

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-078767

6. If Indian, Allottee or Tribe Name

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

Rosa

8. Lease Name and Well No.

19C

9. API Well No.

30-039-29625

10. Field and Pool, or Exploratory

Blanco Mesaverde

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

D Section 24, 31N, 6W

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 Lot D:1005' FNL & 410' FWL

At proposed prod. zone same

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

approximately 14 miles northeast of Navajo City, New Mexico

15. Distance from proposed\*

location to nearest  
property or lease line, ft.  
(Also to nearest drig. unit line, if any)

1005'

16. No. of Acres in lease

2,518.04

17. Spacing Unit dedicated to this well

320.0 (W/2)

18. Distance from proposed location\*

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

1500'

19. Proposed Depth

5,978'

20. BLM/BIA Bond No. on file

UT0847

21. Elevations (Show whether DF, KDB, RT, GL, etc.) ARE  
6,224' GR DRILLING OPERATIONS AUTHORIZED ARE  
SUBJECT TO COMPLIANCE WITH ATTACHED  
"GENERAL REQUIREMENTS".

22. Approximate date work will start\*

August 31, 2005

23. Estimated duration

1 month

24. Attachments

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

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

Larry Higgins

Name (Printed/Typed)

Larry Higgins

Date

08/04/05

Title

Drilling COM

Approved by (Signature)

ATEM

Name (Printed/Typed)

Office

FFO

Date

8/18/06

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 Production Company, LLC, proposes to drill a well to develop the Blanco Mesa Verde 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.

A 1,698.9-foot pipeline tie would be required for this location.

(PA)



NMOCB

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

*API Number <b>30-039-29625</b>		*Pool Code <b>72319</b>	*Pool Name <b>BLANCO MESAVERDE</b>
*Property Code <b>17033</b>	*Property Name <b>ROSA UNIT</b>		*Well Number <b>19C</b>
*GRID No. <b>120782</b>	*Operator Name <b>WILLIAMS PRODUCTION COMPANY</b>		*Elevation <b>6224'</b>

#### <sup>10</sup> Surface Location

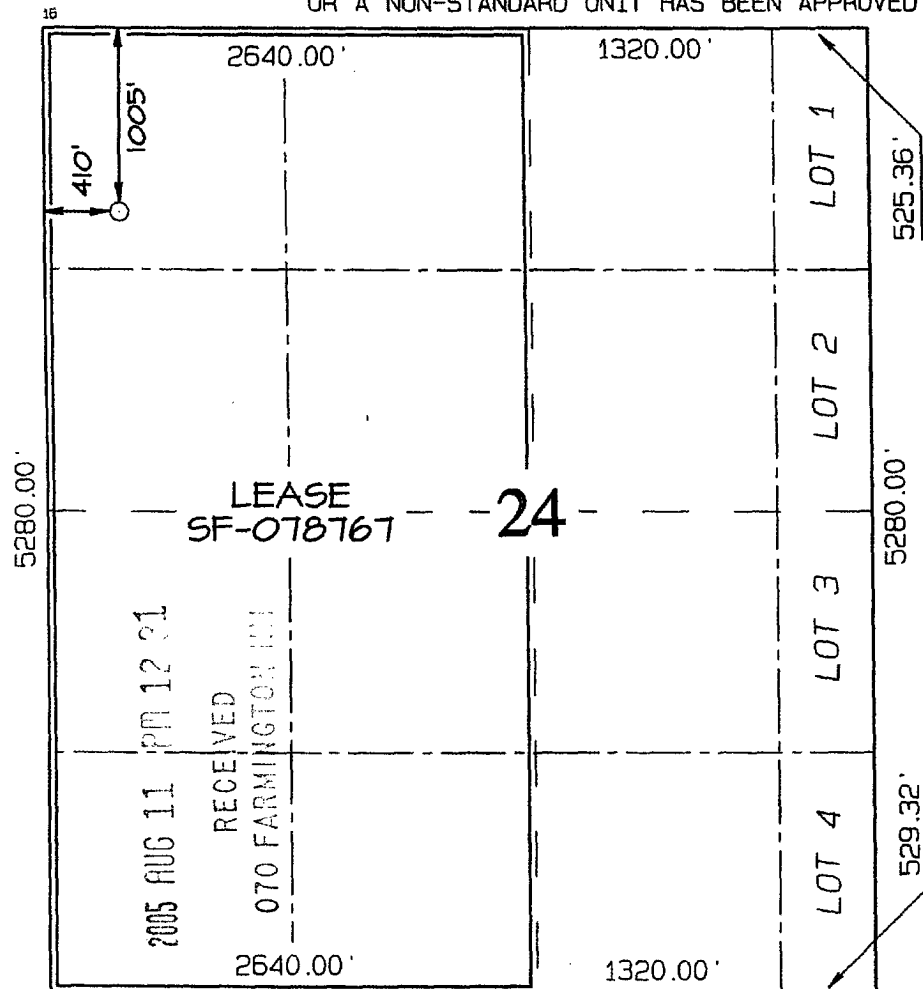
UL or lot no. <b>D</b>	Section <b>24</b>	Township <b>31N</b>	Range <b>6W</b>	Lot Idn	Feet from the <b>1005</b>	North/South line <b>NORTH</b>	Feet from the <b>410</b>	East/West line <b>WEST</b>	County <b>RIO ARriba</b>
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#### <sup>11</sup> Bottom Hole 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
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<sup>12</sup> Dedicated Acres <b>320.0 Acres - (W/2)</b>	<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**  
Title  
**8-4-05**  
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.

Date Revised: AUGUST 2, 2005  
Survey Date: SEPTEMBER 21, 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. <b>30-039-29625</b>	
5. Indicate Type of Lease FEDERAL <input checked="" type="checkbox"/> X STATE <input type="checkbox"/> FEE <input type="checkbox"/>	
6. State Oil & Gas Lease No. Federal NMSF-0078767	
7. Lease Name or Unit Agreement Name Rosa Unit	
8. Well Number	19C
9. OGRID Number	120782
10. Pool name or Wildcat Blanco Mesa Verde	
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 6,224' GR	
Pit or Below-grade Tank Application <input checked="" type="checkbox"/> or Closure <input type="checkbox"/>	
Pit type <u>reserve</u> Depth to Groundwater <u>&gt;100'</u> Distance from nearest fresh water well <u>&gt;1,000'</u> Distance from nearest surface water <u>&gt;200'</u> <u>&lt;1,000'</u>	
Pit Liner Thickness: 12 mil	Below-Grade Tank: Volume _____ bbls; Construction Material _____

**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 D: 1005 feet from the north line and 410 feet from the west line  
Section 24 Township 31N Range 6W NMPM County Rio Arriba

11. Elevation (Show whether DR, RKB, RT, GR, etc.)  
6,224' 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 >200'  
<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:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	P AND A <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPL <input type="checkbox"/>	CASING/CEMENT JOB <input type="checkbox"/>	
OTHER: <input type="checkbox"/>		OTHER: <input type="checkbox"/>	

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 northwest 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 8/4/05

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

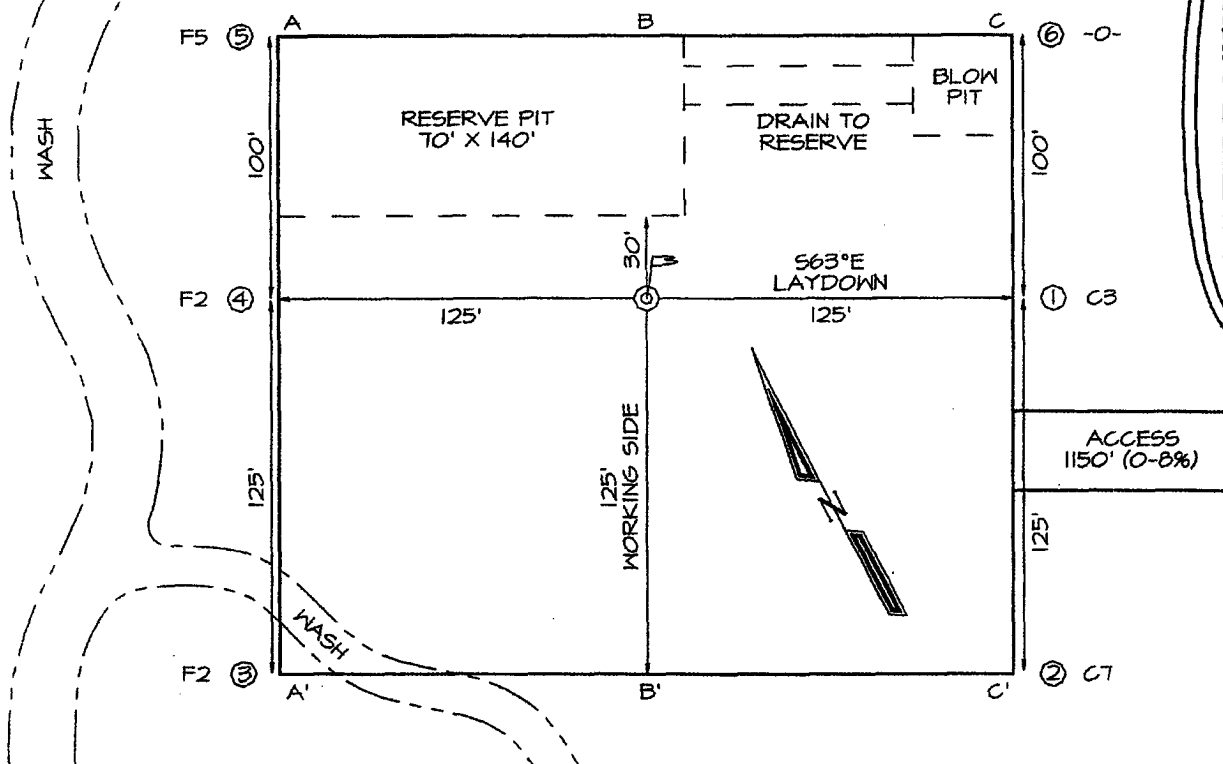
For State Use Only

APPROVED BY: [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. 3 DATE AUG 21 2006

Conditions of Approval (if any):

**WILLIAMS PRODUCTION COMPANY ROSA UNIT #19C**  
**1005' FNL & 410' FWL, SECTION 24, T31N, R6W, NMMPM**  
**RIO ARriba COUNTY, NEW MEXICO ELEVATION: 6224'**

**LATITUDE: 36°53'23"**  
**LONGITUDE: 107°25'16"**  
 DATUM: NAD1927



A-A'						
6234'						
6224'						
6214'						

B-B'						
6234'						
6224'						
6214'						

C-C'						
6234'						
6224'						
6214'						

Plot #1: Well Location Layout



## **WILLIAMS PRODUCTION COMPANY**

### **Operations Plan**

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

<b><u>DATE:</u></b>	8/4/2005	<b><u>FIELD:</u></b>	Blanco MV
<b><u>WELL NAME:</u></b>	Rosa #19C	<b><u>SURFACE:</u></b>	G&F
<b><u>BH LOCATION:</u></b>	NWNW Sec 24-31N-6W Rio Arriba, NM	<b><u>MINERALS:</u></b>	BLM
<b><u>ELEVATION:</u></b>	6,224' GR	<b><u>LEASE #</u></b>	SF-078767
<b><u>MEASURED DEPTH:</u></b>	5,978'		

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

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

Name	MD	Name	MD
Ojo Alamo	2,268	Cliff House	5,253
Kirtland	2,408	Menefee	5,298
Fruitland	2,803	Point Lookout	5,528
Picture Cliffs	3,058	Mancos	5,833
Lewis	3,363	TD	5,978

##### **B. MUD LOGGING PROGRAM:** None

##### **C. LOGGING PROGRAM:** Cased Hole Logs

##### **D. 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. Convert to a LSND mud to log and run pipe. Treat for lost circulation as necessary. Obtain 100% returns prior to cementing. Notify Engineering of any mud losses. Use air w/Air Hammer from 7 in. csg.to TD.

##### **B. 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	HOLE SIZE	DEPTH (MD)	CASING SIZE	WT. & GRADE
Surface	12-1/4"	+/- 300'	9-5/8"	36# K-55
Intermediate	8-3/4"	+/- 3,533'	7"	20# K-55
Prod. Liner	6-1/4"	+/- 3,433'-5,978'	4-1/2"	10.5# 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 (3) 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 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: Slurry: 150sx <sup>209</sup>265 cu.ft.) of "Type III" + 2% CaCl<sub>2</sub> + 1/4 # of cello-flake/sk (Yield = 1.39 cu.ft./sk, Weight = 14.5 #/gal.). The 100% excess should circulate cement to the surface. WOC 12 hours. Test csg to 1500psi.
2. INTERMEDIATE: Lead - 445sx <sup>920</sup>922 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 - 50sx <sup>920</sup>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 = ~~992~~ <sup>920</sup>cu.ft. Bump Plug to 1,500 psi. Notify engineering if cement is not circulated to surface.
3. PRODUCTION LINER: 10 bbl Gelled Water space. Lead: 50sx <sup>230</sup>130ft<sup>3</sup> of Premium Light HS + 1% FL-52 + .2% CD-32, 0.1% R-3, 3 #/sk CSE. (Yield = 2.59 cu.ft./sk, Weight = 11.6 #/gal.). Tail: 100sx <sup>230</sup>215 ft<sup>3</sup> of Premium Light HS + 1% FL-52 + .2% CD-32, 0.1% R-3, 3 #/sk CSE, 1/4 #/sk cello flake and 4% Phenoseal. (Yield = 2.15 ft<sup>3</sup>/sk, Weight = 12.3 #/gal.). Displace cement at a minimum of 8 BPM. The 20% excess in lead and tail should cover 100 ft into intermediate casing. Total volume <sup>230</sup>330 ft<sup>3</sup>. WOC 12 hours

#### **IV COMPLETION**

##### **A. CBL**

1. Run Cement Bond Log across all intervals to be perforated and find Top of Cement behind all casing strings if cement is not circulated to surface.

##### **B. PRESSURE TEST**

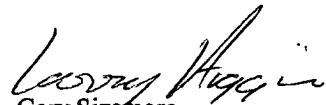
1. Pressure test 7" & 4-1/2" casing to 3300# for 15 minutes.

##### **C. STIMULATION**

1. Perforate the Point Lookout as determined from the open hole logs.
2. Stimulate with approximately 80,000# of 20/40 sand in slick water.
3. Isolate Point Lookout with a CIBP.
4. Perforate the Menefee/Cliff House as determined from the open hole logs.
5. Stimulate with approximately 80,000# of 20/40 sand in slick water.
6. Test each zone before removing bridge plugs.

##### **D. RUNNING TUBING**

1. Mesa Verde: Run 2-3/8", 4.7#, J-55, EUE tubing with a SN (1.91" ID) on top of bottom joint. Land tubing approximately 25' above the bottom Point Lookout perforation.

  
FOR Gary Sizemore  
Sr. Drilling Engineer

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

Attachment to Drilling Technical Program

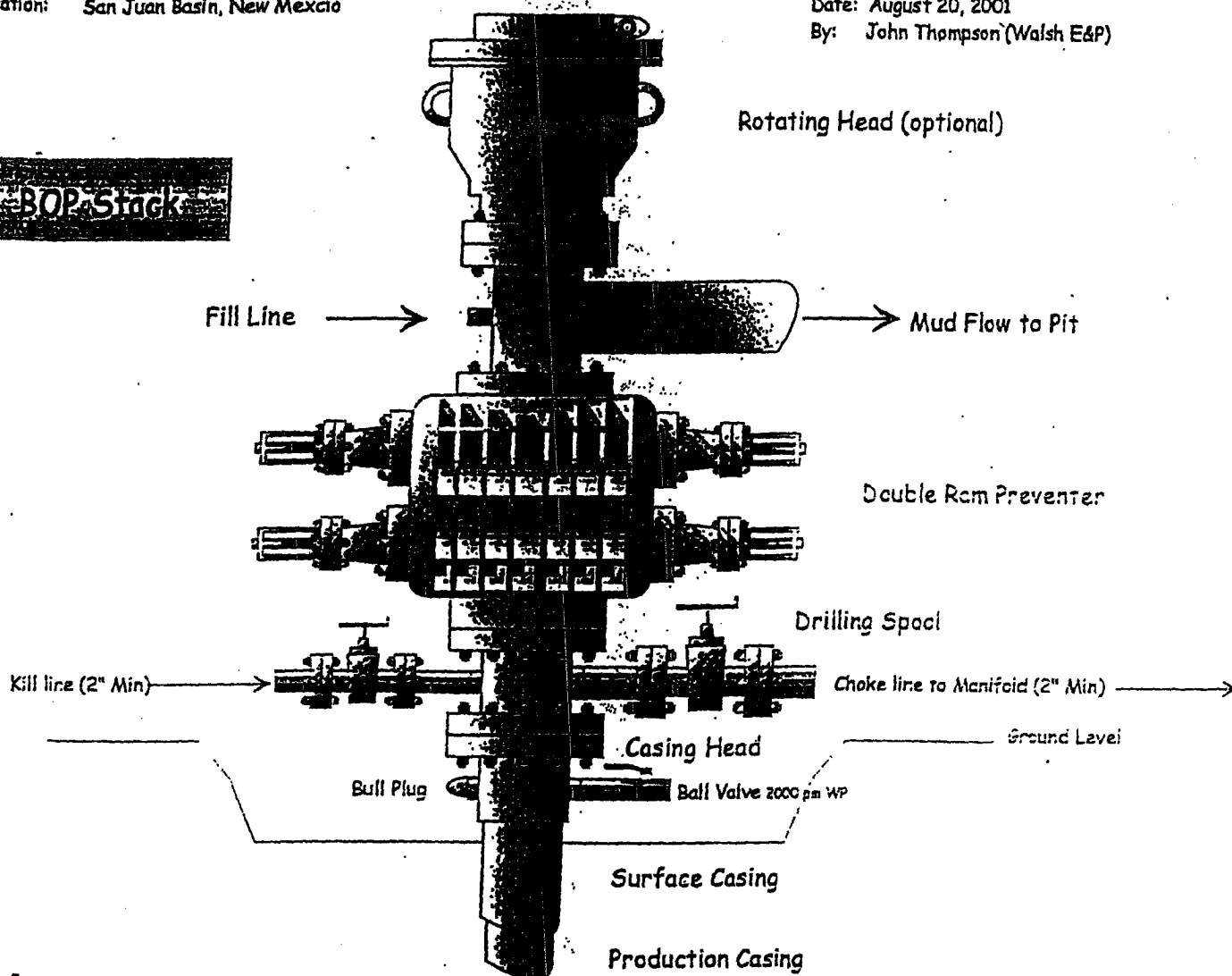
**Typical BOP setup**

Location: San Juan Basin, New Mexico

Date: August 20, 2001

By: John Thompson (Walsh E&P)

**BOP Stack**



**Choke & Kill Manifold**

