

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-078764

6. If Indian, Allottee or Tribe Name

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

Rosa

8. Lease Name and Well No.

221A

9. API Well No.

3003929492

10. Field and Pool, or Exploratory

Basin Fruitland Coal

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

18 5  
Section 18, 31N, 5W

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 Exploration and Production Company, LLC

3a. Address

P.O. Box 316 Ignacio, CO 81137

3b. Phone No. (include area code)

(970) 563-3308

4. Location of Well (Report location clearly and in accordance with any State requirements. \*)

At surface 925' FNL & 220' FWL

At proposed prod. zone 1200' FNL & 855' FWL

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

approximately 30 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)

1125'

16. No. of Acres in lease

2,518.40

17. Spacing Unit dedicated to this well

231.89 (N/2)

18. Distance from proposed location\*

to nearest well, drilling, completed, applied for, on this lease, ft.

50'

19. Proposed Depth

3,583'

20. BLM/BIA Bond No. on file

UT0847

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

6,516' GR

22. Approximate date work will start\*

April 1, 2005

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

3/02/05

Drilling COM

Approved by (Signature)

Name (Printed/Typed)

Date

Title

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 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 Bureau of Land Management, Farmington Field Office.

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

This location is proposed to be twinned with the proposed Rosa Unit 22A well.

This APD is also serving as an application to obtain a pipeline right-of-way. A 213.00-foot pipeline tie would be required for this location.

NMOCD

2005 APR 10 PM 2 51  
RECEIVED  
CITY OF FARMINGTON NM

District I  
PO Box 1980, Hobbs, NM 88241-1980

District II  
PO Drawer 00, Artesia, NM 88211-0719

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

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

State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION  
PO Box 2088  
Santa Fe, NM 87504-2088

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*APT Number 30-039-29492		*Pool Code 71629	*Pool Name BASIN FRUITLAND COAL
*Property Code 17033	*Property Name ROSA UNIT		*Well Number 221A
*GRID No. 120782	*Operator Name WILLIAMS PRODUCTION COMPANY		*Elevation 6516

<sup>10</sup> Surface Location

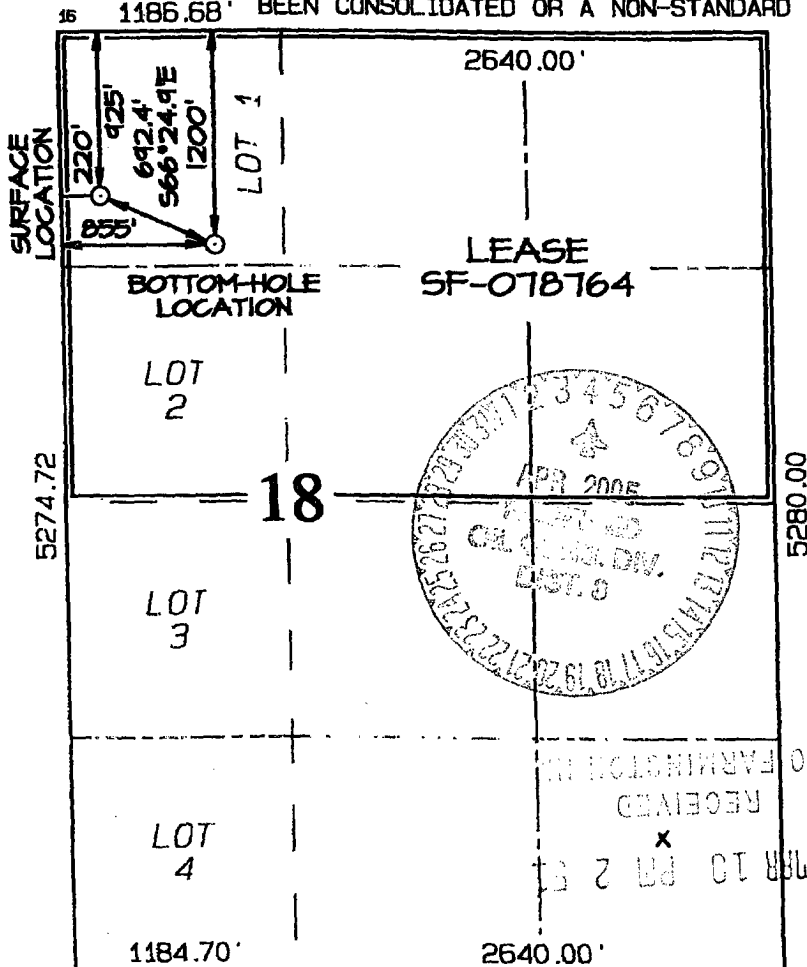
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	18	31N	5W		925	NORTH	220	WEST	RIO ARriba

<sup>11</sup> 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
C	18	31N	5W		1200	NORTH	855	WEST	RIO ARriba

<sup>12</sup> Dedicated Acres 231.89 Acres -- (N/2)	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> 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



<sup>17</sup> 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. M.  
Title

3-8-05  
Date

<sup>18</sup> 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

Survey Date: SEPTEMBER 22, 2004

Signature and Seal of 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.

5. Indicate Type of Lease FEDERAL ☒ STATE ☐ FEE ☐

6. State Oil & Gas Lease No.  
Federal NMSF-0078764

7. Lease Name or Unit Agreement Name

Rosa Unit

8. Well Number 221A

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 ☐ Gas Well ☒ Other

2. Name of Operator

Williams Exploration and Production Company

3. Address of Operator

P.O. Box 316, Ignacio, CO 81137

4. Well Location

Unit Letter C: 925 feet from the south line and 220 feet from the west line

Section 18 Township 31N Range 5W NMPM County Rio Arriba

11. Elevation (Show whether DR, RKB, RT, GR, etc.)  
6,516' 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.

Reserve pit to be constructed in accordance with NMOCD Interim Pit and Below-grade Tank Guidelines

Reserve pit to be located approximately 30 feet west of the well head, in the west corner of the well pad

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 3-03-2005

Type or print name Larry Higgins E-mail address: larry.higgins@williams.com Telephone No. (970) 563-3308

For State Use Only

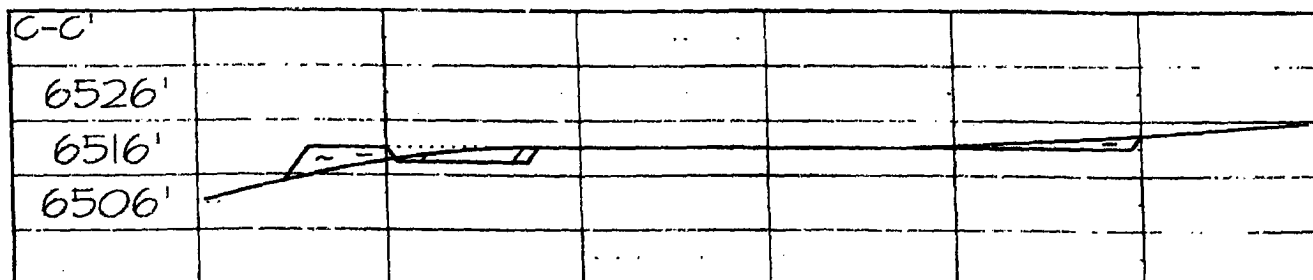
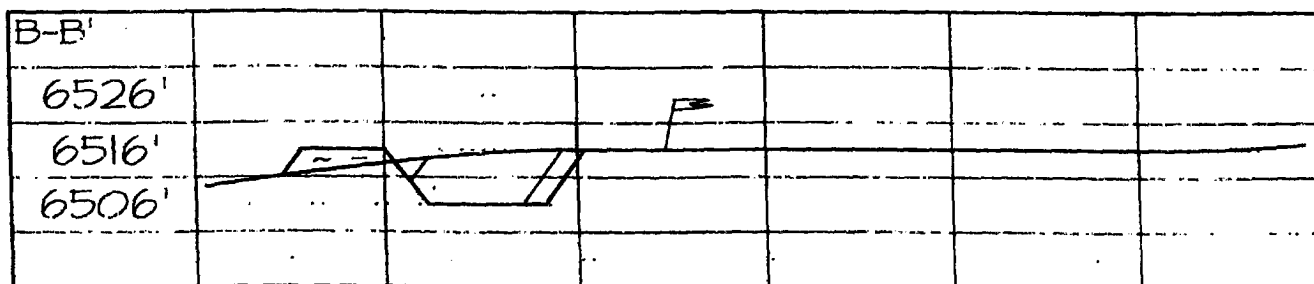
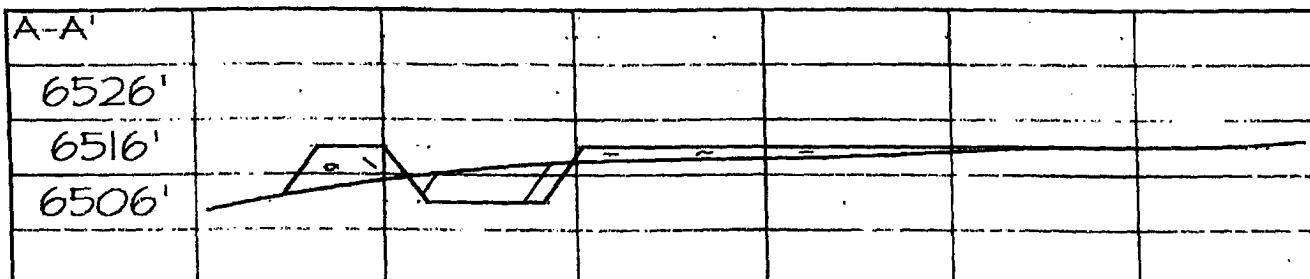
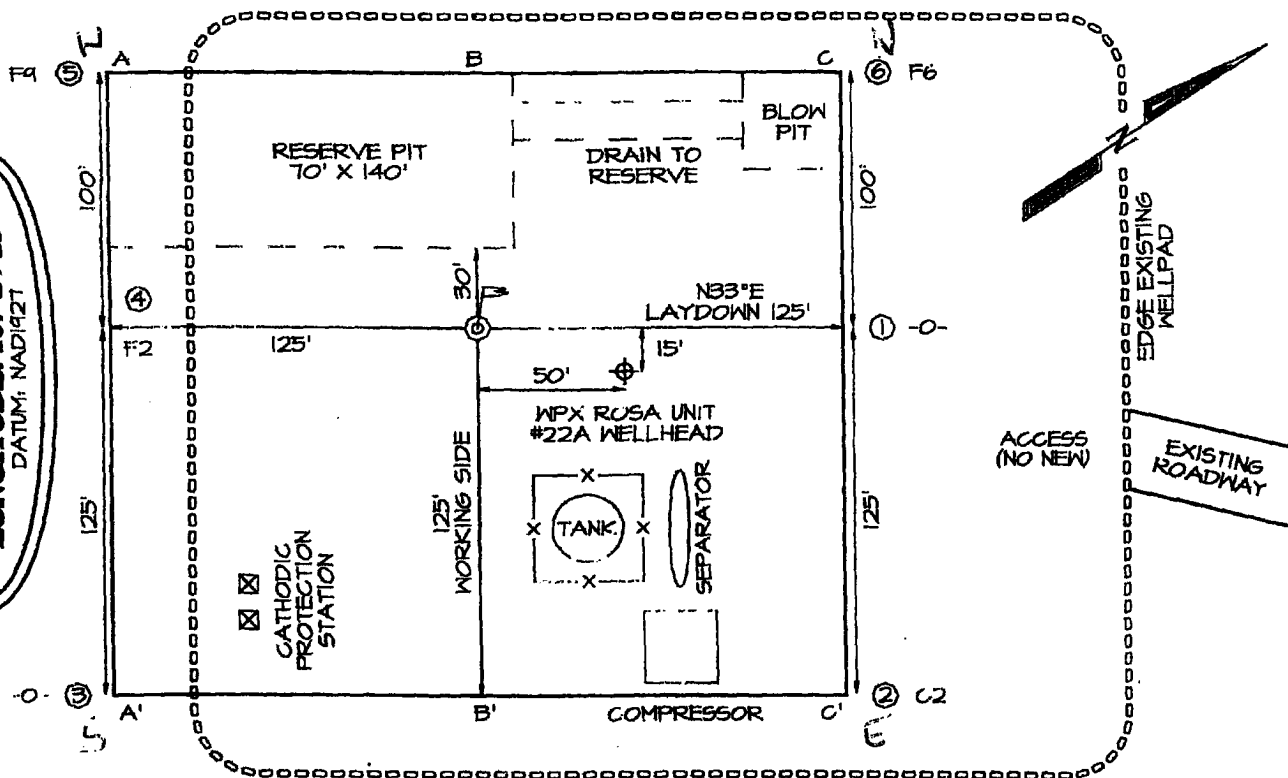
DEPUTY OIL & GAS INSPECTOR, DIST. 60

APPROVED BY: [Signature] TITLE                      DATE APR - 4 2005

Conditions of Approval (if any):

**WILLIAMS PRODUCTION COMPANY ROSA UNIT #221A**  
**925' FNL & 220' FWL, SECTION 18, T31N, R5W, NMPM**  
**RIO ARriba COUNTY, NEW MEXICO ELEVATION: 6516'**

**LATITUDE: 36°54'15"**  
**LONGITUDE: 107°24'23"**  
 DATUM: NAD1927





## **WILLIAMS PRODUCTION COMPANY**

### **Operations Plan**

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

**DATE:** 3/3/2005

**WELLNAME:** Rosa Unit #221A      **FIELD:** Basin Fruitland Coal

**BH LOCATION:** NENW Sec 18-31N-5W      **SURFACE:** BLM  
Rio Arriba, NM

**SURF. LOCATION:** NENW Sec 18-31N-5W

**ELEVATION:** 6,516' GR      **MINERALS:** BLM

**TOTAL DEPTH:** 3,583'      **LEASE #** SF-078764

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

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

NAME	TVD	MD	NAME	TVD	MD
San Jose	Surface	Surface	Top Coal	3,223	3,313
Nanimiento	1,393	1,417	Bottom Coal	3,393	3,483
Ojo Alomo	2,623	2,701	Pictured Cliffs	3,393	3,482
Kirtland	2,728	2,810	TD	3,493	3,583
Fruitland	3,123	3,223			

**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. If coal is detected before 3,090' DO NOT drill deeper until Engineering is contacted.

**B. Drilling Fluid:** Coal section will be drilled with Fruitland Coal water. Mud logger will pick TD at +/- 3,490'.

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

**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 rams will be tested to 1500 psi. The surface and intermediate casing strings will be pressure tested to 1500 psi in conjunction with the BOP test before drilling out cement. The drum brakes will be inspected and tested each tour. All tests, inspections and SPR's 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"	+/- 3,293'	7"	20# K-55
Prod. Liner	6-1/4"	+/- 3,193-3,482'	5-1/2"	15.5# K-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:** 4-1/2" & 5-1/2" whirler type cement nose guide shoe with a latch collar on top of 20' bottom joint. Place marker joint above 5,400'. Place centralizers as needed across selected production intervals.

#### **C. CEMENTING:**

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

1. **SURFACE:** Use 190 sx (264 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 = 264 cu.ft. Test to 1500#.
2. **INTERMEDIATE:** Lead - 410 sx (849 cu.ft.) of "Type III" 65/35 poz 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 - 50 sx (70cu.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 **100% excess in Lead Slurry** to circulate to surface. **No excess in Tail Slurry.** Total volume = 919 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**

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

##### **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 approximately 50' above TD.

  
FOR Gary Sizemore  
Sr. Drilling Engineer

file:Rosa221A

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

Attachment to Drilling Technical Program

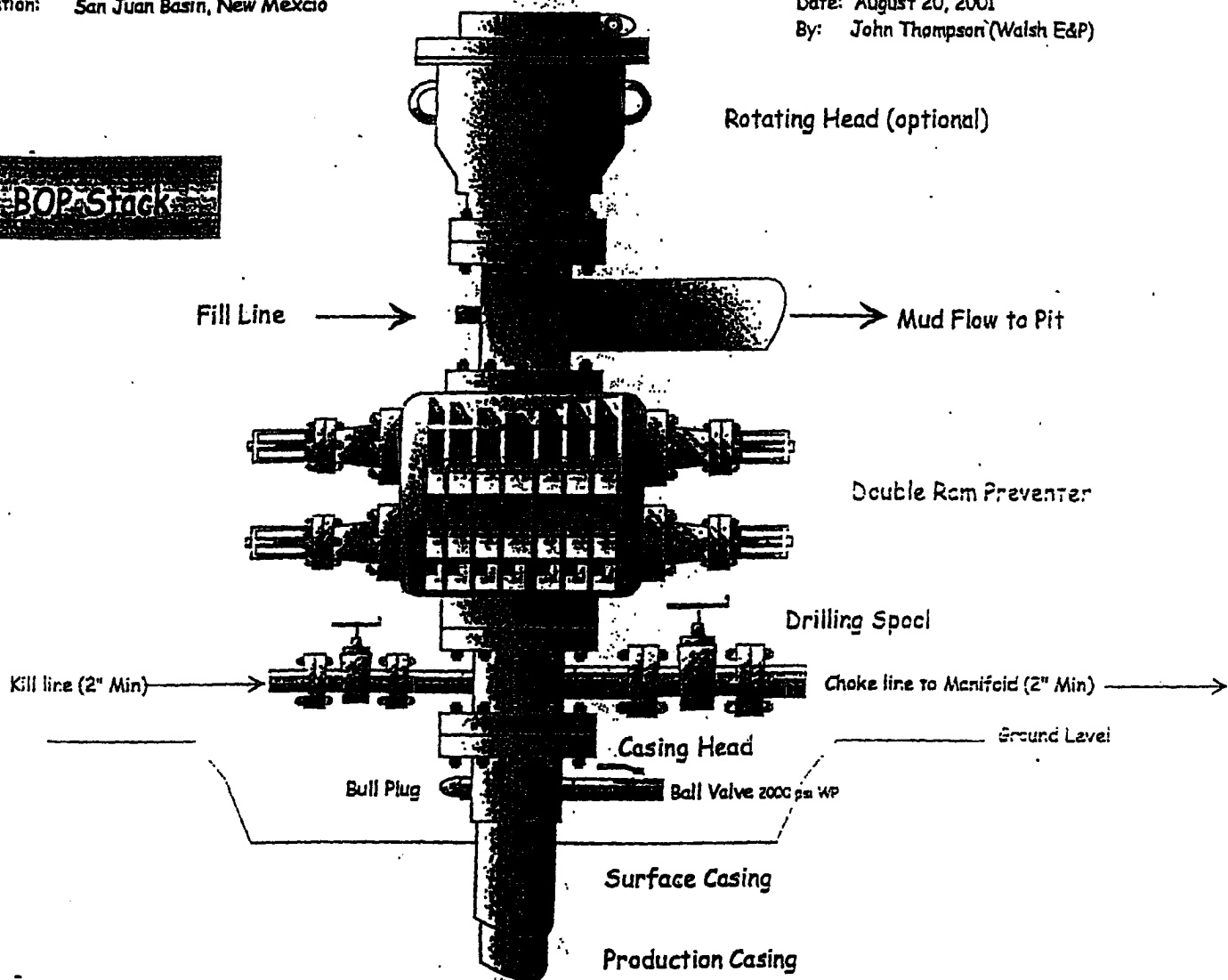
**Typical BOP setup**

Location: San Juan Basin, New Mexico

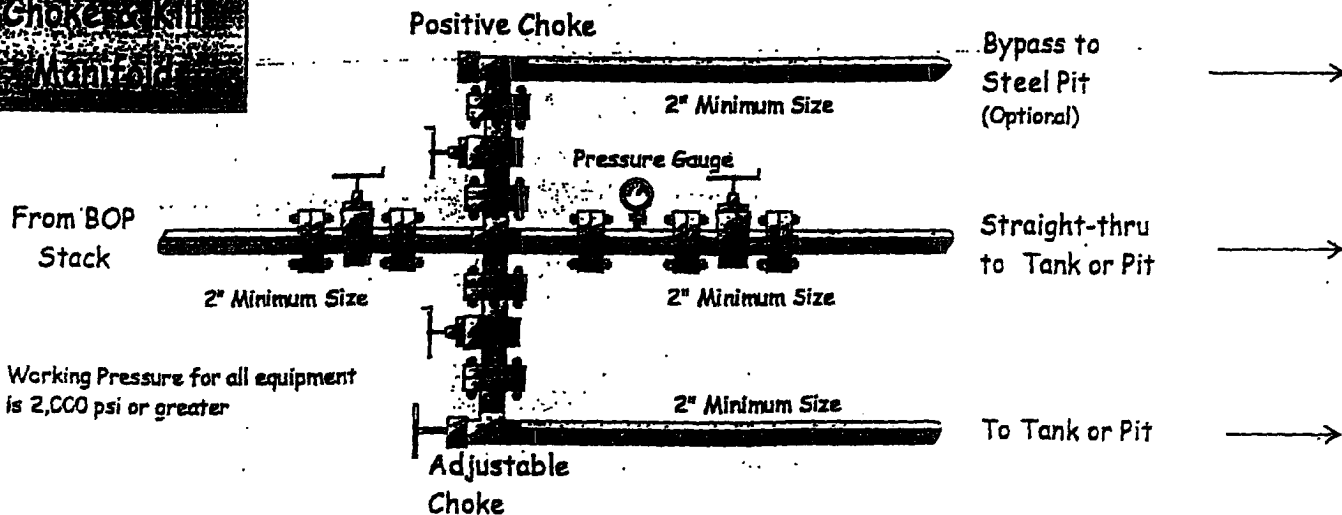
Date: August 20, 2001

By: John Thompson (Walsh E&P)

**BOP Stack**



**Choke & Kill Manifold**



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