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FORM APPROVED
OMB No. 1004-0136
Expires January 31, 2004

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

NOV 30 2009

APPLICATION FOR PERMIT TO DRILL OR REENTER

Bureau of Land Management
Farmington Field Office

5. Lease Serial No. NMSF-078894
6. If Indian, Allottee or Tribe Name
7. If Unit or CA Agreement, Name and No. Rosa Unit
8. Lease Name and Well No. 397
9. API Well No. 3003930867
10. Field and Pool, or Exploratory Basin Fruitland Coal
11. Sec., T., R., M., or Blk. and Survey or Area A Section 27, 31N, 4W
12. County or Parish Rio Arriba
13. State NM
14. Distance in miles and direction from nearest town or post office* approximately 33 miles northeast of Blanco, New Mexico
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 30'
16. No. of Acres in lease 2,284.16
17. Spacing Unit dedicated to this well 320.0 - (E/2)
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 920' Rosa 105
19. Proposed Depth 4,257'
20. BLM/BIA Bond No. on file UT0899
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 7,093' GR
22. Approximate date work will start* December 1, 2009
23. Estimated duration 1 month

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone
2. Name of Operator Williams Production Company, LLC
3a. Address P.O. Box 640 Aztec, NM 87410
3b. Phone No. (include area code) (505) 634-4208
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 30' FNL & 1140' FEL At proposed prod. zone 1230' FNL & 1140' FEL
14. Distance in miles and direction from nearest town or post office* approximately 33 miles northeast of Blanco, New Mexico
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24. Attachments

RCVD OCT 18 '10

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

OIL CONS. DIV.

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).

4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be required by the authorized officer.

DIST. 3

25. Signature Heather Riley	Name (Printed/Typed) Heather Riley	Date 11/30/09
Title Regulatory Spec		
Approved by (Signature) [Signature]	Name (Printed/Typed) [Signature]	Date 10/12/2010
Title AFM	Office FFO	

Application approval 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.

Conditions of approval, if any, are attached.

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 reverse)

Williams Production Company, LLC, proposes to develop the Basin Fruitland Coal formations at the above described location in accordance with the attached drilling and surface use plans.

The surface is under Jurisdiction of the Carson National Forest, Jicarilla Ranger District.

This location has been archaeologically surveyed by La Plata Archaeological Consultants. Copies of their report have been submitted directly to the CNF.

A new access road of 515 feet will be required for this proposed well. The existing US Forest Road 310C will be upgraded for access to proposed well.

This APD is also serving as an application to obtain a pipeline right-of-way. An associated pipeline tie of 597.7 feet would be required for this well.

NOTIFY AZTEC OCD 24 HRS.
PRIOR TO CASING & CEMENT



H₂S POTENTIAL EXIST

Hold C104
for Directional Survey
and "As Drilled" plat

NMOCD

NOV 01 2010

A COMPLETE C-144 MUST BE SUBMITTED TO AND APPROVED BY THE NMOCD FOR: A PIT, CLOSED LOOP SYSTEM, BELOW GRADE TANK, OR PROPOSED ALTERNATIVE METHOD, PURSUANT TO NMOCD PART 19.15.17, PRIOR TO THE USE OR CONSTRUCTION OF THE ABOVE APPLICATIONS.

APD Certification:

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 30th day of November, 2009.

Name Heather Riley

Position Title Regulatory Spec

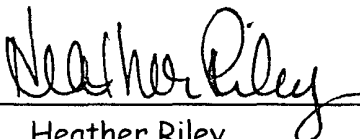
Address P.O. Box 640, Aztec, NM 87410

Telephone (505) 634-4222

Field representative (if not above signatory) _____

E-mail heather.riley@williams.com

Date: 11-30-09



Heather Riley
Regulatory Spec
Williams Production Company, LLC

District I
1625 N. French Dr., Hobbs, NM 88240

District II
1301 W. Grand Avenue, Artesia, NM 88210

District III
1000 Rio Brazos Rd., Aztec, NM 87410

District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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NOV 30 2009

Form C-102
Revised October 12, 2005
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039-308107		*Pool Code 71629	*Pool Name BASIN FRUITLAND COAL
*Property Code 17033	*Property Name ROSA UNIT		*Well Number 397
*GRID No. 120782	*Operator Name WILLIAMS PRODUCTION COMPANY		*Elevation 7093'

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	27	31N	4W		30	NORTH	1140	EAST	RIO ARriba

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	27	31N	4W		1230	NORTH	1140	EAST	RIO ARriba

12 Dedicated Acres 320.00 Acres - (E/2)	13 Joint or Infill	14 Consolidation Code	15 Order No.
--------------------------------------------	--------------------	-----------------------	--------------

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<p>15</p> <p>LOT 1</p> <p>LOT 2</p> <p>LOT 3</p> <p>LOT 4</p> <p>LOT 5</p> <p>LOT 6</p> <p>LOT 7</p> <p>LOT 8</p> <p>27</p> <p>H.E.S. #277</p> <p>5281.32'</p> <p>30'</p> <p>1140'</p> <p>1230'</p> <p>1140'</p> <p>5280.00'</p> <p>5280.00'</p> <p>5280.00'</p> <p>5280.00'</p> <p>SURFACE LOCATION LAT: 36.87779°N LONG: 107.23713°W DATUM: NAD1983</p> <p>BOTTOM-HOLE LAT: 36.87450°N LONG: 107.23713°W DATUM: NAD1983</p> <p>LEASE SF-078894</p>	<p>17 OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom-hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p><u>Heather Riley</u> 11/30/09 Signature Date <u>Heather Riley</u> Printed Name</p>
	<p>18 SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>Date of Survey: JUNE 13, 2009</p> <p>Signature and Seal of Professional Surveyor</p> <p> <u>JASON C. EDWARDS</u> Certificate Number 15269</p>



WILLIAMS PRODUCTION COMPANY

Operations Plan

(Note: This procedure will be adjusted on site based upon actual conditions)

DATE: 11/10/2009

WELLNAME: Rosa Unit #397 **FIELD:** Basin Fruitland Coal

BH LOCATION: NENE Sec 27-T31N-4W **SURFACE:** USFS

SURF LOCATION: NENE Sec 27-T31N-4W
Rio Arriba, NM **MINERALS:** BLM

ELEVATION: 7,093' GR **LEASE #** SF-078894

TOTAL DEPTH: 4,257'

I. **GEOLOGY:** Surface formation - San Jose

A. **FORMATION TOPS:** (KB)

NAME		TVD	MD		NAME		TVD	MD
San Jose		Surface	Surface		Top Coal		3,857	4,075
Nacimiento		2,072	2,159		Bottom Coal		3,927	4,150
Ojo Alamo		3,327	3,506		Pictured Cliffs		3,927	4,150
Kirtland		3,497	3,688		TD		4,027	4,258
Fruitland		3,687	3,892					

B. **LOGGING PROGRAM:** none

C. **NATURAL GAUGES:** Gauge any noticeable increases in gas flow. Record all gauges in Tour book and on morning reports.

D. **MUD LOGGING PRORAM:** Mud logger will be on location at drill out below 7" casing to TD. Mud Logger to pick TD

II. **DRILLING**

A. **MUD PROGRAM:** Clear water with benex to 7" casing point. Treat for lost circulation as necessary. Expect 100% returns prior to cementing. Notify Engineering of any mud losses. If coal is detected before 4,054', **DO NOT** drill deeper until Engineering is contacted.

B. **DRILLING FLUID:** Coal section will be drilled with Fruitland Coal water.

- C. **BOP TESTING:** While drill pipe is in use, the pipe rams and the blind rams will be function tested once each trip. The anticipated reservoir is expected to be less than 1300 psi, so the BOPE will be tested to **250 psi (Low) for 5 minutes** and **1500 psi (High) for 10 minutes**. Utilize a BOPE Testing Unit with a recording chart and appropriate test plug for testing. The drum brakes will be inspected and tested each tour. **All tests and inspections will be recorded in the tour book as to time and results.**

III. **MATERIALS**

A. **CASING PROGRAM:**

CASING TYPE	OH SIZE (IN)	DEPTH (MD) (FT)	CASING SIZE (IN)	WEIGHT(LB)	GRADE
Surface	12 1/4	300	9 5/8	36	K-55
Intermediate	8 3/4	4,054	7	23	K-55
Liner	6 1/4	3,904 4,258	5 1/2	15.5	J-55

B. **FLOAT EQUIPMENT:**

1. **SURFACE CASING:** 9-5/8" notched regular pattern guide shoe. Run (1) standard centralizer on each of the bottom (4) joints of Surface Casing.
2. **INTERMEDIATE CASING:** 7" cement nose guide shoe with a self-fill insert float. Place float collar one joint above the shoe. Install (1) Turbulent centralizer on each of the bottom (3) joints and one standard centralizer every (3) joints to 2,500 ft. Run (1) Turbulent centralizer at 2,700 ft., 2,500 ft., 2,300ft., 2,000ft., 1,500 ft., and 1,000 ft. (**NTL-FRA 90-1**).
3. **PRODUCTION LINER / CASING:** 5-1/2" whirler type cement nose guide shoe

C. **CEMENTING:**

(Note: Volumes may be adjusted onsite due to actual conditions)

1. **SURFACE:** Slurry: 125sx (225 cu.ft.) of "Type III" + 2% Cal-Seal 60 + ¼ # of poly-e-flake/sk + 0.3% Versaset + 2% Econolite + 6% Salt (Yield = 1.796 cu.ft./sk, Weight = 13.5 #/gal.). The 100% excess should circulate cement to the surface. WOC 12 hours. Test csg to 1500psi.
2. **INTERMEDIATE:** Lead - 400 sx (1089 .2cu.ft.) of "EXTENDACEM" + 5 #/sk pheno-seal + 5% Cal-Seal 60 (Yield = 2.723 cu.ft./sk, Weight = 11.5 #/gal.). Tail - 100 sx (117.8cu.ft.) of Premium cement + 0.125 #/sk Poly-E-Flake, (Yield = 1.178 cu.ft./sk, Weight = 15.6#/gal.). **PUMP AS WRITTEN SHOULD CIRCULATE TO SURFACE** Total volume = 1207 cu.ft. Bump Plug to 1,500 psi. Notify engineering if cement is not circulated to surface
1. **PRODUCTION LINER:** Open hole completion. No cement.

IV. COMPLETION

A. PRESSURE TEST

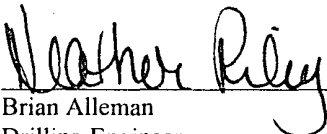
1. Pressure test 7" casing to 1500# for 30 minutes.

B. STIMULATION

1. Cavitate well with reciprocation and rotation. Surge wells with water and air and then flow back. Cavitate for 2 to 3 weeks. Maximum pressure not expected to exceed 2,000 psi.

C. RUNNING TUBING

1. Fruitland Coal: Run 2-7/8", 6.5#, J-55, EUE tubing with a SN on top of bottom joint. Land tubing approximately 50' above TD.

for 
Brian Alleman
Drilling Engineer



ROSA UNIT #397
RIO ARRIBA CO., NEW MEXICO

FORMATION TOP DETAILS

No.	TVDPath	MDPath	Formation
1	2072.00	2159.63	Nacimiento Fm.
2	3327.00	3506.22	Ojo Alamo Ss.
3	3497.00	3688.63	Kirtland Sh.
4	3687.00	3892.49	Fruitland Fm.

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	180.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	400.00	0.00	180.00	400.00	0.00	0.00	0.00	0.00	0.00	
3	1108.46	21.25	180.00	1092.32	-129.90	0.00	3.00	180.00	129.90	
4	4053.44	21.25	180.00	3837.00	-1197.45	0.00	0.00	0.00	1197.45	Int. Csg. Pt.

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
#397	0.00	0.00	2140301.29	1351709.34	36°52'40.040N	107°14'13.670W	N/A

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Int. Csg. Pt.	3837.00	-1197.45	0.00	2139103.90	1351696.96	36°52'28.200N	107°14'13.670W	Point

FIELD DETAILS

RIO ARRIBA CO. NM (NAD 83)

Geodetic System: US State Plane Coordinate System 1983
Ellipsoid: GRS 1980
Zone: New Mexico, Central Zone
Magnetic Model: igrf200510
System Datum: Mean Sea Level
Local North: True North

SITE DETAILS

Rosa Unit #397
30' FNL 1140' FEL of SEC 27 T31N R4W
Site Centre Latitude: 36°52'40.040N
Longitude: 107°14'13.670W
Ground Level: 7093.00
Positional Uncertainty: 0.00
Convergence: -0.59

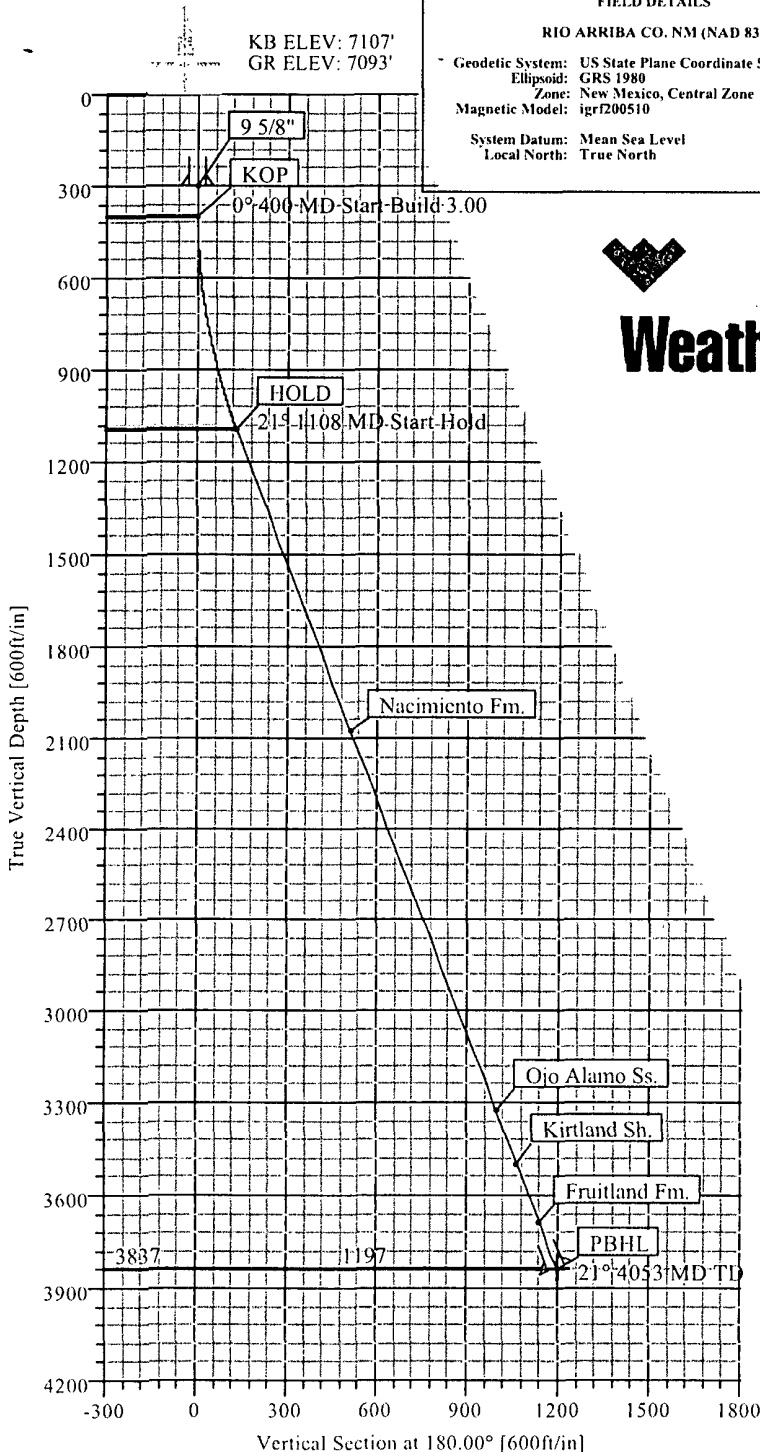


Weatherford

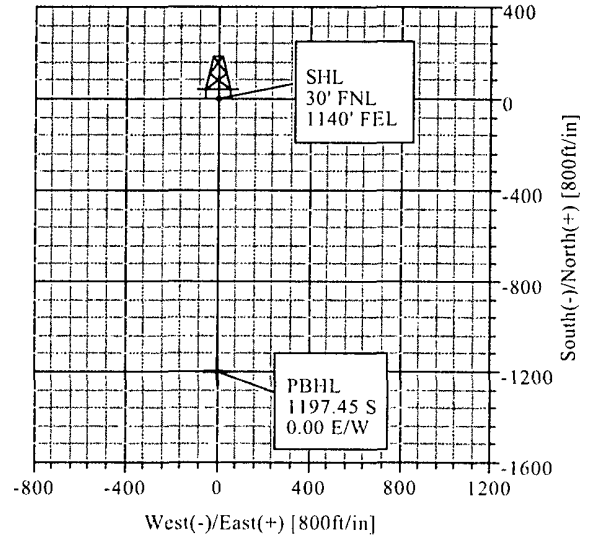


Azimuths to True North
Magnetic North: 9.91°
Magnetic Field
Strength: 51152nT
Dip Angle: 63.74°
Date: 7/20/2009
Model: igrf200510

Total Correction to True North: 9.91°



VERTICAL SECTION AZ 180° Az



CASING DETAILS

No.	TVD	MD	Name	Size
1	300.00	300.00	9 5/8"	9.625
2	3837.00	4053.44	7" Int. Csg. Pt.	0.000

Plan: Plan #1 (#397/1)

Created By: Lindsey Maddux

Date: 7/20/2009

Well Control Equipment Schematic for 2M Service

Attachment to Drilling Technical Program

Exhibit #1 Typical BOP setup

Location: San Juan Basin, New Mexico

Date: August 20, 2001

By: John Thompson (Walsh E&P)

