
Analyst

  
Review

# CHAIN OF CUSTODY RECORD

2334

Client / Project Name <b>Williams</b>			Project Location <b>Quintana MESA</b>		ANALYSIS / PARAMETERS										
Sampler: <b>Stan Park</b>			Client No. <b>00068-005</b>		No. of Containers	PH	TDS	Anions	Cations			Remarks			
Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix											
Produced H <sub>2</sub> O	4-3-07	1110	40721	Water	1	X	X	X	X						
Relinquished by: (Signature) <b>Stan Park</b>			Date <b>4-3-07</b>	Time <b>4:30p</b>	Received by: (Signature) <b>Carol Abeyta</b>			Date <b>4-3-07</b>	Time <b>4:30</b>						
Relinquished by: (Signature)					Received by: (Signature)										
Relinquished by: (Signature)					Received by: (Signature)										
<b>ENVIROTECH INC.</b> 5796 U.S. Highway 64 Farmington, New Mexico 87401 (505) 632-0615										Sample Receipt					
											Y	N	N/A		
										Received Intact					
										Cool - Ice/Blue Ice					



# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## CATION / ANION ANALYSIS


Client: Williams  
Sample ID: Produced Water  
Laboratory Number: 40722  
Chain of Custody: 2335  
Sample Matrix: Water  
Preservative: Cool  
Condition: Cool & Intact

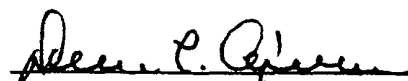
Project #: 00068-005  
Date Reported: 04-06-07  
Date Sampled: 04-03-07  
Date Received: 04-03-07  
Date Extracted: N/A  
Date Analyzed: 04-05-07

Parameter	Analytical Result	Units		
pH	7.02	s.u.		
Conductivity @ 25° C	5,190	umhos/cm		
Total Dissolved Solids @ 180C	3,170	mg/L		
Total Dissolved Solids (Calc)	3,140	mg/L		
SAR	57.4	ratio		
Total Alkalinity as CaCO3	1,740	mg/L		
Total Hardness as CaCO3	80.0	mg/L		
Bicarbonate as HCO3	1,740	mg/L	28.52	meq/L
Carbonate as CO3	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	17.5	mg/L	0.28	meq/L
Nitrite Nitrogen	0.002	mg/L	0.00	meq/L
Chloride	700	mg/L	19.75	meq/L
Fluoride	<0.01	mg/L	0.00	meq/L
Phosphate	147	mg/L	4.64	meq/L
Sulfate	<0.1	mg/L	0.00	meq/L
Iron	11.7	mg/L	0.42	meq/L
Calcium	32.0	mg/L	1.60	meq/L
Magnesium	<0.01	mg/L	0.00	meq/L
Potassium	7.00	mg/L	0.18	meq/L
Sodium	1,180	mg/L	51.33	meq/L
Cations			53.11	meq/L
Anions			53.19	meq/L
Cation/Anion Difference			0.16%	

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: Laguna Seca

  
Analyst

  
Review

# CHAIN OF CUSTODY RECORD

2335

Client / Project Name <b>Williams</b>			Project Location <b>LAGUNA SECA</b>		ANALYSIS / PARAMETERS								
Sampler: <b>Steve Park</b>			Client No. <b>00068 - 005</b>		No. of Containers	PH	TDS	Anions	Cations			Remarks	
Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix									
Produced H <sub>2</sub> O	4-3-07	7023	40722	Water	1	X	X	X	X				
Relinquished by: (Signature) <b>Steve Park</b>			Date <b>4-3-07</b>	Time <b>4:30pm</b>	Received by: (Signature) <b>Cecilia Albright</b>						Date <b>4-3-07</b>	Time <b>4:30</b>	
Relinquished by: (Signature)					Received by: (Signature)								
Relinquished by: (Signature)					Received by: (Signature)								
<b>ENVIROTECH INC.</b> 5796 U.S. Highway 64 Farmington, New Mexico 87401 (505) 632-0615										Sample Receipt			
											Y	N	N/A
										Received Intact			
										Cool - Ice/Blue Ice			

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## CATION / ANION ANALYSIS

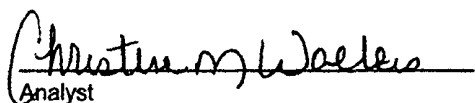
Client: Williams  
Sample ID: Produced Water  
Laboratory Number: 40723  
Chain of Custody: 2336  
Sample Matrix: Water  
Preservative: Cool  
Condition: Cool & Intact

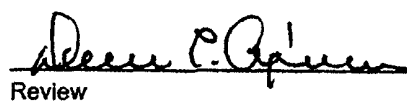
Project #: 00068-005  
Date Reported: 04-06-07  
Date Sampled: 04-03-07  
Date Received: 04-03-07  
Date Extracted: N/A  
Date Analyzed: 04-05-07

Parameter	Analytical Result	Units		
pH	7.88	s.u.		
Conductivity @ 25° C	9,800	umhos/cm		
Total Dissolved Solids @ 180C	5,850	mg/L		
Total Dissolved Solids (Calc)	5,630	mg/L		
SAR	112	ratio		
Total Alkalinity as CaCO <sub>3</sub>	4,080	mg/L		
Total Hardness as CaCO <sub>3</sub>	66.0	mg/L		
Bicarbonate as HCO <sub>3</sub>	4,080	mg/L	66.87	meq/L
Carbonate as CO <sub>3</sub>	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	1.0	mg/L	0.02	meq/L
Nitrite Nitrogen	0.017	mg/L	0.00	meq/L
Chloride	980	mg/L	27.65	meq/L
Fluoride	0.80	mg/L	0.04	meq/L
Phosphate	2.5	mg/L	0.08	meq/L
Sulfate	<0.1	mg/L	0.00	meq/L
Iron	0.137	mg/L	0.00	meq/L
Calcium	20.8	mg/L	1.04	meq/L
Magnesium	4.15	mg/L	0.34	meq/L
Potassium	0.20	mg/L	0.01	meq/L
Sodium	2,140	mg/L	93.09	meq/L
Cations			94.47	meq/L
Anions			94.65	meq/L
Cation/Anion Difference			0.19%	

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: Martinez Draw

  
Analyst

  
Review

# CHAIN OF CUSTODY RECORD

2336

Client / Project Name <b>Williams</b>			Project Location <b>Martinez Draw</b>		ANALYSIS / PARAMETERS										
Sampler: <b>Stan Paul</b>			Client No. <b>00068-005</b>		No. of Containers	pH	TDS	Anions	Cations			Remarks			
Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix											
Produced H <sub>2</sub> O	4-3-07	1050	40723	Water	1	X	X	X	X						
Relinquished by: (Signature) <b>Stan Paul</b>			Date <b>4-3-07</b>	Time <b>4:30</b>	Received by: (Signature) <b>Carol Obayta</b>			Date <b>4-3-07</b>	Time <b>4:30</b>						
Relinquished by: (Signature)					Received by: (Signature)										
Relinquished by: (Signature)					Received by: (Signature)										
<b>ENVIROTECH INC.</b> 5796 U.S. Highway 64 Farmington, New Mexico 87401 (505) 632-0615										Sample Receipt					
											Y	N	N/A		
										Received Intact					
										Cool - Ice/Blue Ice					

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## CATION / ANION ANALYSIS

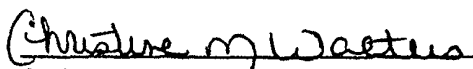
Client: Williams  
Sample ID: Produced Water  
Laboratory Number: 40724  
Chain of Custody: 2337  
Sample Matrix: Water  
Preservative: Cool  
Condition: Cool & Intact

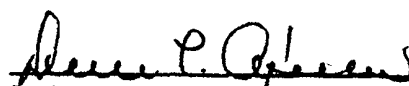
Project #: 00068-005  
Date Reported: 04-06-07  
Date Sampled: 04-03-07  
Date Received: 04-03-07  
Date Extracted: N/A  
Date Analyzed: 04-05-07

Parameter	Analytical Result	Units		
pH	6.28	s.u.		
Conductivity @ 25° C	742	umhos/cm		
Total Dissolved Solids @ 180C	490	mg/L		
Total Dissolved Solids (Calc)	426	mg/L		
SAR	3.7	ratio		
Total Alkalinity as CaCO3	168	mg/L		
Total Hardness as CaCO3	140.0	mg/L		
Bicarbonate as HCO3	168	mg/L	2.75	meq/L
Carbonate as CO3	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	1.9	mg/L	0.03	meq/L
Nitrite Nitrogen	0.018	mg/L	0.00	meq/L
Chloride	108	mg/L	3.05	meq/L
Fluoride	0.13	mg/L	0.01	meq/L
Phosphate	8.0	mg/L	0.25	meq/L
Sulfate	51.0	mg/L	1.06	meq/L
Iron	76.9	mg/L	2.75	meq/L
Calcium	52.8	mg/L	2.63	meq/L
Magnesium	1.95	mg/L	0.16	meq/L
Potassium	0.73	mg/L	0.02	meq/L
Sodium	99.7	mg/L	4.34	meq/L
Cations			7.15	meq/L
Anions			7.15	meq/L
Cation/Anion Difference			0.03%	

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: 31-6 CDP

  
Analyst

  
Review

## 2337

886 Juan reproduction 578-129

# ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

## CATION / ANION ANALYSIS

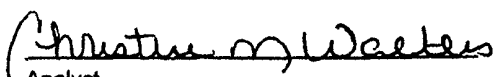
Client: Williams  
Sample ID: Produced Water  
Laboratory Number: 40725  
Chain of Custody: 2338  
Sample Matrix: Water  
Preservative: Cool  
Condition: Cool & Intact

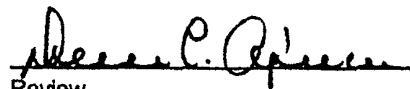
Project #: 00068-005  
Date Reported: 04-06-07  
Date Sampled: 04-03-07  
Date Received: 04-03-07  
Date Extracted: N/A  
Date Analyzed: 04-05-07

Parameter	Analytical Result	Units		
pH	6.50	s.u.		
Conductivity @ 25° C	2,450	umhos/cm		
Total Dissolved Solids @ 180C	1,480	mg/L		
Total Dissolved Solids (Calc)	1,410	mg/L		
SAR	38.1	ratio		
Total Alkalinity as CaCO3	240	mg/L		
Total Hardness as CaCO3	32.0	mg/L		
Bicarbonate as HCO3	240	mg/L	3.93	meq/L
Carbonate as CO3	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	4.9	mg/L	0.08	meq/L
Nitrite Nitrogen	0.094	mg/L	0.00	meq/L
Chloride	500	mg/L	14.11	meq/L
Fluoride	0.73	mg/L	0.04	meq/L
Phosphate	16.7	mg/L	0.53	meq/L
Sulfate	203	mg/L	4.22	meq/L
Iron	105	mg/L	3.75	meq/L
Calcium	9.60	mg/L	0.48	meq/L
Magnesium	1.95	mg/L	0.16	meq/L
Potassium	28.0	mg/L	0.72	meq/L
Sodium	495	mg/L	21.53	meq/L
Cations			22.89	meq/L
Anions			22.90	meq/L
Cation/Anion Difference			0.06%	

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: 30-5 CDP

  
Analyst

  
Review

# CHAIN OF CUSTODY RECORD

2338

Client / Project Name <b>Williams</b>			Project Location <b>30-5 CDP</b>		ANALYSIS / PARAMETERS								
Sampler: <b>Stan Paul</b>			Client No. <b>00068-005</b>		No. of Containers	pH	TDS	Anions	Cations			Remarks	
Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix									
Produced H <sub>2</sub> O	4-3-07	2:05pm	40725	Water	1	X	X	X	X				
Relinquished by: (Signature) <b>Stan Paul</b>			Date <b>4-3-07</b>	Time <b>4:30pm</b>	Received by: (Signature) <b>Carol Ortega</b>			Date <b>4-3-07</b>	Time <b>4:30</b>				
Relinquished by: (Signature)					Received by: (Signature)								
Relinquished by: (Signature)					Received by: (Signature)								
<b>ENVIROTECH INC.</b> 5796 U.S. Highway 64 Farmington, New Mexico 87401 (505) 632-0615										Sample Receipt			
											Y	N	N/A
										Received Intact			
										Cool - Ice/Blue Ice			



STATE OF NEW MEXICO  
ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING:

CASE NO. 9401  
Order No. R-8685

APPLICATION OF NORTHWEST PIPELINE  
CORPORATION FOR SALT WATER DISPOSAL,  
RIO ARriba COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on June 8, 1988, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 1st day of July, 1988, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) The applicant, Northwest Pipeline Corporation, is the operator of the Rosa Unit Well No. 94 located 1650 feet from the South line and 1820 feet from the West line (Unit K) of Section 16, Township 31 North, Range 5 West, NMPM, Rio Arriba County, New Mexico.

(3) The applicant seeks authority to utilize said well to dispose of produced salt water into the Mesaverde formation, with injection into the perforated interval from approximately 5360 feet to 5681 feet.

(4) The Rosa Unit Well No. 94 is located within the horizontal boundaries of the Blanco-Mesaverde Pool.

(5) The record in this case indicates that the Rosa Unit Well No. 94 was drilled and completed in the Blanco-Mesaverde Pool in 1982 and was subsequently determined to be a non-commercial producer in said pool.

(6) Further evidence presented by the applicant indicates that there are currently six active Blanco-Mesaverde producing wells located within a radius of two miles of the proposed injection well which are capable of low producing rates within the Blanco-Mesaverde Pool.

(7) The evidence presented by the applicant indicates that injection into the proposed well should not result in the watering out of gas reserves within the Blanco-Mesaverde Pool.

(8) The injection should be accomplished through 2 7/8-inch plastic-lined tubing installed in a packer set at approximately 5300 feet; the casing-tubing annulus should be filled with an inert fluid; and a pressure gauge or approved leak-detection device should be attached to the annulus in order to determine leakage in the casing, tubing, or packer.

(9) Prior to commencing injection operations, the casing in the subject well should be pressure-tested throughout the interval from the surface down to the proposed packer-setting depth, to assure the integrity of such casing.

(10) The injection well or system should be equipped with a pressure-limiting switch or other acceptable device which will limit the wellhead pressure on the injection well to no more than 1072 psi.

(11) The Director of the Division should be authorized to administratively approve an increase in the injection pressure upon a proper showing by the operator that such higher pressure will not result in migration of the injected waters from the Mesaverde formation.

CASE NO. 9401  
Order No. R-8685  
Page -3-

(12) The operator should notify the supervisor of the Aztec district office of the Division of the date and time of the installation of disposal equipment and of the mechanical integrity pressure test in order that the same may be witnessed.

(13) The operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

(14) Approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Northwest Pipeline Corporation, is hereby authorized to utilize its Rosa Unit Well No. 94 located 1650 feet from the South line and 1820 feet from the West line (Unit K) of Section 16, Township 31 North, Range 5 West, NMPM, Rio Arriba County, New Mexico, to dispose of produced salt water into the Mesaverde formation, injection to be accomplished through 2 7/8-inch tubing installed in a packer set at approximately 5300 feet, with injection into the perforated interval from approximately 5360 feet to 5681 feet.

PROVIDED HOWEVER THAT, the tubing shall be internally plastic-lined; the casing-tubing annulus shall be filled with an inert fluid; and a pressure gauge shall be attached to the annulus or the annulus shall be equipped with an approved leak-detection device in order to determine leakage in the casing, tubing, and/or packer.

PROVIDED FURTHER THAT, prior to commencing injection operations, the casing in the subject well shall be pressure-tested to assure the integrity of such casing in a manner that is satisfactory to the supervisor of the Division's district office at Aztec.

CASE NO. 9401  
Order No. R-8685  
Page -4-

(2) The injection well or system shall be equipped with a pressure-limiting switch or other acceptable device which will limit the wellhead pressure on the injection well to no more than 1072 psi.

(3) The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the Mesaverde formation.

(4) The operator shall notify the supervisor of the Aztec district office of the Division of the date and time of the installation of disposal equipment and of the mechanical integrity pressure test in order that the same may be witnessed.

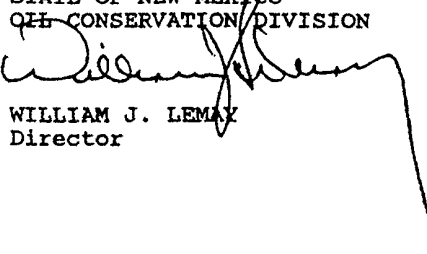
(5) The operator shall immediately notify the supervisor of the Division's Aztec district office of the failure of the tubing, casing, or packer, in said well or the leakage of water from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

(6) The applicant shall conduct disposal operations and submit monthly reports in accordance with Rules 702, 703, 704, 705, 706, 708, and 1120 of the Division Rules and Regulations.

(7) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

  
WILLIAM J. LEMAY  
Director

S E A L

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0137  
Expires: March 31, 2007

**SUNDRY NOTICES AND REPORTS ON WELLS**  
**Do not use this form for proposals to drill or to re-enter an  
abandoned well. Use Form 3160-3 (APD) for such proposals.**

5. Lease Serial No.  
SF-078771

6. If Indian, Allottee or Tribe Name

**SUBMIT IN TRIPLICATE – Other instructions on page 2.**

1. Type of Well

☐ Oil Well ☐ Gas Well ☒ Other

2. Name of Operator  
Williams Production Co.

3a. Address  
PO Box 640, Aztec, NM

3b. Phone No. (include area code)  
505-634-4200

7. If Unit of CA/Agreement, Name and/or No.  
Rosa

8. Well Name and No.  
Rosa Unit SWD #1

9. API Well No.  
30-039-27055

10. Field and Pool or Exploratory Area  
Entrada

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
2420' FSL & 1210' FEL, Sec 23, Twp 31N, Rng 06W, NMPM

11. Country or Parish, State  
Rio Arriba Co., NM

**12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other _____
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input checked="" type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

Once approval recieved from NMOCD, plan to accept produced water from Williams Field Service facilities including; Eul Canyon, Bancos Canyon, Quintana Mesa, Laguna Seca, Martinez Draw, 31-6 CDP, and 30-5 CDP.

14. I hereby certify that the foregoing is true and correct.

Name (Printed/Typed)

Michael K. Lane

Title EH&S Specialist - San Juan Basin Operations

Signature



Date

7/23/07

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved by

Title

Date

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Instructions on page 2)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0137  
Expires: March 31, 2007

**SUNDRY NOTICES AND REPORTS ON WELLS**  
*Do not use this form for proposals to drill or to re-enter an  
abandoned well. Use Form 3160-3 (APD) for such proposals.*

5. Lease Serial No.  
SF-078769

6. If Indian, Allottee or Tribe Name

**SUBMIT IN TRIPLICATE** – Other instructions on page 2.

1. Type of Well

☐ Oil Well ☐ Gas Well ☒ Other

2. Name of Operator  
Williams Production Co.

3a. Address  
PO Box 640, Aztec, NM

3b. Phone No. (include area code)  
505-634-4200

7. If Unit of CA/Agreement, Name and/or No.  
Rosa

8. Well Name and No.  
Rosa Unit 094

9. API Well No.  
30-039-23035

10. Field and Pool or Exploratory Area  
Blanco Mesa Verde Ext.

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
1650 'FSL & 1820' FEL, Sec 16, Twp 31N, Rng 05W, NMPM

11. Country or Parish, State  
Rio Arriba Co., NM

**12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA**

TYPE OF SUBMISSION	TYPE OF ACTION			
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<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
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	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
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Date

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(Instructions on page 2)