DATE IN 6-8-10	SUSPENSE	ENGINEER WJ	LOGGED IN 6-8-10	TYPE SWD 1236	APP NO. pTGW 1015928932

ABOVE THIS LINE FOR DIVISION USE ONLY

RECEIVED OCD
2010 SEP 2: 10

Williams Prod.
Rosa SWD #2

NEW MEXICO OIL CONSERVATION DIVISION
- Engineering Bureau -
1220 South St. Francis Drive, Santa Fe, NM 87505

ADMINISTRATIVE APPLICATION CHECKLIST 30-039-30812

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication
☐ NSL ☐ NSP ☐ SD

SWD-758

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

1840 psi

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☑ SWD ☐ IPI ☐ EOR ☐ PPR

8400' - 9050'

[D] Other: Specify _____

[2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[B] ☐ Offset Operators, Leaseholders or Surface Owner

[C] ☑ Application is One Which Requires Published Legal Notice

[D] ☑ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☑ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☐ Waivers are Attached

[3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Ocean Munds-Dry	Ocean Munds-Dry	Attorney	6-7-10
Print or Type Name	Signature	Title	Date

omundsdry@hollandhart.com
e-mail Address

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL
RESOURCES DEPARTMENT

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

FORM C-108
Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____Secondary Recovery _____Pressure Maintenance __X__Disposal _____Storage
Application qualifies for administrative approval? ___X___Yes _____No

II. OPERATOR: Williams Production Co., LLC

ADDRESS: One Williams Center, MD 25-8, Tulsa, OK 74172

CONTACT PARTY: Ken McQueen PHONE: 918-573-2889

Ken McQueen @ williams.com

III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? _____Yes ____X____No
If yes, give the Division order number authorizing the project: _____

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review. See Attached.

VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail. There are no wells penetrating the proposed depth interval for injection within the area of review.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
Average injection rate of 3,000 Bbls/day. Maximum injection rate of 7,000 Bbls/day.

2. Whether the system is open or closed;
The System will be closed.

3. Proposed average and maximum injection pressure;
The proposed average injection pressure is 600 psi. The maximum injection pressure will be maintained below 1840 pounds per square inch or 0.2 psi/ft.

4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
The source of injection fluid will be produced water from the Rosa Unit producing intervals, which include the Fruitland Coal, Pictured Cliffs, Mesaverde, Mancos, and Dakota (See attached typical water analysis as follows:
   Rosa Unit #380: Fruitland Coal Produced Water Analysis
   Rosa Unit #165: Pictured Cliffs Produced Water Analysis
   Rosa Unit #32A: Mesaverde Produced Water Analysis
   Rosa Unit #5C: Mancos Produced Water Analysis
   Rosa Unit #32C: Dakota Produced Water Analysis

5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
The injection is for produced water disposal into a zone non- productive formation of oil or gas. There is no production from the Entrada within one mile of the proposed location.

*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
The proposed injection zones are the fluvially deposited interbedded siltstones and conglomeratic sandstones of the Lower Morrison Fm. (approx. 8400'-8750'), the cross bedded Bluff Ss. (approx. 8750'-8925') and the eolian Entrada Ss. (approx. 8990'-9050'). There are no known aquifers with drinking water below the Entrada Ss. Water samples taken from Fruitland coal (approx. 3100'-3275') wells in the immediate vicinity have TDS values ranging from 14,000 to 18,000 ppm. The nearest known aquifer, which is a source of drinking water, overlying the injection zone is the Ojo Alamo Ss. (approximately 2650'-2780').

IX. Describe the proposed stimulation program, if any.

The proposed stimulation program will consist of an acid/ballout breakdown and a hydraulic sand frac. The fracture treatment will be a 20# to 30# Borate fluid system carrying approximately 300,000 lbs 20/40 proppant in concentrations from 1 to 6 ppg.

*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted). No logs or test data available at present time.

*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

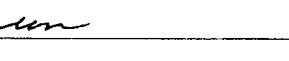
Analysis attached for Hammond Water Well and Windmill

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
An examination of geologic and engineering data indicates no evidence of open faults or any hydrologic connection between the disposal zone (Lower Morrison Fm, Bluff Ss., Entrada Ss.) and the drinking water zone (Ojo Alamo).

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
USFS has surface rights and will be notified by registered mail, there are no other leasehold operators within one-half mile. Proof of publication is attached.

XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: Ken McQueen TITLE: Director, San Juan Region

SIGNATURE:  DATE: May 24, 2010

E-MAIL ADDRESS: Ken.McQueen@Williams.com

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: The information for the listed sections was previously submitted in the Application For Authorization To Inject and approved by Administrative Order SWD-758

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

(1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

(3) A description of the tubing to be used including its size, lining material, and setting depth.

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

(1) The name of the injection formation and, if applicable, the field or pool name.

(2) The injection interval and whether it is perforated or open-hole.

(3) State if the well was drilled for injection or, if not, the original purpose of the well.

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

(5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

(1) The name, address, phone number, and contact party for the applicant;

(2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;

(3) The formation name and depth with expected maximum injection rates and pressures; and,

(4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

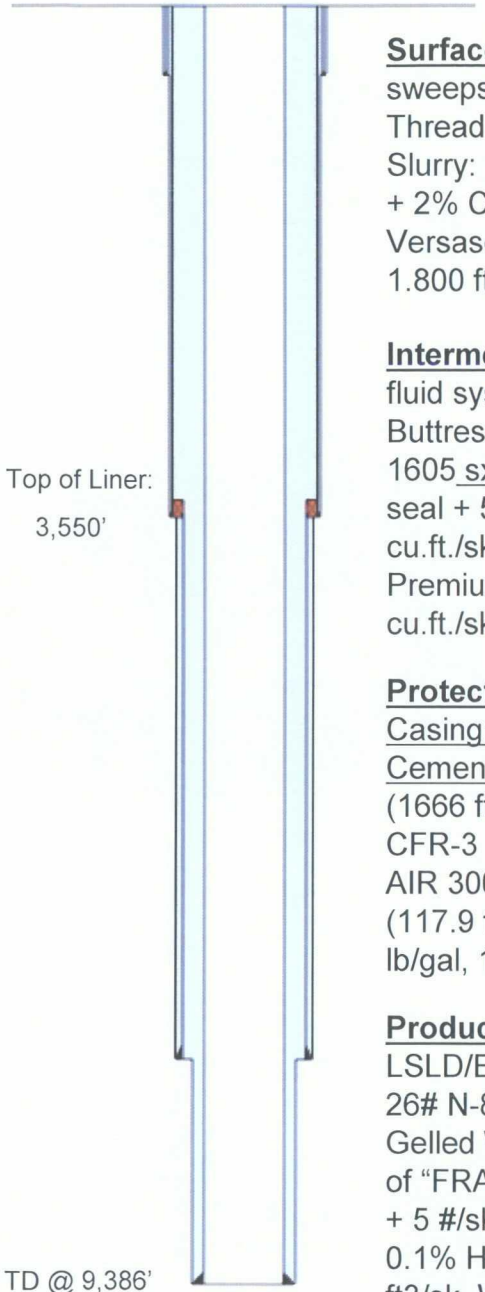
NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

Rosa Unit SWD 2

2460' FNL 2095' FWL

Sec 25 T31N R5W GL: 6,447'



Surface: 26" re-tip tricone bit, water with gel sweeps to **500'** Casing: 20" 94# K-55 Buttress Thread @ **500'** Cement: 10 bbl FW spacer, Slurry: 1270 sx (2286 ft3) Premium Plus Type III + 2% Cal-Seal 60 + ¼ #/sk Poly-E-Flake + 0.3% Versaset + 2% Econolite + 6% Salt (13.5 lb/gal, 1.800 ft3/sk) WOC 12 hours..

Intermediate: 17-1/2" 525 type TCI bit, LSLD/EZ-MUD fluid system to **3,750'** Casing: 13-3/8" 68# HCL-80 Buttress @ **3,750'** Cement: 20 bbl FW spacer, Lead - 1605 sx (4382 cu.ft.) of "EXTENDACEM" + 5 #/sk pheno-seal + 5% Cal-Seal 60 + 0.5% D-AIR 3000 (Yield = 2.73 cu.ft./sk, Weight = 11.5 #/gal.). Tail - 200 sx (236 cu.ft.) of Premium cement + 0.125 #/sk Poly-E-Flake, (Yield = 1.18 cu.ft./sk, Weight = 15.6#/gal.). Total volume = 4618 cu.ft

Protection Liner: 12-1/4" Air Hammer to **7,731'** Casing: 9-5/8" 40# N-80 LT&C **From 7,731' to 3,550'** Cement: 20 bbl gelled water spacer, Lead: 1190 sx (1666 ft^3) Fraccem system + 0.6% Halad-9 + 0.1% CFR-3 + 3 #/sk Gilsonite + 0.15% HR-5 + 0.3% D-AIR 3000 (13.1 lb/gal, 1.40 ft^3/sk), Tail: 100 sx (117.9 ft^3) Premium cement + 0.3% Halad-9 (15.6 lb/gal, 1.18 ft^3/sk). Total volume 1784 ft3.

Production: 8-3/4" 813 and 616 type PDC bits, LSLD/EZ-MUD fluid system to **9,386'** Casing: 7" 26# N-80 LT&C @ **9,386'** Cement: 10 bbl Gelled Water spacer. Cement: 270 sx (378 ft3) of "FRACCEM" + 0.8% Halad-9 + 0.1% CFR-3 + 5 #/sk Gilsonite + 0.125 #/sk Poly-E-Flake + 0.1% HR-5 + 0.3% D-AIR 3000. (Yield =1.40 ft3/sk, Weight = 13.1 #/gal.). Displace cement at a minimum of 8 BPM. Total volume (378) ft3.

Formation	Depth
San Jose Fm.	Surface
Nacimiento Fm.	1381
Ojo Alamo Ss.	2651
Kirtland Sh.	2781
Fruitland Fm.	3096
Pictured Cliffs Ss.	3276
Lewis Sh.	3596
Cliff House Ss. Trans.	5211
Cliff House Ss.	5511
Menefee Fm.	5556
Point Lookout Ss.	5731
Mancos Sh.	6021
Gallup Ss.	7086
Greenhorn Ls.	7806
Graneros Sh.	7856
Dakota Ss.	8001
Morrison Fm.	8251
Bluff Ss.	8751
Summerville Fm.	8921
Todilto Ls.	8996
Entrada Ss.	9036
Chinle Fm.	9311
Total Depth	**9386**

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: 17-1/2"
Cemented with: 440 sx
Top of Cement: Surface

Casing Size: 13-3/8"
or 436 ft^3
Method Determined: Calculation
Length: 500'

Intermediate Casing

Hole Size: 12-1/4"
Cemented with: 870 sx
Top of Cement: Surface

Casing Size: 9-5/8"
or 2,220 ft^3
Method Determined: Calculation
Length: 3,751'

New Design

Production Casing

Hole Size: 8-3/4"
Cemented with: 595 sx.
Top of Cement: above 3,751'

Casing Size: 7"
or 1170 ft^3
Method Determined: Calculation
Length: 9,386'

Total Depth: 9,386'

Injection Interval

8,400' to 9050'
Perforated

INJECTION WELL DATA SHEET

Tubing Size: 3-1/2" 9.3 #/ft N-80 Lining Material: Plastic Coated

Type of Packer: Arrow Set 1 x, 7"x 3-1/2" (nickel coated)

Packer Setting Depth: No more than 50' above top perf

Other Type of Tubing/Casing Seal (if applicable): N/A

Additional Data

1. Is this a new well drilled for injection? X Yes _____ No

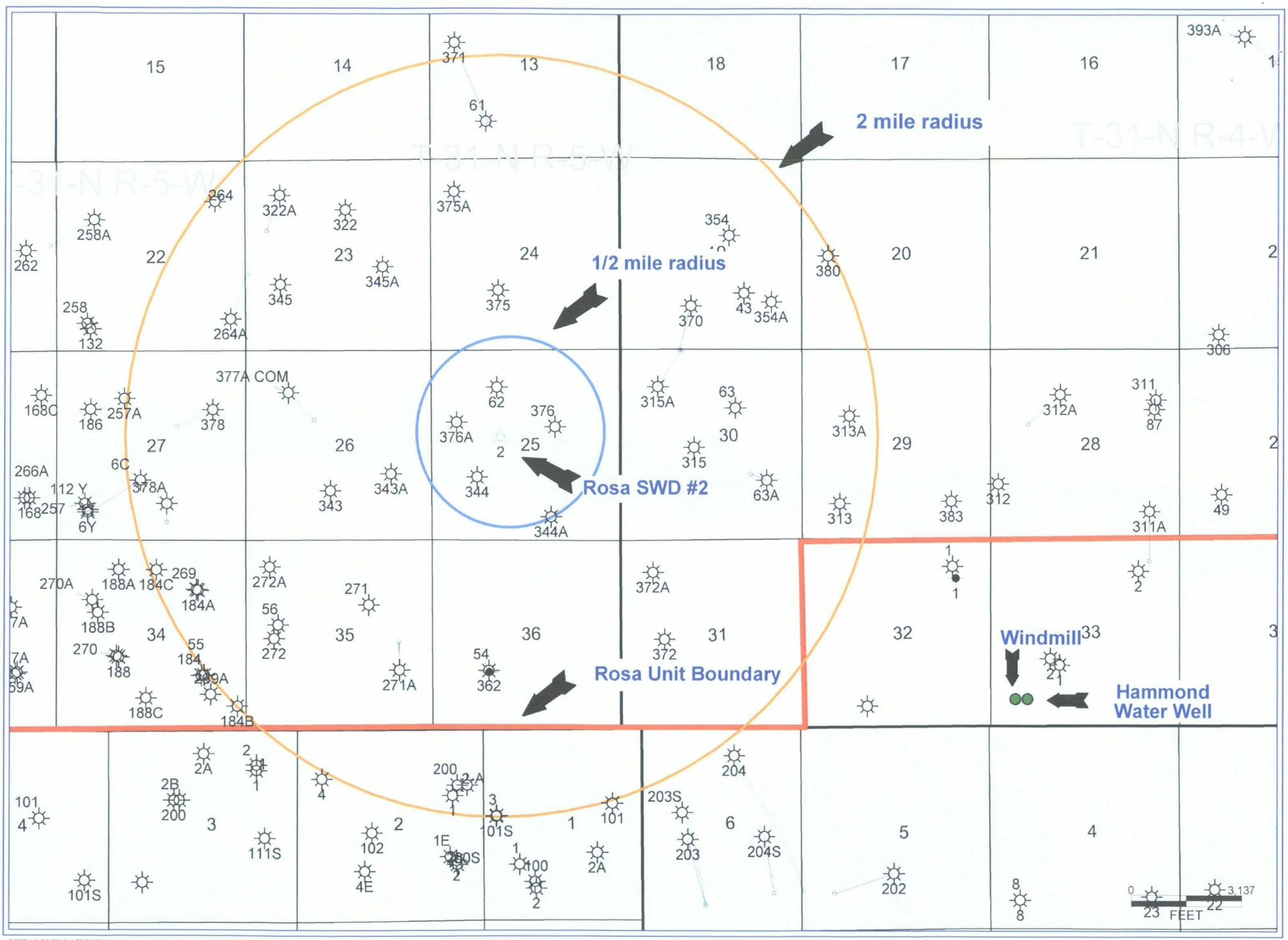
   If no, for what purpose was the well originally drilled? _____

2. Name of the Injection Formation: Entrada

3. Name of Field or Pool (if applicable): Wildcat

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. No

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: There are no oil and gas zones below the Entrada. The oil and gas zones above are the Dakota (7,856'- 8,251'), Point Lookout (5,731'- 6,021'), Menefee (5,556'- 5,731'), Cliff House (5,511'- 5,556'), Lewis Shale (3,596'- 5,211'), Pictured Cliffs (3,276'- 3,596'), and Fruitland Coal (3,096'- 3,276').


2 mile radius
1/2 mile radius
Rosa SWD #2
Rosa Unit Boundary
Windmill
Hammond Water Well
T-31-N R-5-W
T-31-N R-4-W
0
3,137
23
FEET
22
PETRA 3/30/2010 1:58:32 PM

Champion Technologies — Water Analysis Report

Date Sampled :	26-Mar-10
Date Received :	12-May-09
Date Reported :	19-May-09

WPX

Field : Rosa
Lease : Gobernador

NM

Location : 380

Attention : Mark Lepich
cc1 :
cc2 :
cc3 :

Sample Point : wellhead
Salesman : Dominic Martinez
Analyst : The Lab

Comments :

CATIONS

Calcium :	246	mg/l
Magnesium :	19	mg/l
Barium :	0	mg/l
Strontium :	0	mg/l
Iron :	37.0	mg/l
Manganese :		mg/l
Sodium :	7865	mg/l

ANIONS

Chloride :	10,060	mg/l
Carbonate :	0	mg/l
Bicarbonate :	4,392	mg/l
Sulfate :	10	mg/l

pH (field) :	4.99		**Specific Gravity :**	1.015	grams/ml
Temperature :	70	degrees F	**CO2 in Water :**	164	mg/l
Ionic Strength :	0.36		**Mole % CO2 in Gas:**		mole %
Dissolved Solids :	22,629	ppm	**H2S in Water :**	0.0	mg/l
Resistivity :		ohm-meters	**H2S in gas :**		ppm
Ammonia :		ppm	**Dissolved Oxygen :**		ppm

SI calculations based on Tomson-Oddo parameters

Calcite (CaCO3) SI :	0.65	Calcite PTB :	159.7
Calcite (CaCO3) SI @ 100 F :	0.95	Calcite PTB @ 100 F :	187.0
Calcite (CaCO3) SI @ 120 F :	1.16	Calcite PTB @ 120 F :	197.5
Calcite (CaCO3) SI @ 140 F :	1.38	Calcite PTB @ 140 F :	204.6
Calcite (CaCO3) SI @ 160 F :	1.61	Calcite PTB @ 160 F :	208.8
Calcite (CaCO3) SI @ 180 F :	1.84	Calcite PTB @ 180 F :	211.4
Calcite (CaCO3) SI @ 200 F :	2.08	Calcite PTB @ 200 F :	213.0
Gypsum (CaSO4) SI :	-3.24	Gypsum PTB :	N/A
Barite (BaSO4) SI :	N/A	Barite PTB :	N/A
Celestite (SrSO4) SI :	N/A	Celestite PTB :	N/A

Champion Technologies — Water Analysis Report

Date Sampled :	07-Oct-08
Date Received :	10-Sep-08
Date Reported	17-Sep-08

WPX

Field : Rosa
Lease : Conventional

NM

Location : Rosa #165 (PC)

Attention :
cc1 :
cc2 :
cc3 :

Sample Point : wellhead
Salesman : Clay Bingham
Analyst : Karen Hawkins Allen

Comments : Metals analyzed by AA.

CATIONS

Calcium :	43	mg/l
Magnesium :	6	mg/l
Barium :	117	mg/l
Strontium :	41	mg/l
Iron :	0.0	mg/l
Manganese :	1 1	mg/l
Sodium :	5185	mg/l

ANIONS

Chloride :	5,160	mg/l
Carbonate :	0	mg/l
Bicarbonate :	5,173	mg/l
Sulfate :	22	mg/l

pH (field) :	8.00		**Specific Gravity :**	1.010	grams/ml
Temperature :	85	degrees F	**Total Dissolved Solids :**	15,747	ppm
Ionic Strength :	0.23		**CO2 in Water :**	18	mg/l
			Mole % CO2 in Gas:		mole %
Conductivity:		micromho/centimeters	**H2S in Water :**	0.0	mg/l
Ammonia :		ppm	**Dissolved Oxygen :**		ppm

SI calculations based on Tomson-Oddo parameters

Calcite (CaCO3) SI :	1.38	Calcite PTB :	36.0
Calcite (CaCO3) SI @ 100 F :	1.53	Calcite PTB @ 100 F :	36.5
Calcite (CaCO3) SI @ 120 F :	1.74	Calcite PTB @ 120 F :	36.9
Calcite (CaCO3) SI @ 140 F :	1.96	Calcite PTB @ 140 F :	37.2
Calcite (CaCO3) SI @ 160 F :	2.18	Calcite PTB @ 160 F :	37.3
Calcite (CaCO3) SI @ 180 F :	2.42	Calcite PTB @ 180 F :	37.5
Calcite (CaCO3) SI @ 200 F :	2.65	Calcite PTB @ 200 F :	37.5
Gypsum (CaSO4) SI :	-3.53	Gypsum PTB :	N/A
Barite (BaSO4) SI :	1.84	Barite PTB :	17 7
Celestite (SrSO4) SI :	-1.50	Celestite PTB :	N/A

Champion Technologies — Water Analysis Report

Date Sampled :	07-Oct-08
Date Received :	09-Sep-08
Date Reported :	17-Sep-08

WPX

NM

Attention :
cc1 :
cc2 :
cc3 :

Field : Rosa
Lease : Conventional
Location : Rosa #32A (Mesa Verde)
Sample Point : wellhead
Salesman : Clay Bingham
Analyst : Karen Hawkins Allen

Comments : Metals analyzed by AA.

CATIONS

Calcium :	14	mg/l
Magnesium :	0	mg/l
Barium :	63	mg/l
Strontium :	1	mg/l
Iron :	0.0	mg/l
Manganese :	0.3	mg/l
Sodium :	404	mg/l

ANIONS

Chloride :	470	mg/l
Carbonate :	0	mg/l
Bicarbonate :	342	mg/l
Sulfate :	16	mg/l

pH (field) :	6.80		**Specific Gravity :**	1.005	grams/ml
Temperature :	85	degrees F	**Total Dissolved Solids :**	1,310	ppm
Ionic Strength :	0.02		**CO2 in Water :**	8	mg/l
			Mole % CO2 in Gas:		mole %
Conductivity:		micromho/centimeters	**H2S in Water :**	0.1	mg/l
Ammonia :		ppm	**Dissolved Oxygen :**		ppm

SI calculations based on Tomson-Oddo parameters

Calcite (CaCO3) SI :	-0.25	Calcite PTB :	N/A
Calcite (CaCO3) SI @ 100 F :	-0.10	Calcite PTB @ 100 F :	N/A
Calcite (CaCO3) SI @ 120 F :	0.11	Calcite PTB @ 120 F :	2.5
Calcite (CaCO3) SI @ 140 F :	0.33	Calcite PTB @ 140 F :	6.1
Calcite (CaCO3) SI @ 160 F :	0.56	Calcite PTB @ 160 F :	8.6
Calcite (CaCO3) SI @ 180 F :	0.79	Calcite PTB @ 180 F :	10.0
Calcite (CaCO3) SI @ 200 F :	1.03	Calcite PTB @ 200 F :	11.0
Gypsum (CaSO4) SI :	-3.81	Gypsum PTB :	N/A
Barite (BaSO4) SI :	2.17	Barite PTB :	12 7
Celestite (SrSO4) SI :	-2 71	Celestite PTB :	N/A

envirotech
Analytical Laboratory

CATION / ANION ANALYSIS

Client:	Williams Production	Project #:	04108-0049
Sample ID:	Rosa #5C	Date Reported:	03-22-10
Laboratory Number:	53387	Date Sampled:	03-18-10
Chain of Custody:	8885	Date Received:	03-18-10
Sample Matrix:	Aqueous	Date Analyzed:	03-19-10
Preservative:	Cool		
Condition:	Intact		

Parameter	Analytical Result	Units		
pH	6.61	s.u.		
Conductivity @ 25° C	22,400	umhos/cm		
Total Dissolved Solids @ 180C	14,200	mg/L		
Total Dissolved Solids (Calc)	14,150	mg/L		
SAR	58.6	ratio		
Total Alkalinity as CaCO3	823	mg/L		
Total Hardness as CaCO3	1,340	mg/L		
Bicarbonate as CaCO3	823	mg/L	13.49	meq/L
Carbonate as CaCO3	<0.1	mg/L	0.00	meq/L
Hydroxide as CaCO3	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	1.60	mg/L	0.03	meq/L
Nitrite Nitrogen	<0.01	mg/L	0.00	meq/L
Chloride	5,000	mg/L	141.05	meq/L
Fluoride	1.89	mg/L	0.10	meq/L
Phosphate	15.3	mg/L	0.48	meq/L
Sulfate	3,420	mg/L	71.20	meq/L
Iron	1.65	mg/L	0.06	meq/L
Calcium	423	mg/L	21.11	meq/L
Magnesium	19.6	mg/L	1.61	meq/L
Potassium	233	mg/L	5.96	meq/L
Sodium	4,540	mg/L	197.49	meq/L
Cations			226.17	meq/L
Anions			226.35	meq/L
Cation/Anion Difference			0.08%	

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 Water Samples**

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

envirotech
Analytical Laboratory

CATION / ANION ANALYSIS

Client:	Williams Production	Project #:	04108-0049
Sample ID:	Rosa #166B	Date Reported:	03-22-10
Laboratory Number:	53388	Date Sampled:	03-18-10
Chain of Custody:	8885	Date Received:	03-18-10
Sample Matrix:	Aqueous	Date Analyzed:	03-19-10
Preservative:	Cool		
Condition:	Intact		

Parameter	Analytical Result	Units		
pH	**5.89**	s.u.		
Conductivity @ 25° C	**268**	umhos/cm		
Total Dissolved Solids @ 180C	**180**	mg/L		
Total Dissolved Solids (Calc)	**170**	mg/L		
SAR	**9.0**	ratio		
Total Alkalinity as CaCO3	**130**	mg/L		
Total Hardness as CaCO3	**8.70**	mg/L		
Bicarbonate as CaCO3	**130**	mg/L	2.13	meq/L
Carbonate as CaCO3	**<0.1**	mg/L	0.00	meq/L
Hydroxide as CaCO3	**<0.1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**0.400**	mg/L	0.01	meq/L
Nitrite Nitrogen	**<0.01**	mg/L	0.00	meq/L
Chloride	**14.8**	mg/L	0.42	meq/L
Fluoride	**<0.01**	mg/L	0.00	meq/L
Phosphate	**9.60**	mg/L	0.30	meq/L
Sulfate	**0.400**	mg/L	0.01	meq/L
Iron	**52.0**	mg/L	1.86	meq/L
Calcium	**3.40**	mg/L	0.17	meq/L
Magnesium	**0.052**	mg/L	0.00	meq/L
Potassium	**1.09**	mg/L	0.03	meq/L
Sodium	**61.3**	mg/L	2.67	meq/L
Cations			2.87	meq/L
Anions			2.87	meq/L
Cation/Anion Difference			**0.08%**	

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: **SWD #2 Permit App.**

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

CATION / ANION ANALYSIS

Client:	Williams Production	Project #:	04108-0049
Sample ID:	Rosa #187C	Date Reported:	03-22-10
Laboratory Number:	53389	Date Sampled:	03-18-10
Chain of Custody:	8885	Date Received:	03-18-10
Sample Matrix:	Aqueous	Date Analyzed:	03-19-10
Preservative:	Cool		
Condition:	Intact		

Parameter	Analytical Result	Units		
pH	**7.25**	s.u.		
Conductivity @ 25° C	**18,000**	umhos/cm		
Total Dissolved Solids @ 180C	**10,800**	mg/L		
Total Dissolved Solids (Calc)	**10,520**	mg/L		
SAR	**84.7**	ratio		
Total Alkalinity as CaCO3	**3,880**	mg/L		
Total Hardness as CaCO3	**395**	mg/L		
Bicarbonate as CaCO3	**3,880**	mg/L	63.59	meq/L
Carbonate as CaCO3	**<0.1**	mg/L	0.00	meq/L
Hydroxide as CaCO3	**<0.1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**1.70**	mg/L	0.03	meq/L
Nitrite Nitrogen	**<0.01**	mg/L	0.00	meq/L
Chloride	**4,050**	mg/L	114.25	meq/L
Fluoride	**1.11**	mg/L	0.06	meq/L
Phosphate	**13.8**	mg/L	0.44	meq/L
Sulfate	**0.300**	mg/L	0.01	meq/L
Iron	**6,450**	mg/L	230.97	meq/L
Calcium	**115**	mg/L	5.74	meq/L
Magnesium	**26.3**	mg/L	2.16	meq/L
Potassium	**81.8**	mg/L	2.09	meq/L
Sodium	**3,870**	mg/L	168.35	meq/L
Cations			178.34	meq/L
Anions			178.37	meq/L
Cation/Anion Difference			**0.02%**	

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 Water Samples**

Analyst

Review

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CATION / ANION ANALYSIS

Client:	Williams Production	Project #:	04108-0049
Sample ID:	Rosa #60B	Date Reported:	03-22-10
Laboratory Number:	53390	Date Sampled:	03-18-10
Chain of Custody:	8885	Date Received:	03-18-10
Sample Matrix:	Aqueous	Date Analyzed:	03-19-10
Preservative:	Cool		
Condition:	Intact		

Parameter	Analytical Result	Units		
pH	**6.30**	s.u.		
Conductivity @ 25° C	**775**	umhos/cm		
Total Dissolved Solids @ 180C	**340**	mg/L		
Total Dissolved Solids (Calc)	**310**	mg/L		
SAR	**6.4**	ratio		
Total Alkalinity as CaCO3	**170**	mg/L		
Total Hardness as CaCO3	**44.7**	mg/L		
Bicarbonate as CaCO3	**170**	mg/L	2.79	meq/L
Carbonate as CaCO3	**<0.1**	mg/L	0.00	meq/L
Hydroxide as CaCO3	**<0.1**	mg/L	0.00	meq/L
Nitrate Nitrogen	**0.300**	mg/L	0.00	meq/L
Nitrite Nitrogen	**<0.01**	mg/L	0.00	meq/L
Chloride	**67.6**	mg/L	1.91	meq/L
Fluoride	**<0.01**	mg/L	0.00	meq/L
Phosphate	**16.8**	mg/L	0.53	meq/L
Sulfate	**1.10**	mg/L	0.02	meq/L
Iron	**91.1**	mg/L	3.26	meq/L
Calcium	**16.7**	mg/L	0.83	meq/L
Magnesium	**0.713**	mg/L	0.06	meq/L
Potassium	**3.69**	mg/L	0.09	meq/L
Sodium	**98.1**	mg/L	4.27	meq/L
Cations			5.25	meq/L
Anions			5.25	meq/L
Cation/Anion Difference			**0.04%**	

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 Water Samples**

Analyst

Review

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CHAIN OF CUSTODY RECORD

8985

Client:	Project Name / Location:
Matt Lein	Rosa Water Samples
Client Address:	Sampler Name:
Williams Prod. Co	Tim Schulte (GAS)
Client Phone No.:	Client No.:
	04108-0049

Sample No./ Identification	Sample Date	Sample Time	Lab No.	Sample Matrix	No./Volume of Containers	Preservative: H_2O_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				Sample Cool	Sample Intact
Rosa #5C	3/18/10	9:50 AM	53387	Soil Solid ~~Sludge~~ ~~Aqueous~~	1-500mL							X									Y	Y
Rosa #16B	3/18/10	10:10 AM	53388	Soil Solid ~~Sludge~~ ~~Aqueous~~																		
Rosa #18C	3/18/10	10:35 AM	53389	Soil Solid ~~Sludge~~ ~~Aqueous~~																		
Rosa #6OB	3/18/10	12:50 PM	53390	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
Tim Schulte, Jr.	3/18/10	14:30	Brandon Foster	3/18/10	14:30
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

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Analytical Laboratory
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Champion Technologies — Water Analysis Report

Date Sampled	07-Oct-08
Date Received	09-Sep-08
Date Reported	17-Sep-08

WPX

NM

Attention :
cc1 :
cc2 :
cc3 :

Field : Rosa
Lease : Conventional
Location : Rosa #32C (Dakota)
Sample Point : wellhead
Salesman : Clay Bingham
Analyst : Karen Hawkins Allen

Comments : Metals analyzed by AA.

CATIONS

Calcium :	36	mg/l
Magnesium :	2	mg/l
Barium :	56	mg/l
Strontium :	5	mg/l
Iron :	202.0	mg/l
Manganese :	2.4	mg/l
Sodium :	2122	mg/l

ANIONS

Chloride :	2,900	mg/l
Carbonate :	0	mg/l
Bicarbonate :	220	mg/l
Sulfate :	470	mg/l

pH (field) :	5 50		**Specific Gravity :**	1 005	grams/ml
Temperature :	85	degrees F	**Total Dissolved Solids :**	6,013	ppm
Ionic Strength :	0.10		**CO2 in Water :**	32	mg/l
			Mole % CO2 in Gas:		mole %
Conductivity:		micromho/centimeters	**H2S in Water :**	0.2	mg/l
Ammonia :		ppm	**Dissolved Oxygen :**		ppm

SI calculations based on Tomson-Oddo parameters

Calcite (CaCO3) SI :	-1.31	Calcite PTB :	N/A
Calcite (CaCO3) SI @ 100 F :	-1.16	Calcite PTB @ 100 F :	N/A
Calcite (CaCO3) SI @ 120 F :	-0.95	Calcite PTB @ 120 F :	N/A
Calcite (CaCO3) SI @ 140 F :	-0.73	Calcite PTB @ 140 F :	N/A
Calcite (CaCO3) SI @ 160 F :	-0.51	Calcite PTB @ 160 F :	N/A
Calcite (CaCO3) SI @ 180 F :	-0.27	Calcite PTB @ 180 F :	N/A
Calcite (CaCO3) SI @ 200 F :	-0.04	Calcite PTB @ 200 F :	N/A
Gypsum (CaSO4) SI :	-2 18	Gypsum PTB :	N/A
Barite (BaSO4) SI :	3.13	Barite PTB :	28.9
Celestite (SrSO4) SI :	-0.89	Celestite PTB :	N/A

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CATION / ANION ANALYSIS

Client:	WPX	Project #:	04108-0003
Sample ID:	Hammond Well	Date Reported:	03-08-10
Laboratory Number:	53287	Date Sampled:	03-04-10
Chain of Custody:	8828	Date Received:	03-05-10
Sample Matrix:	Aqueous	Date Analyzed:	03-05-10
Preservative:	Cool		
Condition:	Intact		

Parameter	Analytical Result	Units		
pH	6.35	s.u.		
Conductivity @ 25° C	55.8	umhos/cm		
Total Dissolved Solids @ 180C	30.0	mg/L		
Total Dissolved Solids (Calc)	30.0	mg/L		
SAR	1.3	ratio		
Total Alkalinity as CaCO3	28.0	mg/L		
Total Hardness as CaCO3	7.30	mg/L		
Bicarbonate as CaCO3	28.0	mg/L	0.46	meq/L
Carbonate as CaCO3	<0.1	mg/L	0.00	meq/L
Hydroxide as CaCO3	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	0.500	mg/L	0.01	meq/L
Nitrite Nitrogen	0.009	mg/L	0.00	meq/L
Chloride	1.01	mg/L	0.03	meq/L
Fluoride	0.200	mg/L	0.01	meq/L
Phosphate	0.095	mg/L	0.00	meq/L
Sulfate	0.658	mg/L	0.01	meq/L
Iron	1.06	mg/L	0.04	meq/L
Calcium	2.32	mg/L	0.12	meq/L
Magnesium	0.358	mg/L	0.03	meq/L
Potassium	1.07	mg/L	0.03	meq/L
Sodium	8.05	mg/L	0.35	meq/L
Cations			0.52	meq/L
Anions			0.52	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: **SWD #2 Permit App.**

Analyst

Review

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CATION / ANION ANALYSIS

Client:	WPX	Project #:	04108-0003
Sample ID:	Windmill	Date Reported:	03-08-10
Laboratory Number:	53288	Date Sampled:	03-04-10
Chain of Custody:	8828	Date Received:	03-05-10
Sample Matrix:	Aqueous	Date Analyzed:	03-05-10
Preservative:	Cool		
Condition:	Intact		

Parameter	Analytical Result	Units		
pH	6.51	s.u.		
Conductivity @ 25° C	66.6	umhos/cm		
Total Dissolved Solids @ 180C	42.0	mg/L		
Total Dissolved Solids (Calc)	40.0	mg/L		
SAR	0.2	ratio		
Total Alkalinity as CaCO3	40.0	mg/L		
Total Hardness as CaCO3	30.9	mg/L		
Bicarbonate as CaCO3	40.0	mg/L	0.66	meq/L
Carbonate as CaCO3	<0.1	mg/L	0.00	meq/L
Hydroxide as CaCO3	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	0.100	mg/L	0.00	meq/L
Nitrite Nitrogen	<0.01	mg/L	0.00	meq/L
Chloride	0.734	mg/L	0.02	meq/L
Fluoride	0.322	mg/L	0.02	meq/L
Phosphate	0.078	mg/L	0.00	meq/L
Sulfate	2.47	mg/L	0.05	meq/L
Iron	0.015	mg/L	0.00	meq/L
Calcium	11.4	mg/L	0.57	meq/L
Magnesium	0.582	mg/L	0.05	meq/L
Potassium	0.777	mg/L	0.02	meq/L
Sodium	2.58	mg/L	0.11	meq/L
Cations			0.75	meq/L
Anions			0.75	meq/L
Cation/Anion Difference			0.01%	

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: **SWD #2 Permit App.**

Analyst

Review

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CHAIN OF CUSTODY RECORD

8928

Client: WPX	Project Name / Location: SWD #2 Permit App.
Client Address:	Sampler Name: Myke Lane
Client Phone No.:	Client No.: 04108-0003

ANALYSIS / PARAMETERS

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			Sample Cool	Sample Intact
Hammond Well	3/4	1355	53287	Soil Sludge Solid ~~Aqueous~~	2			✓					✓								✓	✓
Windmill	3/4	1405	53288	Soil Sludge Solid ~~Aqueous~~	3			✓					✓								✓	✓
				Soil Sludge Solid Aqueous																		
				Soil Sludge Solid Aqueous																		
				Soil Sludge Solid Aqueous																		
				Soil Sludge Solid Aqueous																		
				Soil Sludge Solid Aqueous																		
				Soil Sludge Solid Aqueous																		
				Soil Sludge Solid Aqueous																		
				Soil Sludge Solid Aqueous																		

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	3/5/10	9:35	Christine M Walters	3/5/10	935
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

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Affidavit of Publication

APPLICATION OF WILLIAMS PRODUCTION COMPANY, LLC FOR APPROVAL OF A SALT WATER DISPOSAL WELL, RIO ARRIBA COUNTY, NEW MEXICO.

Applicant, Williams Production Company, LLC, PO Box 3102, Tulsa, OK 74101, seeks approval to drill the Rosa SWD Well No. 2 to be located 2460 feet from the North line and 2095 feet from the West line (Unit F) of Section 25, Township 31 North, Range 5 West, NMPM, Rio Arriba County, New Mexico to dispose of produced water. Applicant proposes to inject into the Lower Morrison, Bluff, and Entrada formations at an approximate depth of 8,400 feet to 9,050 feet. The average and maximum injection rates will be 3,000 and 7,000 barrels of water per day and the maximum surface injection pressure is anticipated to be 1,840 psi. Additional information may be obtained by contacting Ken McQueen, Williams Production Company, LLC at (918) 573-2889. Said well is located 31 miles northeast of Blanco, New Mexico.
(Published February 18, 2010)

38 lines D

_____ lines _____ times at _____

Affidavit 5.00

Subtotal 31.60

Tax 2.49

Total 34.09

Payment received at ***Rio Grande SUN***

Date February 11, 2010

By Jermel Segovia

State of New Mexico
County of Rio Arriba

I, Robert Trapp, being first duly sworn, declare and say I am the Publisher of the ***Rio Grande SUN***, a weekly newspaper published in the English language and having a general circulation in the County of Rio Arriba, State of New Mexico, and being a newspaper duly qualified to publish legal notices and advertisements under the provisions of Chapter 167 of the Session Laws of 1937. The publication, a copy of which is hereto attached, was published in said paper once each week for 1 consecutive weeks and on the same day of each week in the regular issue of the paper during the time of publication and the notice was published in the newspaper proper, and not in any supplement. The first publication being on the

18 day of February 2010

and the last publication on the 18 day of

February 2010. Payment for said advertisement has been duly made, or assessed as court costs. The undersigned has personal knowledge of the matters and things set forth in this affidavit.

Robert Trapp Publisher

Subscribed and sworn to before me this 18th day of Feb. A.D. 2010

Maria V. Lopez Garcia /Notary Public
My commission expires 13 July 2013

Advertising Invoice

Rio Grande Sun
PO Box 790
Espanola, NM 87532
Phone: (505)753-2126
Fax: (505)753-2140

HOLLAND & HART, LLP
PO BOX 2208
SANTA FE, NM 87504

Cust#: 03100913-000
Ad#: 01541409
Phone: (505)988-4421
Date: 02/19/10

Ad taker: YV **Salesperson:** **Classification:** 899

Description	Start	Stop	Ins.	Cost/Day	Surcharges	Total
01 RIO GRANDE SUN	02/18/10	02/18/10	1	26.60		26.60
AFFIDAVIT						5.00

Payment Reference: 65003684

Total:	31.60
Tax:	2.49
Net:	34.09
Prepaid:	34.09
Total Due	0.00

Application of
Williams Production Company, LLC for
approval of a salt water disposal well, Rio Arriba County,
New Mexico.
Applicant, Williams Production Company, LLC, PO Box 3102, Tulsa, OK 74101, seeks approval to drill the Rosa SWD Well No. 2 to be located 2460 feet from the North line and 2095 feet from the West line (Unit F) of Section 25, Township 31 North, Range 5 West, NMPM, Rio Arriba County, New Mexico to dispose of produced water. Applicant proposes to inject into the Lower Morrison, Bluff, and Entrada formations at an approximate depth of 8,400 feet to 9,050 feet. The average and maximum injection rates will be 3,000 and 7,000 barrels of water per day and the maximum surface injection pressure is anticipated to be 1,840 psi. Additional information may be obtained by contacting Ken McQueen, Williams Production Company, LLC at (918) 573-2889. Said well is located 31 miles northeast of Blanco, New Mexico.
(Published February 18, 2010)

HOLLAND&HART LLP

Ocean Munds-Dry
omundsdry@hollandhart.com

June 7, 2010

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Bureau of Land Management
Farmington Field Office
1235 La Plata Highway Suite A
Farmington, New Mexico 87401

USDA Forest Service
Carson National Forest- Jicarilla Ranger District
664 E. Broadway
Bloomfield, New Mexico 87553

Re: Application of Williams Production Company, LLC for Administrative Approval of a Salt Water Disposal Well (Rosa SWD Well No. 2), Rio Arriba County, New Mexico.

Ladies and Gentlemen:

This letter is to advise you that Williams Production Company, LLC is filing the enclosed application with the New Mexico Oil Conservation Division seeking authorization to dispose of produced water into its Rosa SWD Well No. 2 which Williams proposes to drill at a location 2460 feet from the North line and 2095 feet from the West line (Unit F) of Section 25, Township 31 North, Range 5 West, NMPM, Rio Arriba County, New Mexico.

Williams proposes to drill the subject well into the Lower Morrison, Bluffs and Entrada formation at an approximate depth of 8,400 to 9,050. Williams proposes a maximum surface injection pressure of 1,840 pounds per square inch. The average daily injection rate will be 3,000 barrels of water and the maximum daily injection rate will be 7,000 barrels of water.

If you have any questions concerning this application, you may contact Ken McQueen at (918) 573-2889 or at Williams Production Company, LLC, P. O. Box 3102, MD 25-8, Tulsa, OK 74101, or at ken.mcqueen@williams.com.

HOLLAND&HART

Objections to this application or requests for hearing must be filed with the New Mexico Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, New Mexico, 87505 within fifteen (15) days of the date of this letter. If no objection is received within fifteen (15) days after the Division Director receives this application, the application will be approved.

Sincerely,

Ocean Munds-Dry

Ocean Munds-Dry
Attorney for Williams Production Company, LLC

Enclosures

Inactive Well List

Total Well Count: 743 Inactive Well Count: 2 Since: 3/31/2009

Printed On: Thursday, June 24 2010

District	API	Well	ULSTR	OCD Unit	OGRID	Operator	Lease Type	Well Type	Last Production	Formation/Notes	Status	TA Exp Date
3	30-039-29505	ROSA UNIT #015B	J-29-31N-05W	J	120782	WILLIAMS PRODUCTION COMPANY, LLC	F	G	10/2008	BLANCO MESAVERDE		
3	30-039-26272	ROSA UNIT #017A	O-20-31N-05W	O	120782	WILLIAMS PRODUCTION COMPANY, LLC	F	G	12/2008	INT TO P&A APPVD 3-12-10 / BLM	P	

WHERE Ogrid:120782, County:All, District:All, Township:All, Range:All, Section:All, Production(months):15, Excludes Wells Under ACOI, Excludes Wells in Approved TA Period

Jones, William V., EMNRD

Canc

From: Jones, William V., EMNRD
Sent: Monday, June 28, 2010 11:20 AM
To: 'Ocean Munds-Dry'
Cc: Hayden, Steven, EMNRD; Ezeanyim, Richard, EMNRD
Subject: Disposal application on behalf of Williams Production Company, LLC: Rosa Unit SWD #2 30-039-30812 Morrison/Bluff/Entrada

Hello Ms Munds-Dry:
After reviewing this application we have only the following questions or requests from your client:

a. Please send a wellbore diagram of the completed and equipped disposal well showing placement of tubing and packer – with packer set within 100 feet of the top of the disposal interval. Done

b. The permit will be conditional upon determination (with evidence shown) the insitu waters of the disposal interval are not below 10,000 mg/l TDS.

Regards,

William V Jones, P.E.
Engineering, Oil Conservation Division
1220 South St. Francis Drive, Santa Fe, NM 87505
Tel 505.476.3448 ~ Fax 505.476.3462

Jones, William V., EMNRD

From: McQueen, Ken [Ken.McQueenJr@Williams.com]
Sent: Thursday, August 19, 2010 9:16 AM
To: Jones, William V., EMNRD
Subject: RE: Williams' C-108 Application for the Rosa Unit SWD #2
Attachments: Ken McQueen.vcf

Will:
Yes, plan to run triple-combo.

Ken McQueen
Director, San Juan Region
Williams Exploration and Production
One Williams Center, MD 25-8
Tulsa, OK 74172
918.573.2889 Office
918.573.1963 Fax
918.232.3081 Cell
800.945.5426 Toll Free
ken.mcqueen@williams.com

From: Jones, William V., EMNRD [mailto:William.V.Jones@state.nm.us]
Sent: Thursday, August 19, 2010 9:26 AM
To: McQueen, Ken
Subject: RE: Williams' C-108 Application for the Rosa Unit SWD #2

Ken:
Do you intend to run a full log suite (porosity and resistivity logs)?

Will Jones
New Mexico
Oil Conservation Division
Images Contacts

From: McQueen, Ken [mailto:Ken.McQueenJr@Williams.com]
Sent: Wednesday, August 18, 2010 7:02 PM
To: Jones, William V., EMNRD
Subject: Williams' C-108 Application for the Rosa Unit SWD #2

Will,
When we last spoke, I indicated that were considering an alternative casing design to the one indicated on our initial C-108 submittal.

We have decided to adopt the alternative casing design, and have submitted a sundry to the BLM, which they have approved.

I am including a copy of the revised casing design, and a revised copy of the construction details, I have indicated in red the changes on the latter.

I have also added the tubing string on the casing design, and indicated that the packer will be set within 50' of the top perf on the construction detail.

If you have any other concerns, please let me know.

Thx.

Injection Permit Checklist (06/24/2010)

Case ______ R- ______ SWD 1236 ______ WFX ______ PMX ______ IPI ______ Permit Date ______ UIC Qtr A/S/O

Wells 1 Well Name: ROSA UNIT SWD #2

API Num: (30-) 039-30812 Spud Date: New New/Old: N (UIC primacy March 7, 1982)

Footages 2460 FNL/2095 FWL Unit F Sec 25 Tsp 31N Rge 5W County RIO ARRIBA

Operator: Williams Production Co. LLC Contact Ken McQueen/Ocean Munds-Dry

Operator Address: One Williams Center, MD25-8, Tulsa OK 74172

OGRID: 120782 RULE 5.9 Compliance (Wells) 2/743 (Finan Assur) OK IS 5.9 OK? OK

Well File Reviewed ✓ Current Status: NOT Drilled Yet

General Location: 31 MILES N/E of BLANCO

Diagrams: Before Conversion ____ After Conversion ✓ Elogs in Imaging File: N/A

Planned Work to Well: Drill & INJect

	Sizes Hole.......Pipe	Setting Depths	Cement Sx or Cf	Cement Top and Determination Method
Existing ✗ Surface	26 / 20"	500	1270	Surf calc
Existing ✗ Interm	17½ / 13⅜	3750	1605/200	Surf. calc
	12¼ / 9⅝	~~7731~~ ~~3550~~	~~1190/100~~	~~3550~~ "
New __ Existing __ LongSt	8¾ / 7"	9386	~~270~~ 595	~~6416~~ "

~~DV Tool~~ ____ Liner ✓ ____ ~~Open Hole~~ ____ Total Depth 9386 Deviated Hole? NO

New well

See SWD-758

Intervals:	Depths, Ft.	Formation	Producing?
Formation Above			
Formation Above			
Injection TOP:	8400	Morrison / Bluff	
Injection BOTTOM:	9050	Entrada	
Formation Below			
Formation Below			

Max. PSI 1680 Open Hole ? ✗ Perfs ? ✓ Tubing Size 3½ Packer Depth ~~7900~~

8400 × 2 = 16800

Send w/ Tubing

Set within 100

Sensitive Areas: ~~Capitan Reef~~ ~~Cliff House~~ ~~Salt Depths~~

....~~Potash Area (R-111-P)~~ ~~Potash Lessee~~ ~~Noticed?~~ ~~(WIPP?~~ ~~Noticed?~~)

Fresh Water: Depths: 2650-2780 Formation Ojo Alamo Wells? ✓ Analysis? ✓ Affirmative Statement ✓

Disposal Fluid Sources: FRC/PC/MVRD/MCOS/DKTA Analysis? ✓

Disposal Interval Production Potential/Testing: ✓ Analysis ______

Notice: Newspaper(Y/N) ✓ Surface Owner USFS Mineral Owner(s) ______

RULE 26.7(A) Affected Parties: None

Area of Review: Adequate Map (Y/N) ✓ and Well List (Y/N) ✓

Active Wells 0 Num Repairs — Producing in Injection Interval in AOR —

..P&A Wells 0 Num Repairs — All Wellbore Diagrams Included? —

Questions/Required Work: Send Typical water analysis of Entrada / Morrison / Bluff
" Calced " "
Swab overall sample / Send FLUID Level

Run Rain [illegible]

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Request Sent ______ Reply: ______