

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

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

5. Lease Serial No.

NMSF-078891

6. If Indian, Allottee or Tribe Name

7. If Unit or CA Agreement, Name and No.

Rosa Unit

8. Lease Name and Well No.

283A

9. API Well No.

30-039-29893

10. Field and Pool, or Exploratory

Basin Fruitland Coal

11. Sec., T., R., M., or Blk. and Survey or Area

K Section 2, 31N, 4W

12. County or Parish

Rio Arriba

13. State

NM

1a. Type of Work: ☒ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☒ Single Zone ☐ 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 2385' FSL & 2555' FWL

At proposed prod. zone 990' FSL & 10' FEL

14. Distance in miles and direction from nearest town or post office*

approximately 44 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) 660'

16. No. of Acres in lease

1,965.72

17. Spacing Unit dedicated to this well

327.03 (E/2) 326.9

18. Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft.

1,000'

19. Proposed Depth

6,922'

20. BLM/BIA Bond No. on file

UT0847

21. Elevations (Show whether DF, KDB, RT, GL, etc.)

7,163' GR

22. Approximate date work will start*

June 1, 2006

23. Estimated duration

1 month

24. Attachments

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

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.

25. Signature

Title

Drilling COM

Approved by (Signature)

Title

Name (Printed/Typed)

Larry Higgins

Date

5-3-06

Name (Printed/Typed)

Office

PFO

Date

7/17/06

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 Exploration and Production Company, LLC, proposes to drill a well to develop the Basin Fruitland Coal formation at the above described location in accordance with the attached drilling and surface use plans.

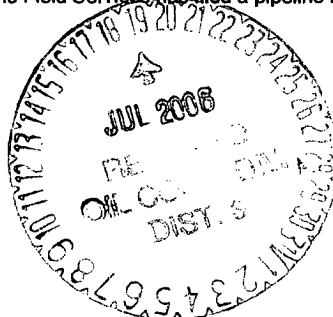
The surface is under jurisdiction of the Carson National Forest, Jicarilla Ranger District.

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

A 150-foot on-lease access road and a 203.4-foot pipeline tie would be required for this location. Williams Field Services has filed a pipeline route plan for the associated pipeline. The pipeline would be owned and operated by Williams Production Company.

HOLD C104 FOR

directional
survey



NMOCOD

Form C-102
Revised February 21, 1994
Instructions on back
appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

Submit 3 Copies To Appropriate District
Office
District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Ave., 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 and Natural Resources

Form C-103
May 27, 2004

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

WELL API NO. 30-039-29893	
5. Indicate Type of Lease FEDERAL <input checked="" type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>	
6. State Oil & Gas Lease No. SF-078891	
7. Lease Name or Unit Agreement Name Rosa Unit	
8. Well Number	283A
9. OGRID Number	120782
Basin Fruitland Coal	

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well ☐ Gas Well ☒ Other

2. Name of Operator
Williams Production Company, LLC

3. Address of Operator
P.O. Box 640 Aztec, NM 87410

4. Well Location
Unit Letter K: 2385 feet from the south line and 2555 feet from the west line: Surface Location
Section 2 Township 31N Range 4W NMPM County Rio Arriba

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
7,163' GR

Pit or Below-grade Tank Application ☒ or Closure ☐

Pit type reserve Depth to Groundwater >100' Distance from nearest fresh water well >1,000' Distance from nearest surface water >1,000'

Pit Liner Thickness: 12 mil Below-Grade Tank: Volume bbls; Construction Material

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☒
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐

OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐

OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Drilling/Completion pit to be located approximately 50 to 75 feet from well head. Pit multi-use drilling and completion to avoid additional site disturbance and pit will be considered out of service once production tubing set. Pit to be constructed, operated and closed in accordance with NMOCD guidelines and Williams procedures.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Larry Higgins TITLE Drilling COM DATE 5-3-06

Type or print name Larry Higgins E-mail address: larry.higgins@williams.com Telephone No. (505) 634-4208

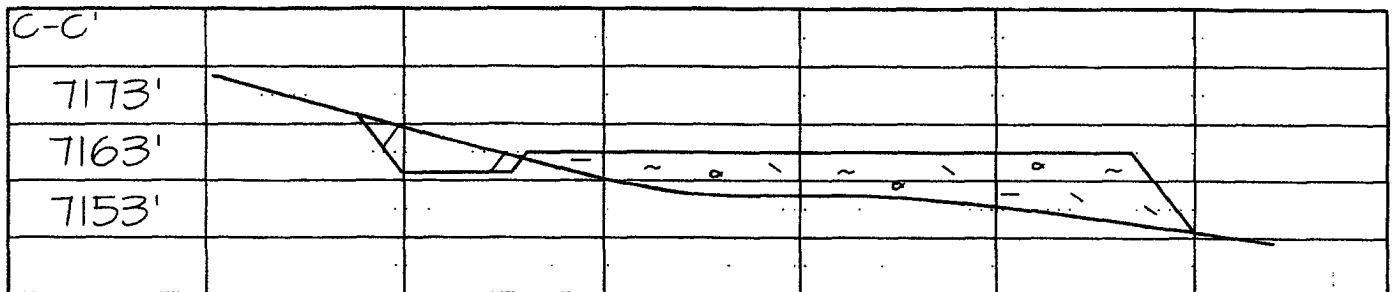
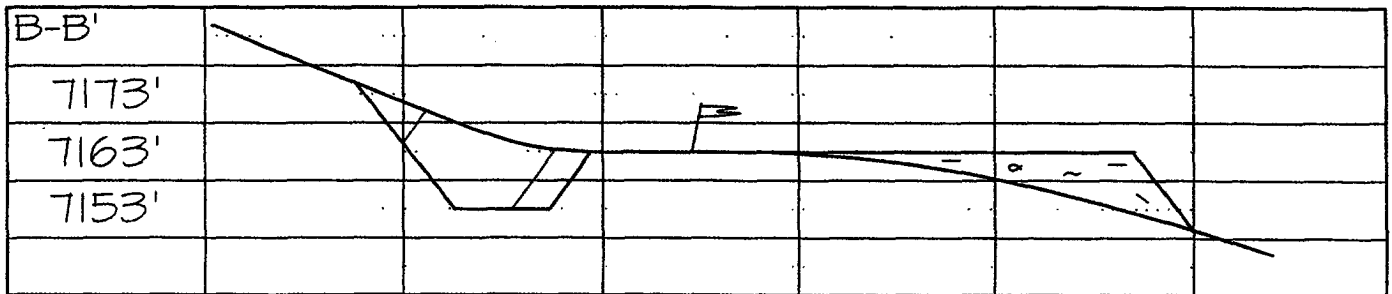
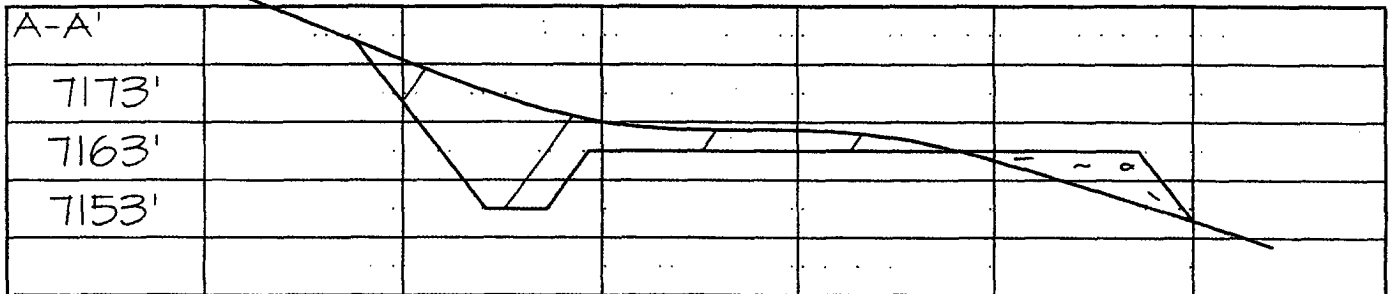
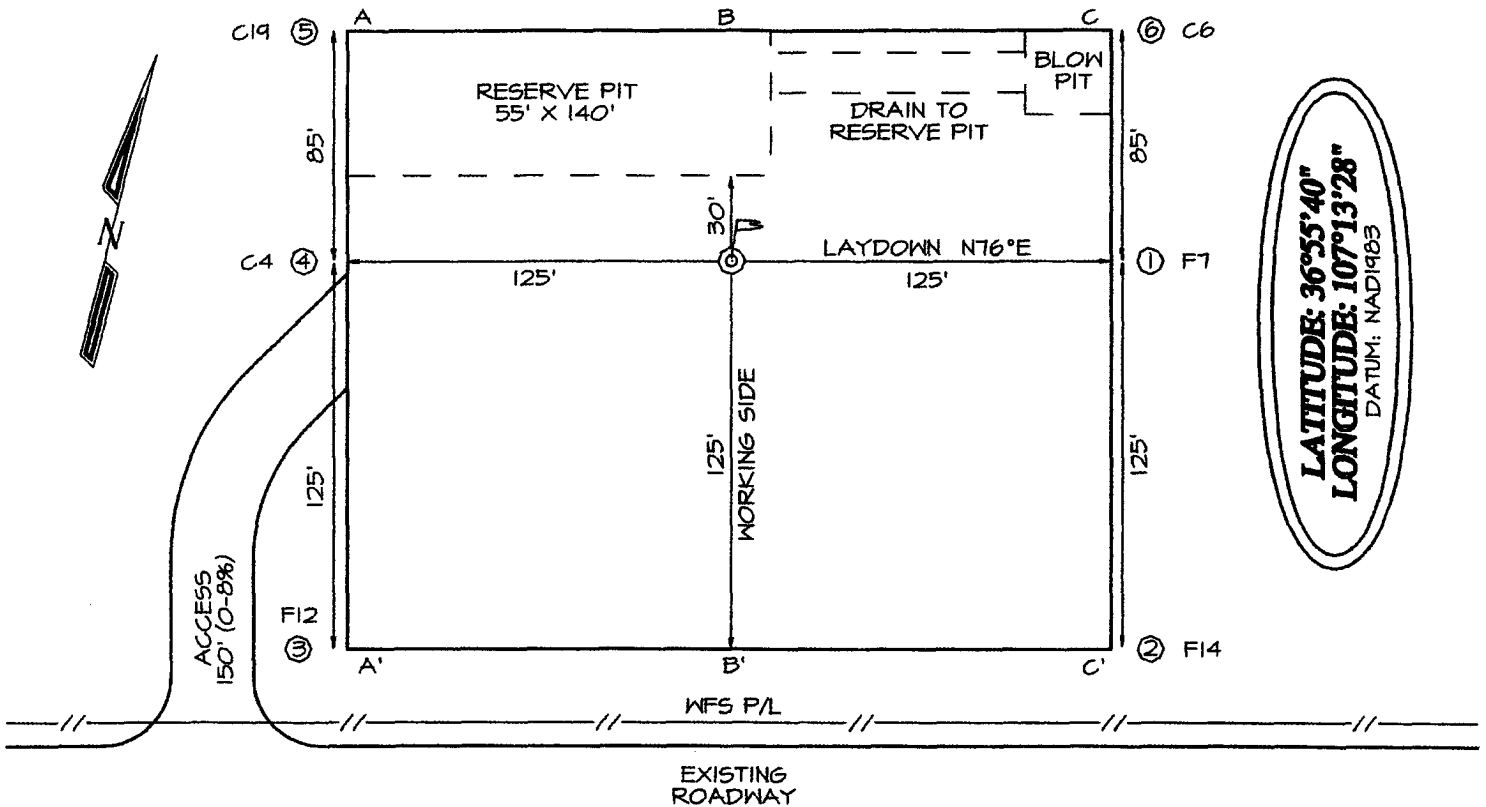
For State Use Only

APPROVED BY: [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. IV DATE JUL 19 2006

Conditions of Approval (if any):

PLAT #1

WILLIAMS PRODUCTION COMPANY ROSA UNIT #283A
2385' FSL & 2555' FWL, SECTION 2, T31N, R4W, NMPM
RIO ARriba COUNTY, NEW MEXICO GROUND ELEVATION: 7163'





WILLIAMS PRODUCTION COMPANY

Operations Plan

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

DATE: 5/2/2006

WELLNAME: Rosa #283A **FIELD:** Basin Fruitland Coal

SURF LOCATION: NESW Sec. 2-31N-4W **SURFACE:** Forest
Rio Arriba, NM

BH LOCATION SESE Sec 2-31N-4W

ELEVATION: 7,163' GR **MINERALS:** Federal

TOTAL DEPTH: 6,922' **LEASE #** SF-078891

I. GEOLOGY: Surface formation - San Jose

A. FORMATION TOPS: (KB)

		TVD	MD			TVD	MD
San Jose		Surface	Surface		Top Coal	4,072	4,278
Nacimiento		2,432	2,432		Top Target Coal	4,082	4,476
Ojo Alamo		3,517	3,517		Bottom Target Coal	4,097	
Kirtland		3,632	3,632		Base Coal	4,102	
Fruitland		3,842	3,853		Picture Cliffs	4,107	
					TD	4,100	6,922
					TD - Pilot hole	4202	

- **NOTE:** Well will be vertically drilled to 100' into Picture Cliff, logged through the PC, plug back the PC and 8-3/4" hole to 200 ft. above adjusted KOP. Dress / Kick-off cement plug and horizontally drill through the coal.

- B. LOGGING PROGRAM:** High Resolution Induction/ GR from surface casing to TD of pilot hole. Geologist will pick Density/ Neutron log intervals.
- C. NATURAL GAUGES:** Gauge any noticeable increases in gas flow. Record all gauges in Tour book and on morning reports.

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.
- B. **Drilling Fluid:** Horizontal section will be drilled with Calcium Chloride water.
- C. **MUD LOGGING PRORAM:** Mud logger will be on location from 500' above Ojo Alamo to TD of intermediate casing. Then from drillout of intermediate casing to TD.
- D. **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:**

<u>CASING TYPE</u>	<u>HOLE SIZE</u>	<u>DEPTH(MD)</u>	<u>CASING SIZE</u>	<u>WT. & GRADE</u>
Surface	12-1/4"	+/- 300'	9-5/8"	36# K-55
Intermediate	8-3/4"	+/- 4,333'	7"	20# K-55
Prod. Liner	6-1/4"	+/- 4,233'-6,922'	4-1/2"perfed	10.5# K-55

*Note: All casing depths are measured depths.

B. FLOAT EQUIPMENT:

- SURFACE CASING:** 9-5/8" notched regular pattern guide shoe. Run (1) standard centralizer on each of the bottom (4) joints of Surface Casing.
- 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).
- PRODUCTION LINER:** 4-1/2" perforated liner with guide shoe on bottom.

C. CEMENTING:

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

- SURFACE:** Use 170 sx (237 cu.ft.) of "Type III" with 2% CaCl₂ and 1/4# of cello-flake/sk (Yield = 1.41 cu.ft./sk, Weight = 14.5 #/gal.). Use **100% excess** to circulate the surface. WOC 12 hours. Total volume = ~~206~~ ²³⁷ cu.ft. Test to 1500#.
- INTERMEDIATE:** Lead - 540 sx (1,126 cu.ft.) of Premium Light with 8% gel, 1% CaCl₂ and 1/4# cello-flake/sk (Yield = 2.09 cu.ft./sk, Weight = 12.1 #/gal.). Tail - 100 sx (139cu.ft.) of "Type III" with 1/4# cello-flake/sk, and 1% CaCl₂ (Yield = 1.4 cu.ft./sk, Weight = 14.5#/gal.). Use **120% excess in Lead Slurry** to circulate to surface. **No excess in Tail Slurry.** Total volume = ~~1,190~~ ¹²⁰⁸ cu.ft. Bump Plug to 1,500 psi. Notify engineering if cement is not circulated to surface.
- PRODUCTION LINER:** Open hole completion. No cement.

IV COMPLETION

A. PRESSURE TEST


1. Pressure test 7" casing to 3300# for 15 minutes.

B. STIMULATION

1. None

C. RUNNING TUBING

1. Fruitland Coal: Run 2-3/8", 4.7#, J-55, EUE tubing with a SN (1.375" ID) on top of bottom joint. Land tubing at approximately 3,730'.

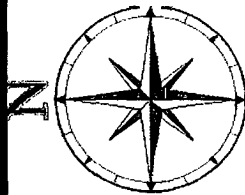
for 

Gary Sizemore
Sr. Drilling Engineer

Williams Production

HALLIBURTON

Sperry Drilling Services



Project: Rio Arriba Co. NM NAD 83

Site: Sec 02-T31N-R04W

Well: Rosa Unit #283A

Wellbore: Wellbore #1

Plan: Plan 032206 (Rosa Unit #283A/Wellbore #1)

WELL DETAILS: Rosa Unit #283A

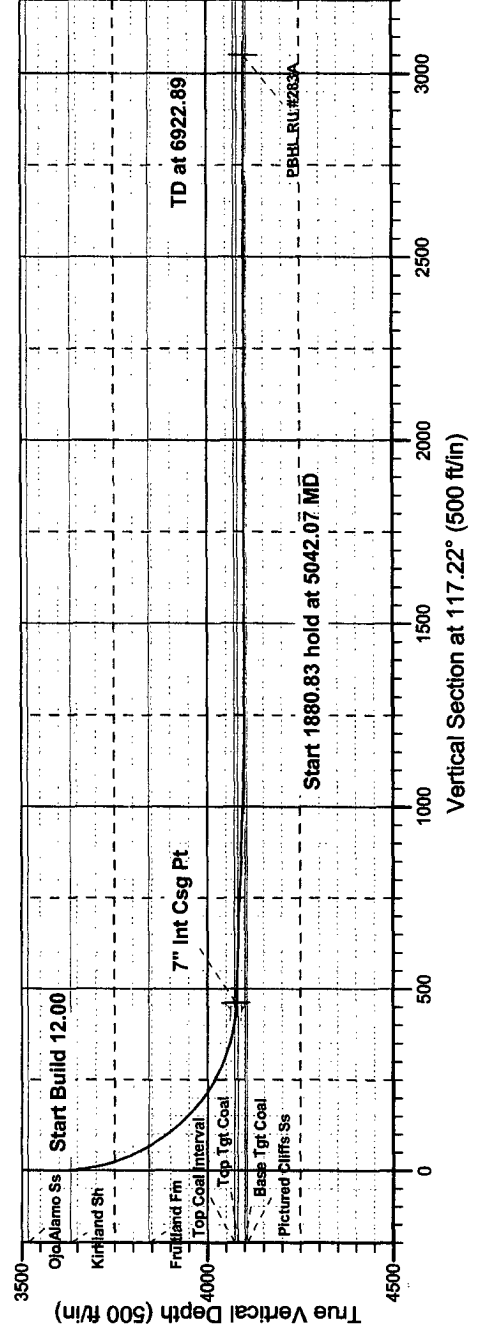
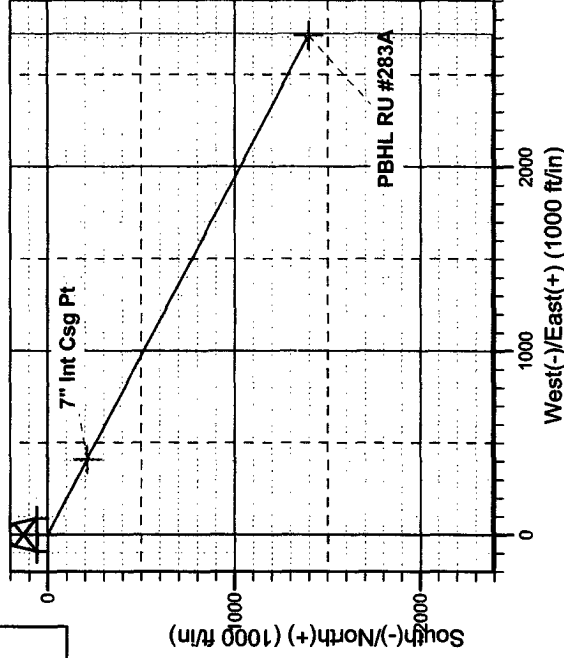
Ground Level: 7163.00
 Northing: 2157648.04
 Easting: 2901035.866° 55' 40.404 N 07° 13' 28.308 W
 Longitude: 107° 13' 28.308 W

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

Name	TVD	+N-S	+E-W	Northing	Easting	Shape
7" Int Csg Pt	4077.00	-210.67	409.63	2157439.98	2901446.83	Point
PBHL RU #283A	4100.00	-1395.00	2712.36	2156270.38	2903757.07	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N-S	+E-W	DLeg	TFace	VSec
Start Build/Turn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
End Build/Turn	3600.00	0.00	0.00	3600.00	0.00	0.00	0.00	0.00	0.00
Start Drop	4333.07	88.00	117.22	4077.00	-210.70	409.62	12.00	117.22	460.63
End Drop	4942.07	88.00	117.22	4098.25	-489.09	950.85	0.00	0.00	1069.26
Start Drop	5042.07	90.00	117.22	4100.00	-534.82	1039.76	2.00	0.00	169.24
End Drop	5042.07	90.00	117.22	4100.00	-534.82	1039.76	0.00	0.00	169.24
TD	6922.89	90.00	117.22	4100.00	-1395.00	2712.36	0.00	0.00	00050.07



GENERAL ROSA DRILLING PLAN

Rosa Unit boundaries:

T31N, R4W: all except sections 32-36

T31N, R5W: all except sections 1 & 2

T31N, R6W: all except sections 6,7,18,20, & 27-36

T32N, R6W: sections 32-36

FORMATION	LITHOLOGY	WATER	GAS	OIL/COND	OVER-PRES	LOST CIRC
Nacimiento	Interbedded shales, siltstones and sandstones	Possible	Possible	No	No	No
Ojo Alamo	Sandstone and conglomerates with lenses of shale	Fresh	No	No	No	No
Kirtland	Shale w/interbedded sandstones	No	Possible	No	No	No
Fruitland	Inter, SS, SiltSt, SH & Coals w/carb, SS, SiltSt, SH	Yes	Yes	No	Possible	Possible
Pictured Cliffs	Massive Sandstone w/thin interbedded shales	Possible	Yes	Possible	No	Possible
Lewis	Shale w/thin interbedded sandstones and siltstones	No	Possible	No	No	No
Cliff House	Transgressive sandstones	Possible	Yes	No	No	No
Menefee	Sandstones, carb shales and coal	Possible	Yes	No	No	No
Point Lookout	Regressive coastal barrier sandstone	Possible	Yes	Possible	No	Yes
Mancos	Marine shale and interbedded sandstone	No	Possible	Possible	No	Possible
Upr Dakota	Marine sand and shales	No	Yes	Possible	No	Possible
Lwr Dakota	Fluvial sands, shales, & coal	Possible	Yes	Possible	No	Possible

DRILLING

Potential Hazards:

1. There are no overpressured zones expected in this well.
2. No H₂S zones will be penetrated while drilling this well.

Mud System:

1. Surface - The surface hole will be drilled with a low-solids, non-dispersed system with starch and lost circulation material as needed. Expected mud weights will be in the 8.4 to 9.0 lb per gal range. Viscosities will be in the 30 to 60 sec/qrt range as needed to remove drill cuttings.
2. Intermediate - The intermediate hole will be drilled with clear water and Benex to TD where the well will be mudded up to log and run casing. The mud system will be low-solids, non-dispersed with mud weights in the 9 to 10 lb per gal range as needed to control the well. Viscosities will be in the 45 to 55 range as needed to support any weight material. The weight material will consist of Barite.
3. Production - The well will be drilled using air from the intermediate casing point to TD. For Fruitland Coal wells, the coal section will be drilled with air/mist.

Williams Production Company, LLC

Well Control Equipment Schematic for 2M Service

Attachment to Drilling Technical Program

Typical BOP setup

Location: San Juan Basin, New Mexico

Date: August 20, 2001

By: John Thompson (Walsh E&P)

BOP Stack

Rotating Head (optional)

Fill Line

Mud Flow to Pit

Double Ram Preventer

Drilling Spool

Kill line (2" Min)

Choke line to Manifold (2" Min)

Ground Level

Casing Head

Bull Plug

Ball Valve 2000 psi WP

Surface Casing

Production Casing

Choke & Kill Manifold

Positive Choke

Bypass to
Steel Pit
(Optional)

2" Minimum Size

Pressure Gauge

Straight-thru
to Tank or Pit

From BOP
Stack

2" Minimum Size

2" Minimum Size

Working Pressure for all equipment
is 2,000 psi or greater

2" Minimum Size

To Tank or Pit

Adjustable
Choke

