

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-078892

6. 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 J: 2590' FSL & 2570' FEL

At proposed prod. zone

Lot M: 660' FSL & 660' FWL

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)

10'

16. No. of Acres in lease

1920.00

17. Spacing Unit dedicated to this well

5 320.0 acres W/2

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

50'

19. Proposed Depth

6356

20. BLM/BIA Bond No. on file

UT0847 420899

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

6880 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

070

5/8/06

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 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.

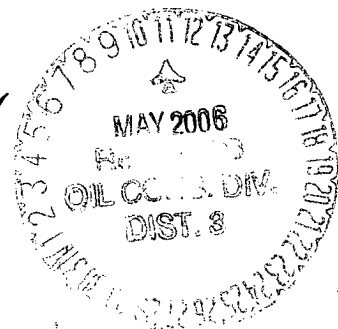
This APD is also serving as an application to obtain a 60.90-foot gas pipeline tie.

HOLD C104 FOR directional survey

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

DRILLING OPERATIONS AUTHORIZED ARE  
SUBJECT TO COMPLIANCE WITH ATTACHED  
"GENERAL REQUIREMENTS".

NMOCB



DISTRICT I  
1825 N. French Dr., Hobbs, N.M. 88240

DISTRICT II  
1301 W Grand Ave., Artesia, N.M. 88210

DISTRICT III  
1000 Rio Brazos Rd., Aztec, N.M. 87410

DISTRICT IV  
1220 South 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

Form C-102

Revised June 10, 2003

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number 30-039-29800		2 Pool Code 71629		3 Pool Name Basin Fruitland Coal	
4 Property Code 17033		5 Property Name ROSA		6 Well Number 393	
7 GRID No. 120782		8 Operator Name WILLIAMS PRODUCTION COMPANY		9 Elevation 6880	

10 Surface Location

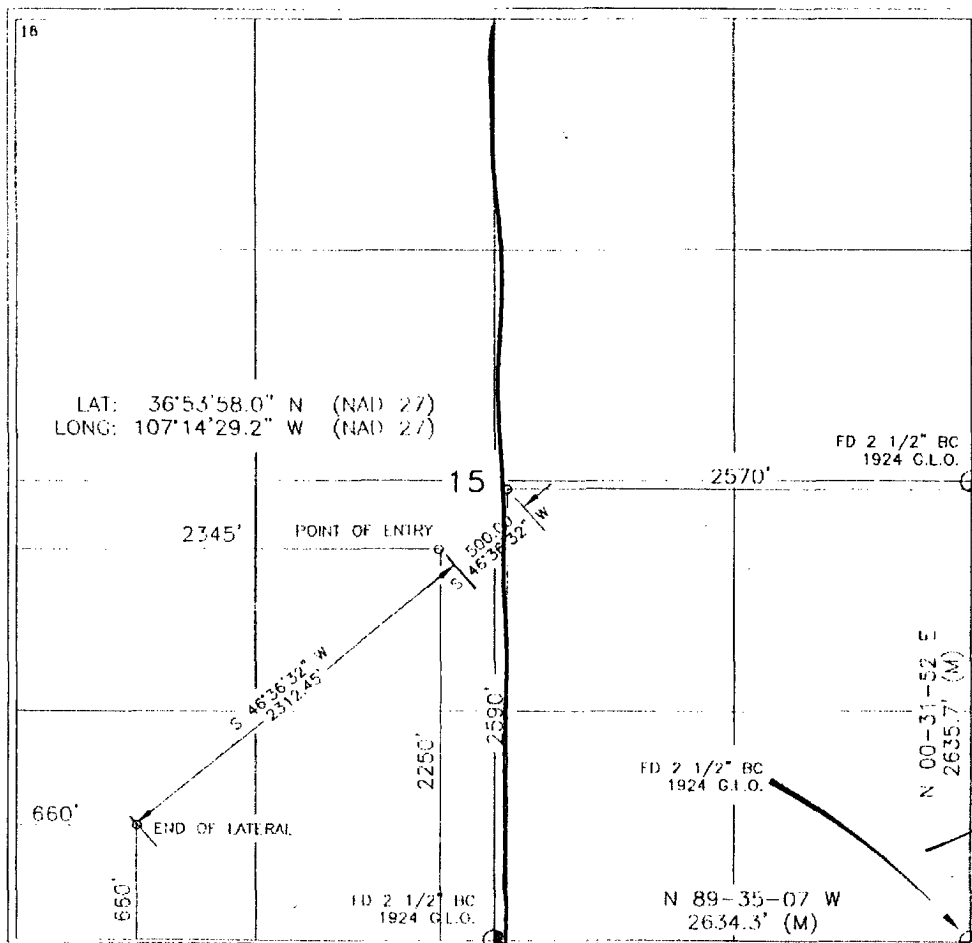
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	15	31-N	4-W		2590	SOUTH	2570	EAST	RIO ARriba

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
M	15	31-N	4-W		660	SOUTH	660	WEST	RIO ARriba

12 Dedicated Acres 320 w/2	13 Joint or Infill	14 Consolidation Code	15 Order No.
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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



17 OPERATOR CERTIFICATION

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

Signature: LARRY HIGGINS

Printed Name: LARRY HIGGINS

Title: DRILLING COM

Date: 1-31-06

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.

Signature: NOVEMBER 14, 2005

Certificate Number: 44831

Professional Surveyor

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. <b>30-039-29800</b>
5. Indicate Type of Lease FEDERAL X STATE <input type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No. <b>NMSF-0078892</b>
7. Lease Name or Unit Agreement Name <b>Rosa</b>
8. Well Number <b>393</b>
9. OGRID Number <b>120782</b>
10. Pool name or Wildcat <b>Basin Fruitland Coal</b>

11. Elevation (Show whether DR, RKB, RT, GR, etc.)  
**6880' GR**

Pit or Below-grade Tank Application ☒ or Closure ☐

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                      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 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

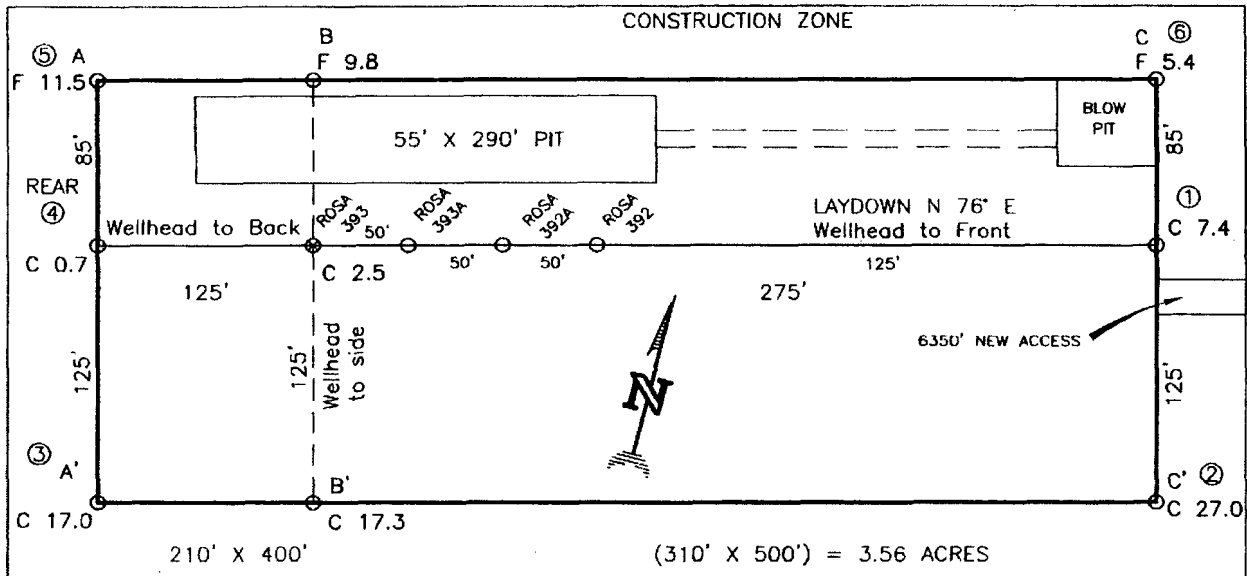
For State Use Only

APPROVED BY: [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. 4 DATE MAY 08 2006

Conditions of Approval (if any):

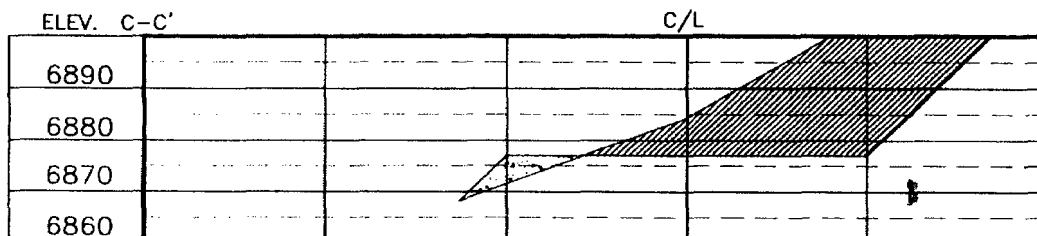
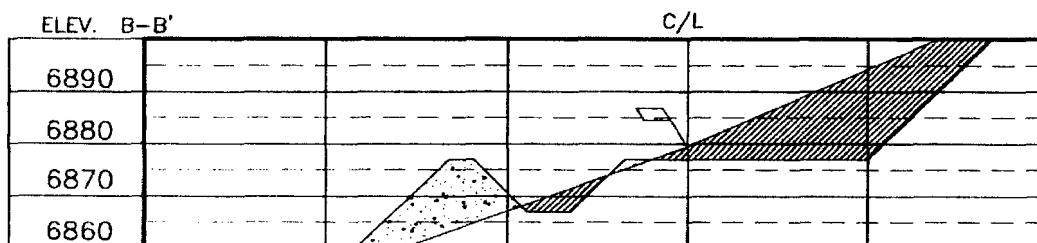
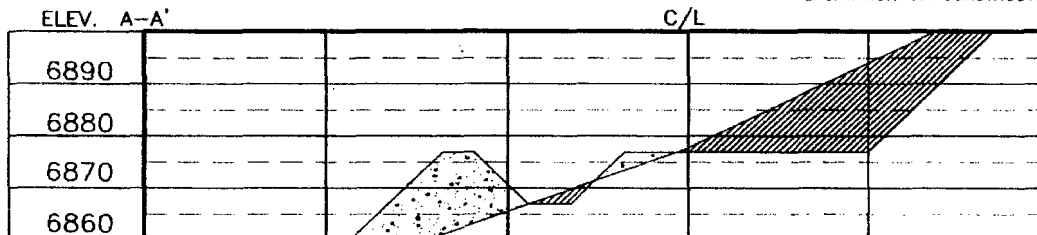
WILLIAMS PRODUCTION COMPANY  
 ROSA NO. 393, 2590' FSL 2570' FEL  
 SECTION 15, T31N, R4W, N.M.P.M., RIO ARriba COUNTY, N. M.  
 GROUND ELEVATION: 6880', DATE: NOVEMBER 4, 2004

LAT. = 36°53'58.0" N  
 LONG. = 107°14'29.2" W  
 NAD 27



RESERVE PIT DIKE: TO BE 8' ABOVE DEEP SIDE (OVERFLOW - 3' WIDE AND 1' ABOVE SHALLOW SIDE).  
 BLOW PIT: OVERFLOW PIPE HALFWAY BETWEEN TOP AND BOTTOM AND TO EXTEND OVER PLASTIC LINER AND INTO BLOW PIT.

NOTE: DAGGETT ENTERPRISES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES. NEW MEXICO ONE CALL TO BE NOTIFIED 48 HOURS PRIOR TO EXCAVATION OR CONSTRUCTION.



NOTE: CONTRACTOR SHOULD CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES OR CABLES ON WELL PAD AND OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.

REVISION: CORRECT CUT-FILL VALUES DATE: 04/13/05 BY: B.L.

REVISOR: DATE: 11/24/04 BY: WFO14

Daggett Enterprises, Inc.  
 Surveying and Oil Field Services  
 P. O. Box 15068 • Farmington, NM 87401  
 Phone (505) 326-1772 • Fax (505) 326-6019  
 NEW MEXICO L.S. No. 14831

DRAWN BY: G.V.  
 ROW: WFO14





## WILLIAMS PRODUCTION COMPANY

### Operations Plan

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

**DATE:** 2/2/2006

**WELLNAME:** Rosa #393      **FIELD:** Basin Fruitland Coal

**SURF LOCATION:** NWSE Sec. 15-31N-4W      **SURFACE:** Forest  
Rio Arriba, NM

**BH LOCATION** SWSW Sec 15-31N-4W

**ELEVATION:** 6,880' GR      **MINERALS:** Federal

**TOTAL DEPTH:** 6,356'      **LEASE #** SF-078892

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

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

		<b>TVD</b>	<b>MD</b>			<b>TVD</b>	<b>MD</b>
San Jose		Surface	Surface		Top Coal	3,744	3,952
Nacimiento		2,009	2,009		Top Target Coal	3,744	3,952
Ojo Alamo		3,149	3,149		Bottom Target Coal	3,754	
Kirtland		3,274	3,274		Base Coal	3,754	
Fruitland		3,609	3,646		Picture Cliffs	N/A	
					TD	3,754	6,356

**B. LOGGING PROGRAM:** none

**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. &amp; GRADE</u>
Surface	12-1/4"	+/- 300'	9-5/8"	36# K-55
Intermediate	8-3/4"	+/- 3,923'	7"	20# K-55
Prod. Liner	6-1/4"	+/- 3,271'-6,356'	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<sub>2</sub> 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~~ <sup>240</sup> cu.ft. Test to 1500#.
2. INTERMEDIATE: Lead - 475 sx (991 cu.ft.) of Premium Light with 8% gel, 1% CaCl<sub>2</sub> 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<sub>2</sub> (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 = 1,130 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

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

#### B. 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'.

*[Signature]*  
 Gary Sizemore  
 Sr. Drilling Engineer

**Williams Production Company, LLC**  
**Well Control Equipment Schematic for 2M Service**

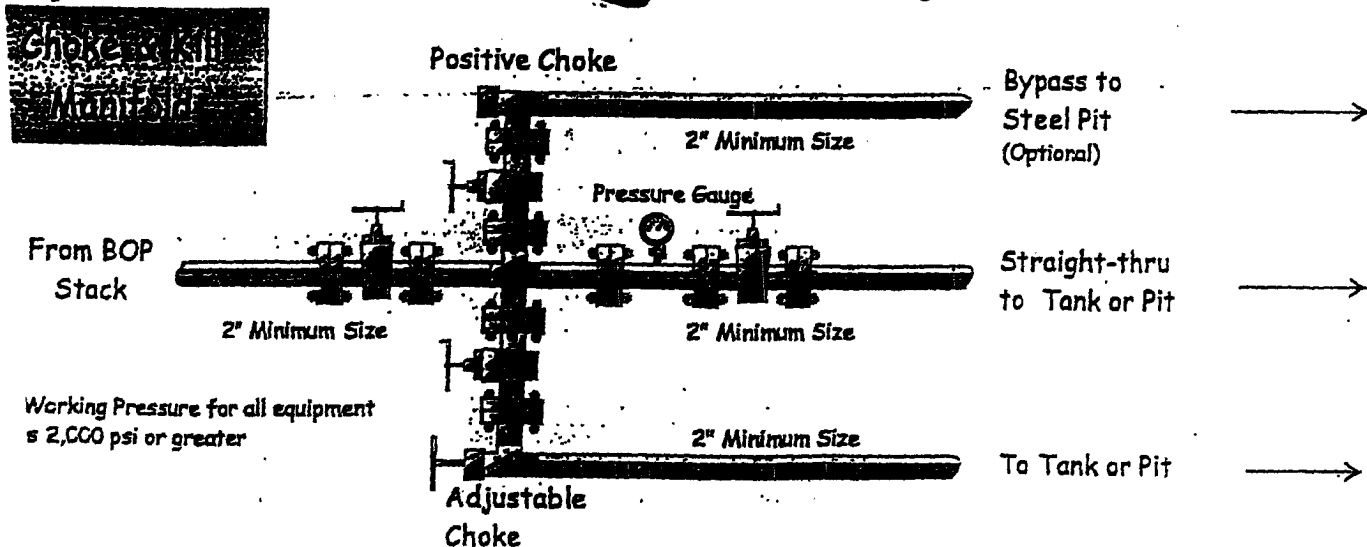
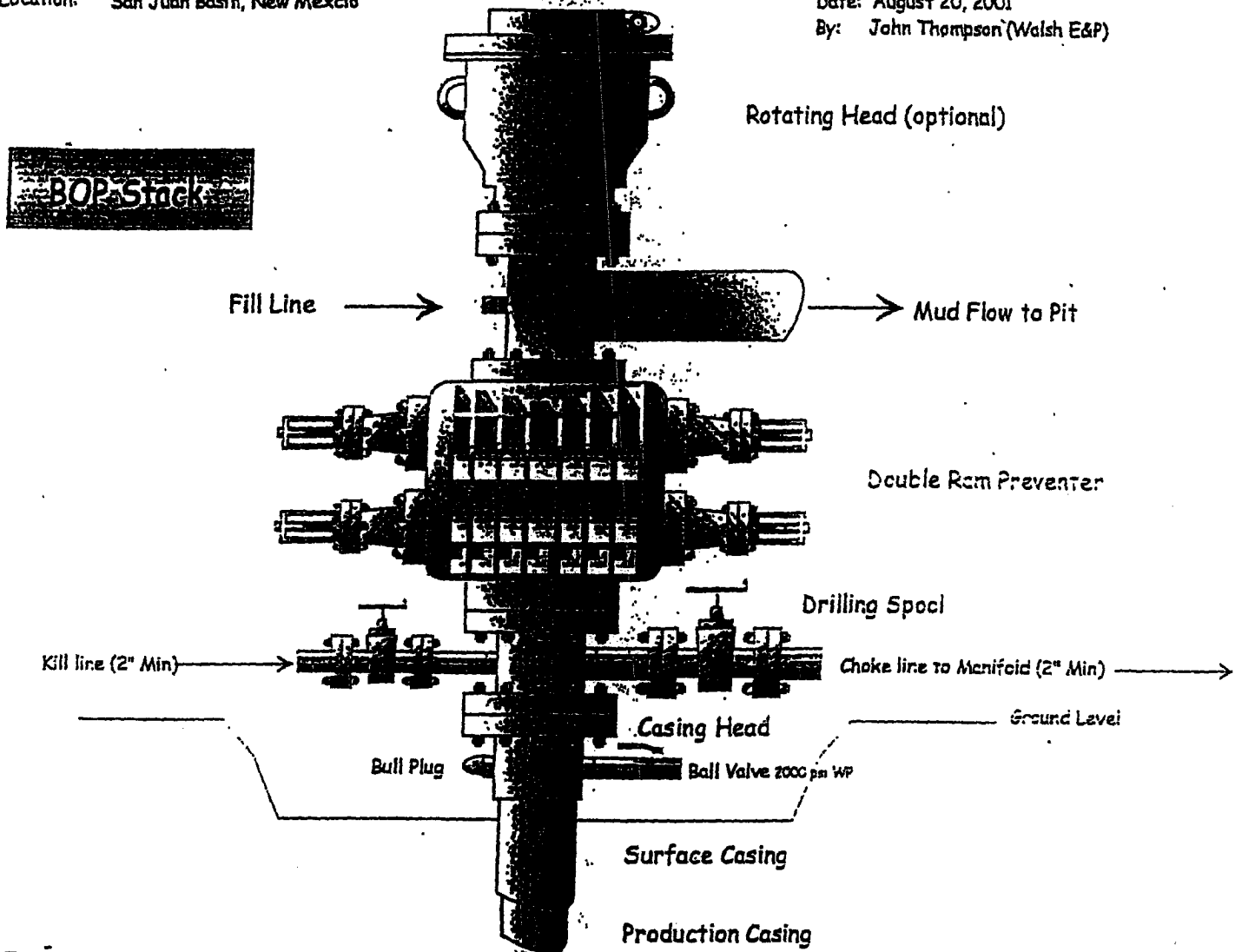
Attachment to Drilling Technical Program

**Typical BOP setup**

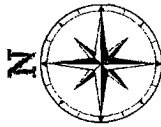
Location: San Juan Basin, New Mexico

Date: August 20, 2001

By: John Thompson (Walsh E&P)

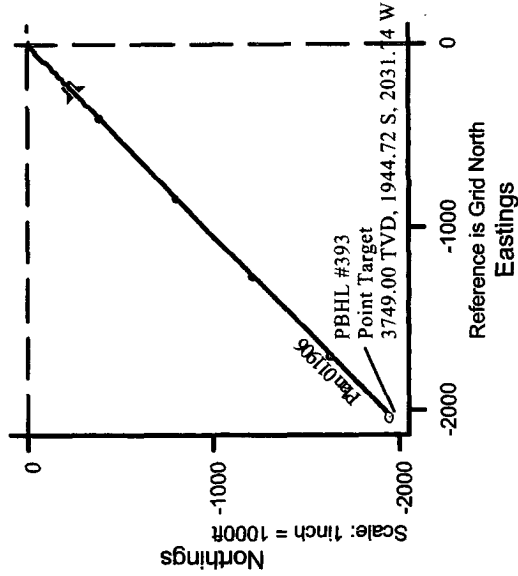


New Mexico  
Rio Arriba County  
Sec. 15-T31N-R04W  
Rosa Unit #393  
Plan 011906



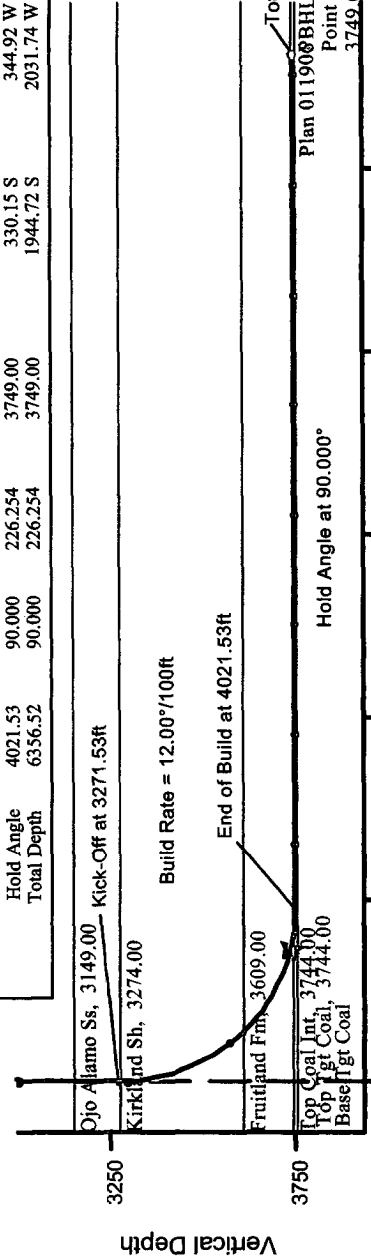
Rosa Unit #393 Surface Location	
RKB Elevation:	6894.00ft above Mean Sea Level
Ref. NE Cor Sec 15:	2686.23 S, 2565.95 W
Ref. Global Coordinates:	2147198.44 N, 673088.77 E
Ref. Geographical Coordinates:	36° 53' 58.0000" N, 107° 14' 29.2000" W

Plan 011906 Bottom Hole Location	
Ref. RKB(6882' ± 12' KB):	3749.00ft
Ref. Structure:	3737.00ft
Ref. Mean Sea Level:	-3145.00ft
Ref. Wellhead:	1944.72 S, 2031.74 W
Ref. NE Cor Sec 15:	4630.95 S, 4597.69 W
Ref. Global Coordinates:	2145253.72 N, 671037.03 E
Ref. Geographical Coordinates:	36° 53' 38.8943" N, 107° 14' 54.3600" W



### Plan 011906 Proposal Data

Coordinate System : NAD27 New Mexico State Planes, Western Zone					
Measured Depth	Incl.	Azlm.	Vertical Depth	Northings	Eastings
Kick-Off Point	0.00	0.000	0.00	0.00 N	0.00 E
Hold Angle	3271.53	0.000	3271.53	0.00 N	0.00 E
Total Depth	4021.53	90.000	3749.00	330.15 S	344.92 W
	6356.52	90.000	3749.00	1944.72 S	2031.74 W
					2812.45
					0.00
					0.00
					12.00
					0.00



Total Depth at 6356.52ft

Plan 011906 PBHL #393  
Point Target  
3749.00 TVD, 1944.72 S, 2031.74 W

Hold Angle at 90.000°

Vertical Section

Section Azimuth: 226.254° (Grid North)

Prepared by: Dennis Cook

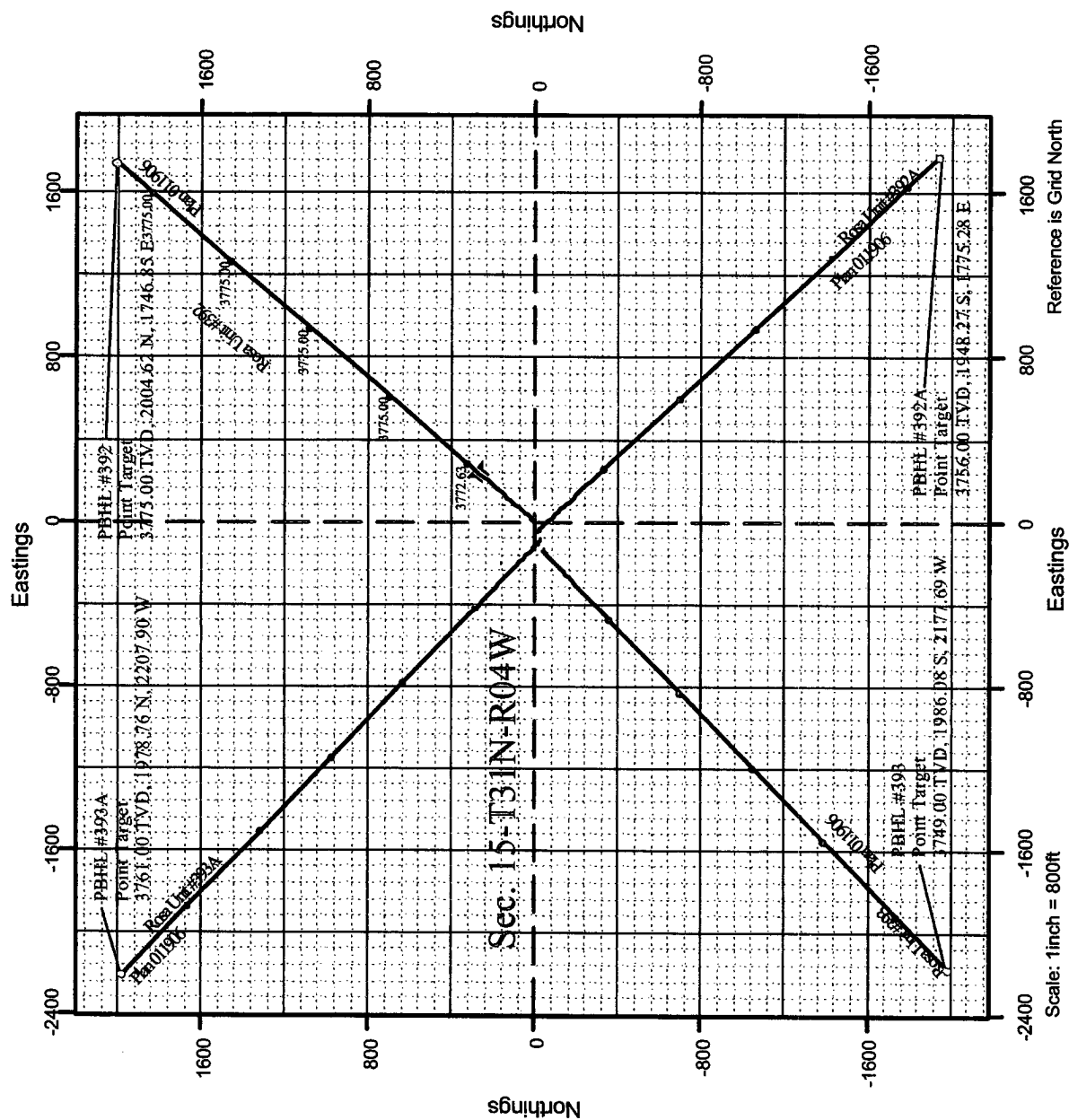
Date/Time: 19 January 2006 - 14:40

Checked:

Approved:



**New Mexico  
Rio Arriba County  
Sec. 15-T31N-R04W  
Rosa Unit #392  
Plan 011906**



Prepared by: Dennis Cook	Date/Time: 19 Jan 2006 - 14:27	Checked:	Approved:
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## 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.