

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMSF-0078894
16. If Indian, Allottee or Tribe Name

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 Lot P: 335' FSL & 310' FEL

At proposed prod. zone Lot J: 2500' FSL & 2500' FEL Lot 4 "J"

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

approximately 34 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)

310'

16. No. of Acres in lease

2,284.16

17. Spacing Unit dedicated to this well

320.0 acres E/2

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

1000'

19. Proposed Depth

6,665

20. BLM/BIA Bond No. on file

UT0847 UT0899

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

7,003 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

Name (Printed/Typed)

Date

Title

Larry Higgins

01-31-06

Drilling COM

Approved by (Signature)

Name (Printed/Typed)

Date

Title

Office

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.

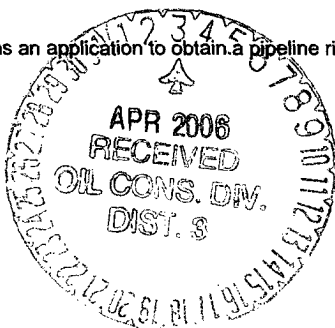
*(Instructions on reverse)

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

The well pad surface is under jurisdiction of the USDA Forest Service, 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 Carson National Forest.

This APD is also serving as an application to obtain a pipeline right-of-way. An associated pipeline tie of 817.80 feet would be required for this location.



HOLD C104 FOR Directional Survey and NSL

NMOCD

District II
PO Drawer DD, Artesia, NM 88211-0719

OIL CONSERVATION DIVISION

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

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

PO Box 2088
Santa Fe, NM 87504-2088

District IV
PO Box 2088, Santa Fe, NM 87504-2088

☐ AMENDED REPORT

RECEIVED

050 000110701 000

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039-29784		*Pool Code 71629 ✓	*Pool Name BASIN FRUITLAND COAL
*Property Code 17033 ✓	*Property Name ROSA UNIT ✓		*Well Number 309A
*OGRID No. 120782 ✓	*Operator Name WILLIAMS PRODUCTION COMPANY ✓		*Elevation 7003'

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
P	26	31N	4W		335	SOUTH	310	EAST	RIO ARRIBA

¹¹Bottom 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
J	26	31N	4W	(4)	2500	SOUTH	2500	EAST	RIO ARRIBA

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

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

16

5283.96'

LEASE SF-078894

LOT 1

LOT 2

LOT 3

LOT 4

LOT 5

LOT 6

LOT 7

LOT 8

LOT 9

26

LEASE SF-078894

H.E.S. #282

END-OF-LATERAL 2500' FSL, 2500' FEL

500.0' N45°42.4'W

POINT-OF-ENTRY 685' FSL, 665' FEL

SURFACE LOCATION 335' FSL, 310' FEL

5280.00'

5280.00'

5283.30'

17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief

Larry Higgins

Signature

LARRY HIGGINS

Printed Name

DRILLING CO. INC.

Title

1-31-06

Date

18 SURVEYOR CERTIFICATION

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.

Date of Survey: JUNE 1, 2005

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS

Certificate Number 15269

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. 30-039-29784
5. Indicate Type of Lease FEDERAL X STATE <input type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No. NMSF-0078894
7. Lease Name or Unit Agreement Name Rosa
8. Well Number 309A
9. OGRID Number 120782
10. Pool name or Wildcat 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 <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other	
2. Name of Operator Williams Production Company, LLC	
3. Address of Operator POB 640, Aztec, NM	
4. Well Location Unit Letter P : 335 feet from the S line and 310 feet from the E line Section 26 Township 31N Range 04W NMPM County Rio Arriba	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 7,003' GR	
Pit or Below-grade Tank Application <input checked="" type="checkbox"/> or Closure <input type="checkbox"/>	
Pit type Drilg/Completion Depth to Groundwater >100 ft Distance from nearest fresh water well >1000 ft Distance from nearest surface water >500 ft	
Pit Liner Thickness: 12 mil Below-Grade Tank: Volume bbbs 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 ☐.

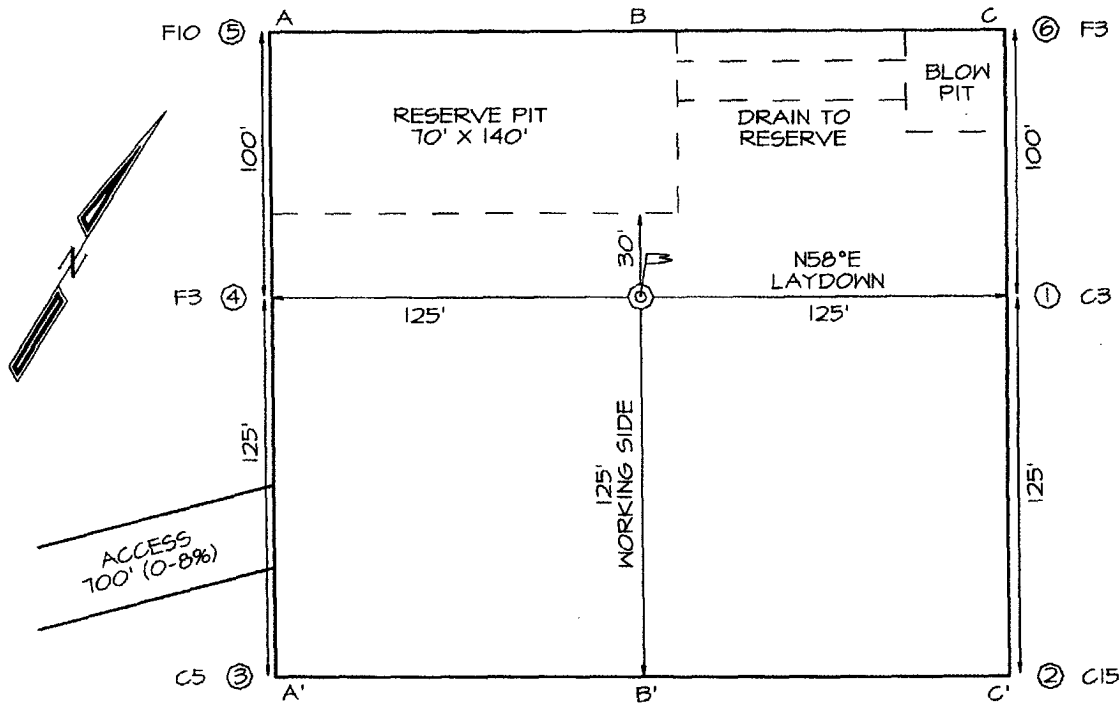
SIGNATURE Michael K. Lane TITLE EH&S Specialist DATE 01/31/06
Type or print name **Michael K. Lane** E-mail address: **myke.lane@williams.com** Telephone No. **505-634-4219**

For State Use Only

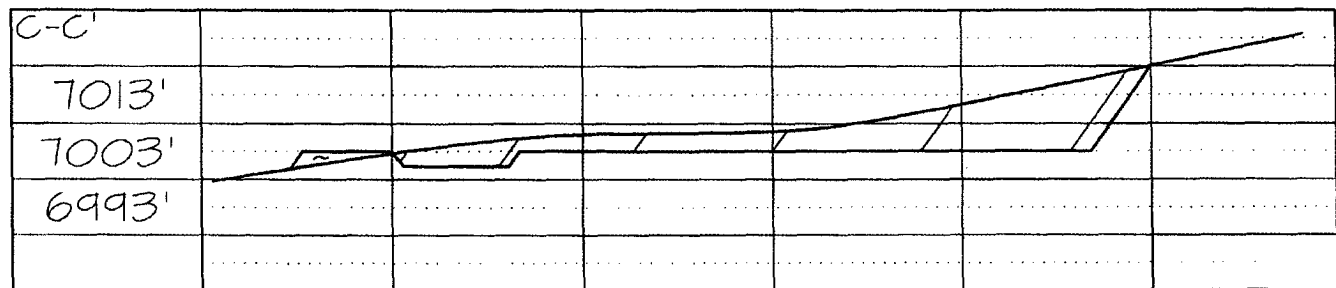
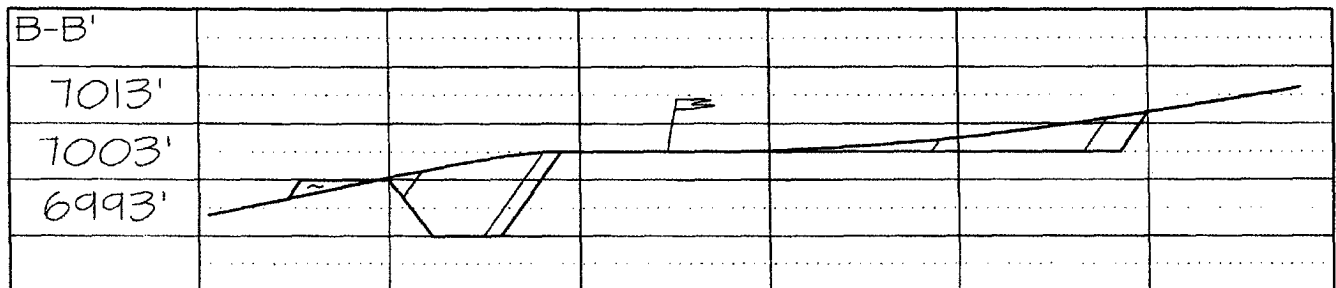
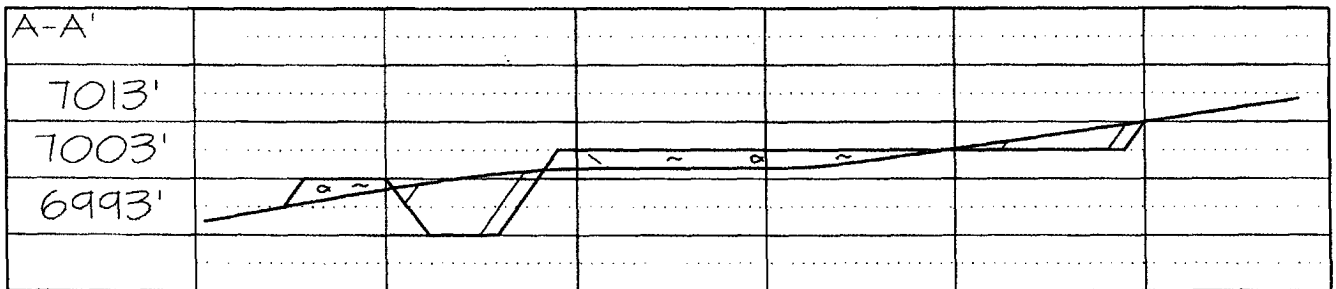
APPROVED BY: [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. 02 DATE APR 03 2006
Conditions of Approval (if any):

WILLIAMS PRODUCTION COMPANY ROSA UNIT #309A
335' FSL & 310' FEL, SECTION 26, T31N, R4W, NMPM
RIO ARriba COUNTY, NEW MEXICO ELEVATION: 7003'

PLAT #1 LOCATION LAYOUT



LATITUDE: 36°51'52"
LONGITUDE: 107°12'56"
 DATUM: NAD1927





WILLIAMS PRODUCTION COMPANY

Operations Plan

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

DATE: 1/31/2006

WELLNAME: Rosa #309A **FIELD:** Basin Fruitland Coal

SURF LOCATION: SESE Sec. 26-T31N-R4W **SURFACE:** Forest
Rio Arriba, NM

BH LOCATION NWSE Sec 26-31N-4W

ELEVATION: 7,003' GR **MINERALS:** Federal

TOTAL DEPTH: 6,665' **LEASE #** SF-078894

I. GEOLOGY: Surface formation - San Jose

A. FORMATION TOPS: (KB)

		TVD	MD			TVD	MD
San Jose		Surface	Surface	Top Coal		3,757	3,873
Nacimiento		2,002	2,002	Top Target Coal		3,787	
Ojo Alamo		3,287	3,287	Bottom Target Coal		3,797	
Kirtland		3,417	3,417	Base Coal		3,802	
Fruitland		3,547	3,554	Picture Cliffs		3,807	
				TD		3,793	6,665
				TD - Pilot Hole		3902	

- **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"	+/- 3,962'	7"	20# K-55
Prod. Liner	6-1/4"	+/- 3,300-6,665'	4-1/2" perfed	10.5# K-55

*Note: All casing depths are measured depths.

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:** 4-1/2" perforated liner with guide shoe on bottom.

C. CEMENTING:

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

1. SURFACE: Use 170 sx (237 cu.ft.) of "Type III" with 2% CaCl_2 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~~ ²⁴⁰ cu.ft. Test to 1500#.
2. INTERMEDIATE: Lead - 480 sx (1004 cu.ft.) of Premium Light with 8% gel, 1% CaCl_2 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% CaCl_2 (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 = 1,143 cu.ft. Bump Plug to 1,500 psi. Notify engineering if cement is not circulated to surface.
3. PRODUCTION LINER: Open hole completion. No cement.

IV COMPLETION

A. PRESSURE TEST

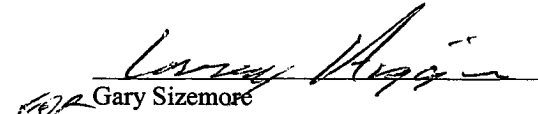
Pressure test 7" casing to 3300# for 15 minutes.

B. STIMULATION

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'.


Gary Sizemore
Sr. Drilling Engineer

WILLIAMS PRODUCTION Company, LLC
Well Control Equipment Schematic for 2M Service

Attachment to Drilling Technical Program

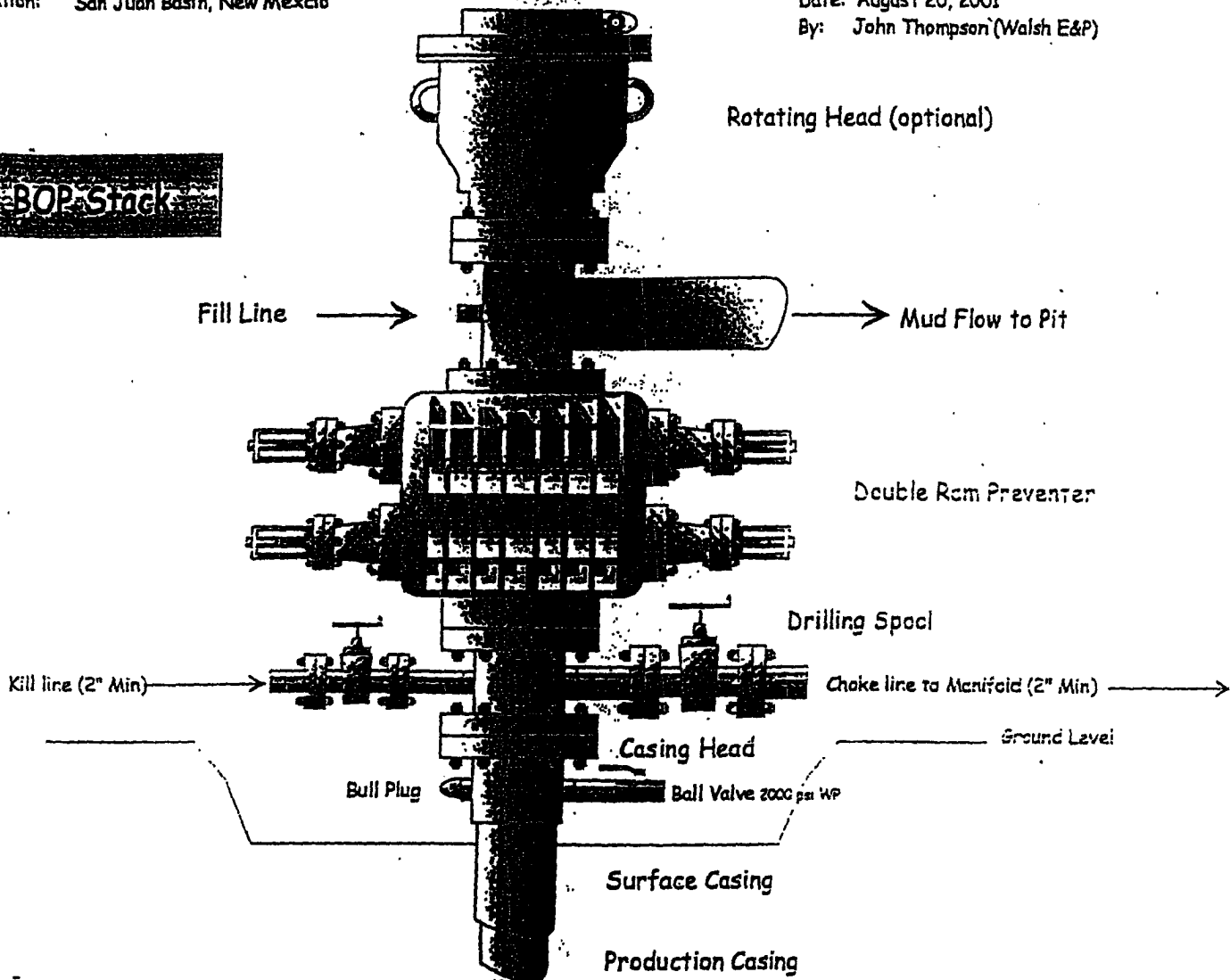
Typical BOP setup

Location: San Juan Basin, New Mexico

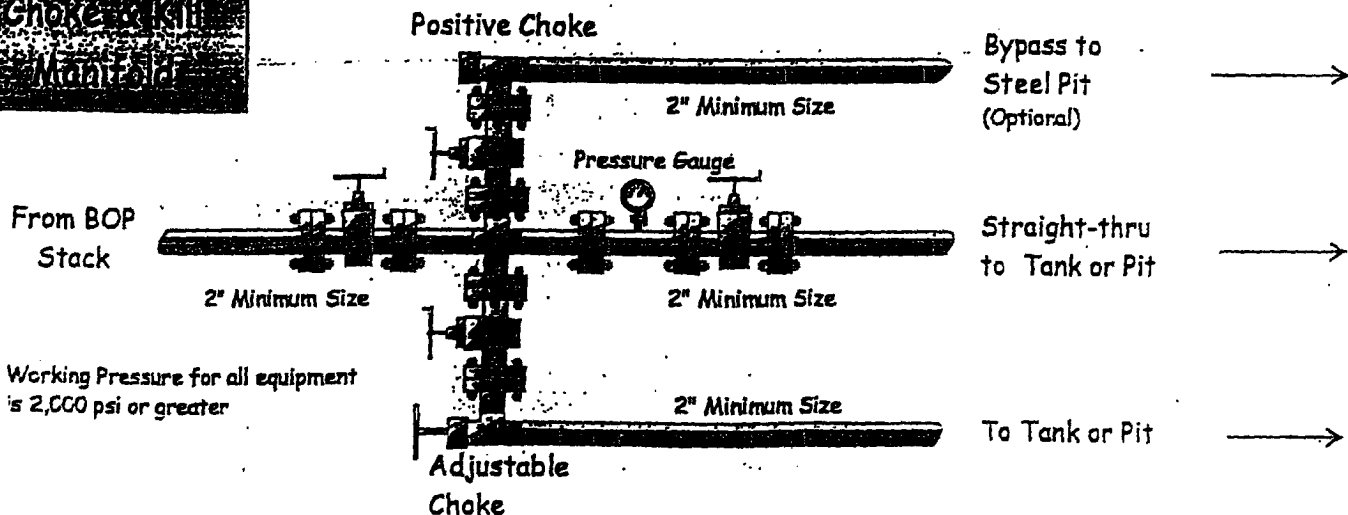
Date: August 20, 2001

By: John Thompson (Walsh E&P)

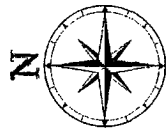
BOP Stack



Choke & Kill
Manifold



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



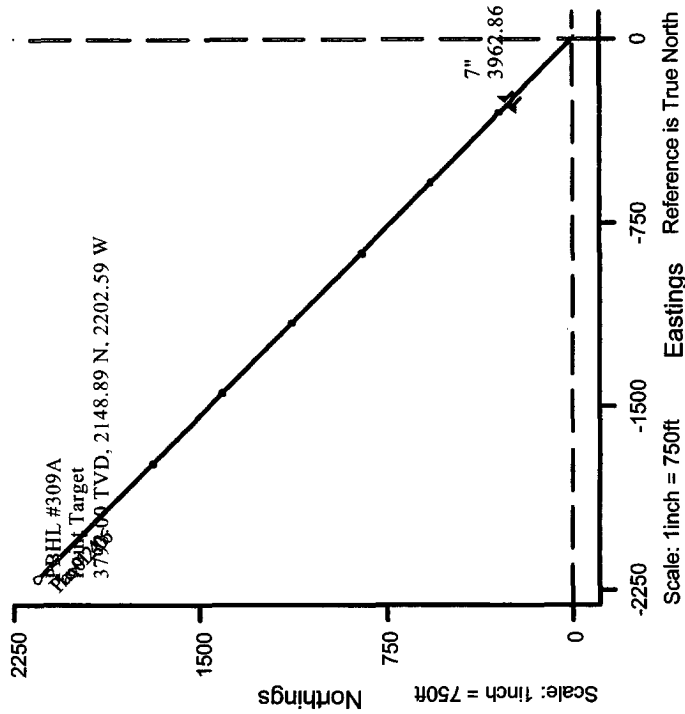
New Mexico
Rio Arriba County
Sec. 26-T31N-R04W
Rosa Unit #309A
Plan 012406

Rosa Unit #309A Surface Location

RKB Elevation:	7015.00ft above Mean Sea Level
Ref. Global Coordinates:	2134504.36 N, 680721.24 E
Ref. Geographical Coordinates:	36° 51' 52.0000" N, 107° 12' 56.0000" W

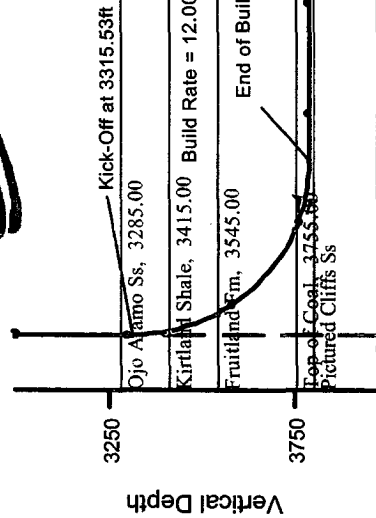
Plan 012406 Bottom Hole Location

Ref. RKB(7003' +12' KB):	3793.00ft
Ref. Ground Level:	3764.00ft
Ref. Mean Sea Level:	-3222.00ft
Ref. Wellhead:	2148.89 N, 2202.59 W (True North)
Ref. Global Coordinates:	2136638.96 N, 678504.79 E
Ref. Geographical Coordinates:	36° 52' 13.2481" N, 107° 13' 23.1069" W



Plan 012406 Proposal Data

Measured Depth	Incl.	Azlm.	Vertical Depth	Northings	Eastings	Vertical Section	Dogleg Rate
Kick-Off Point	0.00	0.000	0.00	0.00 N	0.00 E	0.00	0.00
Hold Angle	0.000	0.000	3315.53	0.00 N	0.00 E	0.00	0.00
Total Depth	90.000	314.293	3793.00	333.43 N	341.76 W	477.46	12.00
	90.000	314.293	3793.00	2148.89 N	2202.59 W	3077.20	0.00



Total Depth at 6665.27ft
Point Target
Plan 012406 BHL #309A
3793.00 TVD, 2148.89 N, 2202.59 W

Section Azimuth: 314.293° (True North)

Prepared by: Dennis Cook
Date/Time: 24 January, 2006 - 13:27
Checked:
Approved:

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 Dadota	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.