

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/>		7. UNIT AGREEMENT NAME <i>Rosa Unit</i>	
1b. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input type="checkbox"/> MULTIPLE ZONE <input checked="" type="checkbox"/>		8. FARM OR LEASE NAME, WELL NO. <i>164 B</i>	
2. NAME OF OPERATOR <i>Williams Production Company, LLC</i>		9. API WELL NO. <i>30-039-27242</i>	
3. ADDRESS OF OPERATOR <i>c/o Walsh Engineering 7415 E. Main St., Farmington, NM 87403 (505) 327-4892</i>		10. FIELD AND POOL OR WILDCAT <i>Blanco Mesa Verde/DK</i>	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.) <i>At Surface 1475' FSL & 1235' FEL</i> <i>At proposed Prod. Zone 330' FSL & 1650' FWL</i>		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA <i>J Sec. 1, T31N, R6W</i>	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* <i>27 miles NE of Blanco, NM</i>		12. COUNTY OR PARISH <i>Rio Arriba</i>	13. STATE <i>NM</i>
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) <i>1235'</i>	16. NO. OF ACRES IN LEASE <i>2561.86</i>	17. NO. OF ACRES ASSIGNED TO THIS WELL <i>305.88 Whole Section</i>	
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR ON THIS LEASE, FT. <i>1770'</i>	19. PROPOSED DEPTH <i>8662'</i>	20. ROTARY OR CABLE TOOL JOINT <i>Rotary</i>	
21. ELEVATIONS (Show whether DF, RT, GR, or other) <i>6317' GR</i>		22. APPROX DATE WORK WILL START* <i>July 1, 2002</i>	
23. PROPOSED CASING AND CEMENTING PROGRAM			
SIZE OF HOLE	SIZE OF CASING	WEIGHT/FOOT	SETTING DEPTH
<i>14-3/4"</i>	<i>10-3/4"</i>	<i>40.5#</i>	<i>+/- 500'</i>
<i>9-7/8"</i>	<i>7-5/8"</i>	<i>26.4#</i>	<i>+/- 3591'</i>
<i>6-3/4"</i>	<i>5-1/2"</i>	<i>17.0#</i>	<i>+/- 8061'</i>
QUANTITY OF CEMENT			
<i>~626 cu.ft. Type III w/ 2% CaCl₂</i>			
<i>~1363 cu.ft. 65/35 poz & ~586 cu.ft. Type</i>			
<i>~458 cu.ft. Prem. Lite HS w/ additives</i>			

Williams Production Company, LLC proposes to drill a directional well to develop the Mesa Verde and Dakota formations at the above described location in accordance with the attached drilling and surface use plans.

This location has been archaeologically surveyed by Independent Contract Archaeology. Copies of their report have been submitted directly to your office.

This APD also is serving as an application to obtain BLM road and pipeline right-of-ways. This well will not require any new access road (see Pipeline & Well Plats #3 & #4). The well will be accessed by utilizing an existing road that crosses NE/NE of section 1, T31N, R6W. SE/SE, NE/SW, SE/NW, NE/NW, NW/NE, NE/NE of section 36, N/2 of section 31 all of T32N, R6W where it joins the main "Rosa Road".

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED *[Signature]* TITLE *John C. Thompson, Agent* DATE *5/23/02*

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

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:

APPROVED BY */s/ David J. Mankiewicz*

TITLE _____

DATE _____

AUG - 7 2002

*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes 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.

HOLD C104 FOR *Directional survey*

NMCO

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

District II
PO Drawer DD, 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 30-039-27242		*Pool Code 72319 \ 71599		*Pool Name BLANCO MESAVERDE \ BASIN DAKOTA	
*Property Code 17033		*Property Name ROSA UNIT			*Well Number 164B
*GRID No. 120782		*Operator Name WILLIAMS PRODUCTION COMPANY			*Elevation 6317'

¹⁰ Surface Location

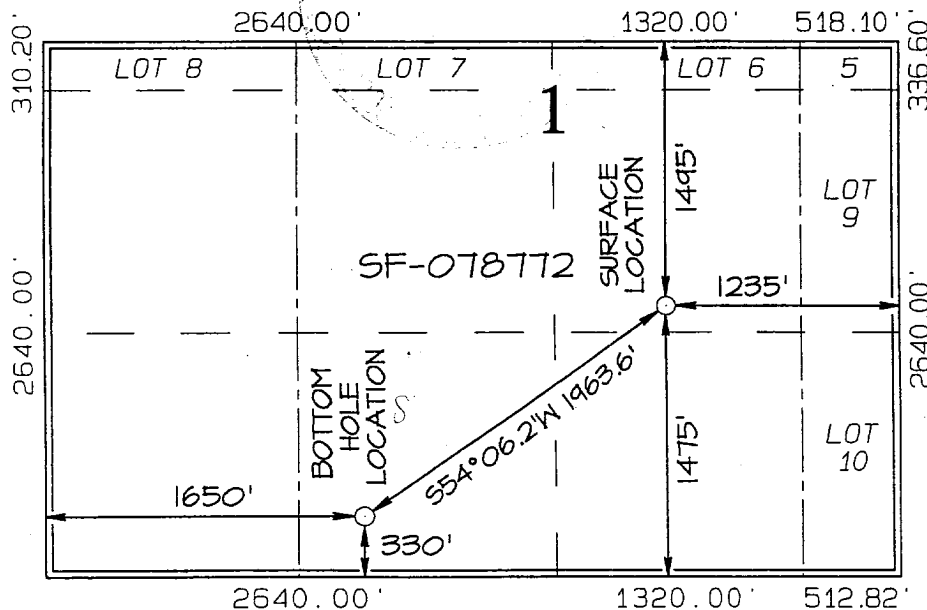
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	1	31N	6W		1475	SOUTH	1235	EAST	RIO ARriba

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
N	1	31N	6W		330	SOUTH	1650	WEST	RIO ARriba

¹² Dedicated Acres 303.88 Acres - Entire Section	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]

Signature

John C. Thompson

Printed Name

Agent/Engineer

Title

4/16/02

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: APRIL 2, 2002

Signature and Seal of Professional Surveyor



Jason C. Edwards

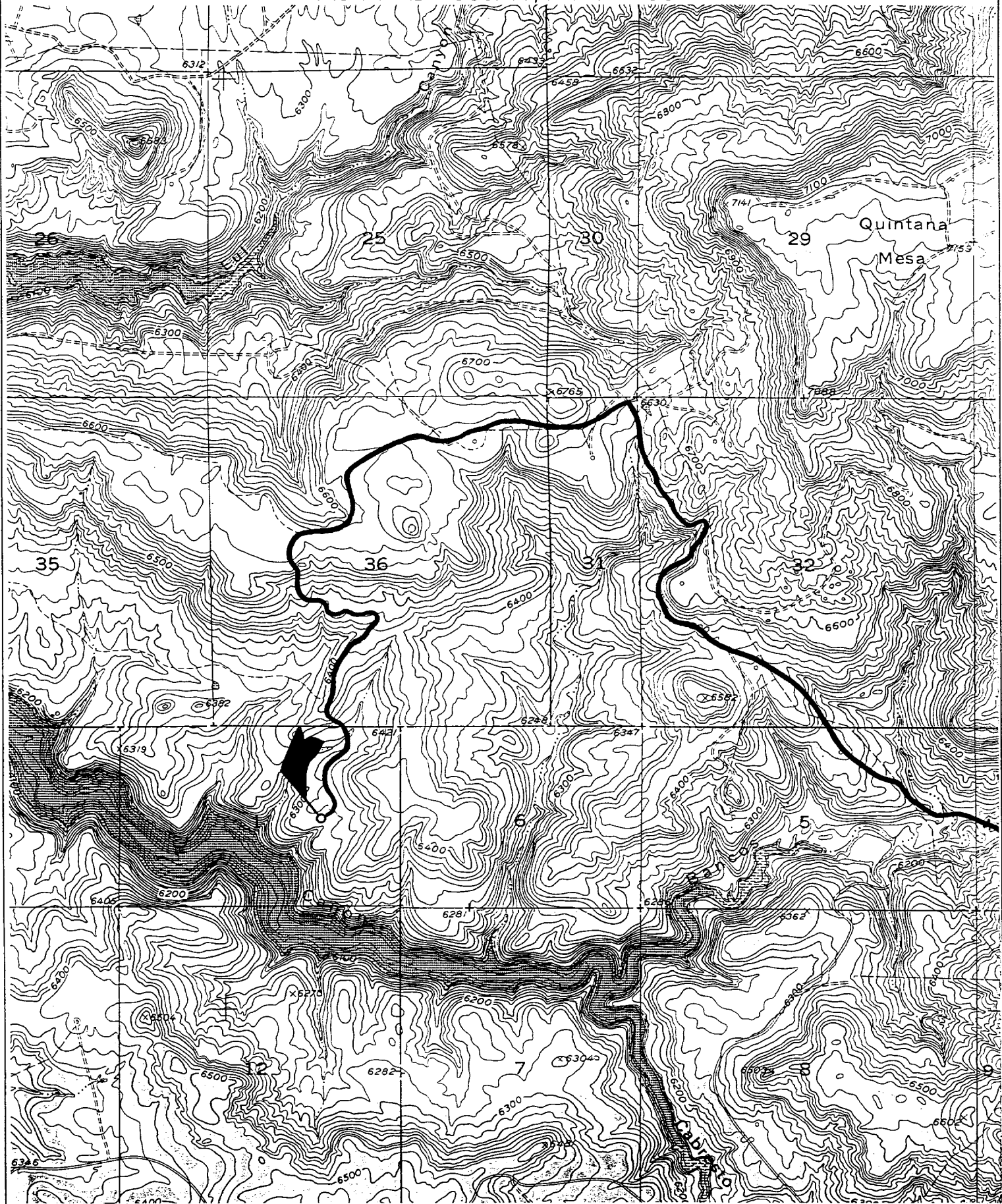
Certificate Number

15269

WILLIAMS PRODUCTION COMPANY ROSA UNIT #164B

1475' FSL & 1235' FEL, SECTION I, T31N, R6W, N.M.P.M.

RIO ARriba COUNTY, NEW MEXICO





WILLIAMS PRODUCTION COMPANY

OPERATIONS PLAN

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

DATE: 4/24/2002

WELL NAME: Rosa Unit 164B **FIELD:** Basin DK/ Blanco MV

SURFACE LOCATION: NW/4 SE/4 Sec. 1- T31N-R6W **SURFACE:** BLM
Rio Arriba, NM

ELEVATION: 6317' GR **MINERALS:** Fed

LEASE # SF-078772

MEASURED DEPTH: 8662'

I. GEOLOGY: Surface formation - San Jose

A. FORMATION TOPS: (KB)

	<u>TVD</u>	<u>MD</u>		<u>TVD</u>	<u>MD</u>
Ojo Alamo	2344'	2646'	Mancos sh	5889'	6360'
Kirtland sh	2459'	2765'	Gallup ss	6944'	7400'
Fruitland cl	2889'	3286'	Greenhorn ls	7674'	8120'
Pictured Cliffs ss	3119'	3513'	Graneros sh	7734'	8180'
Lewis sh	3424'	3846'	Dakota ss	7869'	8310'
Cliff House ss	5329'	5790'			
Menefee	5374'	5835'			
Point Lookout ss	5589'	6030'	Total Depth	8119'	8662'

B. LOGGING PROGRAM: DIL from TD to the Intermediate Casing Shoe. DEN/Neutron/GR (selected intervals by on-site Geologist). *Subject to change as wellbore conditions dictate.*

C. NATURAL GAUGES: Gauge any noticeable increases in gas flow. Gauge well @ 5800' and before TOH for logs @ 7954'. Record all gauges in Tour book and on morning reports.

II. DRILLING

A. MUD PROGRAM: Clear water with benex to 7" casing point. LSND to log and run pipe. Treat for lost circulation as necessary. Obtain 100% returns prior to cementing. Notify Engineering of any mud losses.

B. BOP TESTING: While drill pipe is in use, the pipe rams will be function tested not less than once each day. 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.

- C. **BIT PROGRAM:** Use **Hammer bit** from Intermediate to just above the Greenhorn formation. Replace Hammer bit with **Tricone** bit to drill through the Dakota formation

III. **MATERIALS**

A. **CASING PROGRAM:**

<u>CASING TYPE</u>	<u>HOLE SIZE</u>	<u>DEPTH</u>	<u>CASING SIZE</u>	<u>WT. & GRADE</u>
Surface	14-3/4"	+/- 500'	10-3/4"	40.5# K-55
Intermediate	9-7/8"	+/-4537'	7-5/8"	26.4# K-55
Prod. Casing	6-3/4"	+/- 8662'	5-1/2"	17.0# N-80

B. **FLOAT EQUIPMENT:**

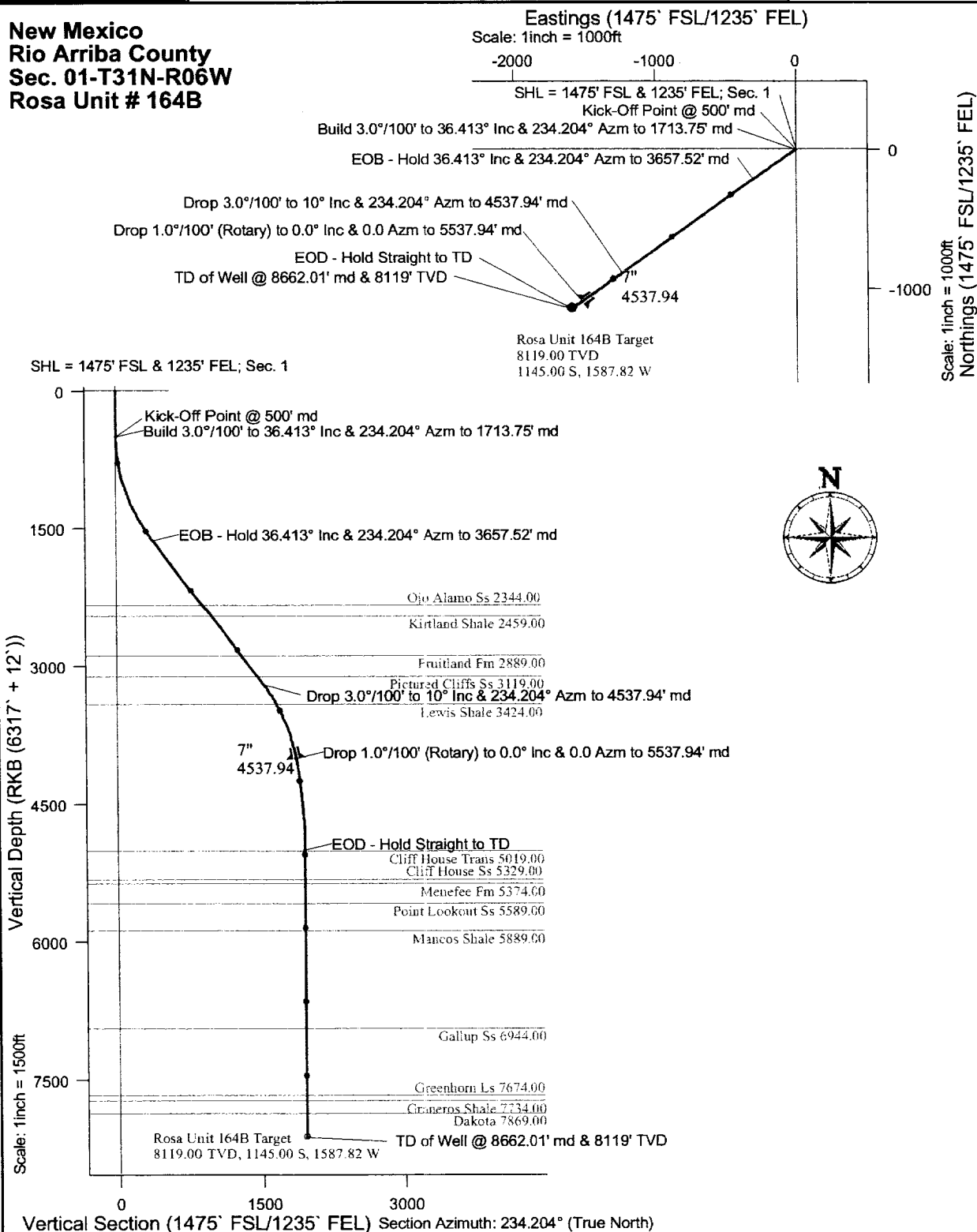
1. **SURFACE CASING:** 10-3/4" notched regular pattern guide shoe. Run (1) Standard centralizer on each of the bottom (3) Joints.
2. **INTERMEDIATE CASING:** 7-5/8" cement nose guide shoe with a self- fill insert float. Place float one (1) joint above the shoe and five (5) centralizers, spaced every other joint, starting with the float collar. Place turbulent centralizers, at 120' intervals, starting at 1500' to the surface. Total centralizers (5 regular and 13 turbulent).
3. **PRODUCTION CASING:** 5-1/2" whirler type cement nose guide shoe with a latch collar on top of 20' bottom joint. Place 20' marker joint on top of 10 th joint and one above 5100'.

C. **CEMENTING:**

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

1. **SURFACE:** Use 460sx (626cu.ft.) of class "Type III" with 2% CaCl₂ and 1/4# of cello-flake/sk (Yield = 1.39 cu.ft./sk, Weight = 14.5 #/gal.). 125% excess to circulate the surface. WOC 12 hours. Test to 1500#.
2. **INTERMEDIATE:** Lead: 655sx (1363cu.ft.) of class "Premium Lite" 65/35, Type III/Poz with 8% gel and 1/4# cello-flake/sk (Yield = 2.09 cu.ft./sk, Weight = 12.1 #/gal.). Tail: 420sx (586cu.ft.) of class "Type III" with 1/4# cello-flake/sk (Yield = 1.39 cu.ft./sk, Weight = 14.5#/gal.). 100% excess in lead and tail to circulate to surface. Total volume = 1949 cu.ft. WOC 12 hours. Run a temperature survey after 8 hours if cement is not circulated.
3. **PRODUCTION CASING:** 30 sks Scavenger of Premium Light HS + 1% FL-52 + .3% CD-32 + 2% KCl + .25 #/sk Celloflake + 4% Phenoseal + .2% R3. (Weight = 11 #/gal.). **Cement Slurry:** 230 sx (458ft³) of Premium Light HS + 1% FL-52 + .3% CD-32 + 2% KCl .25 #/sk Celloflake + 4% Phenoseal + .2% R3. (Yield = 2.02 ft³/sk, Weight = 12.5 #/gal.). Displace cement at a minimum of 8 BPM. Use 30% excess in calculation to raise cement 100' into intermediate casing. Total volume 458ft³. WOC 12 hours.

New Mexico
Rio Arriba County
Sec. 01-T31N-R06W
Rosa Unit # 164B



Prepared by: Terry Hemdon	Date/Time: 24 April, 2002 - 8:21	Checked:	Approved:
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Williams Production Company, LLC

Well Control Equipment Schematic for 2M Service

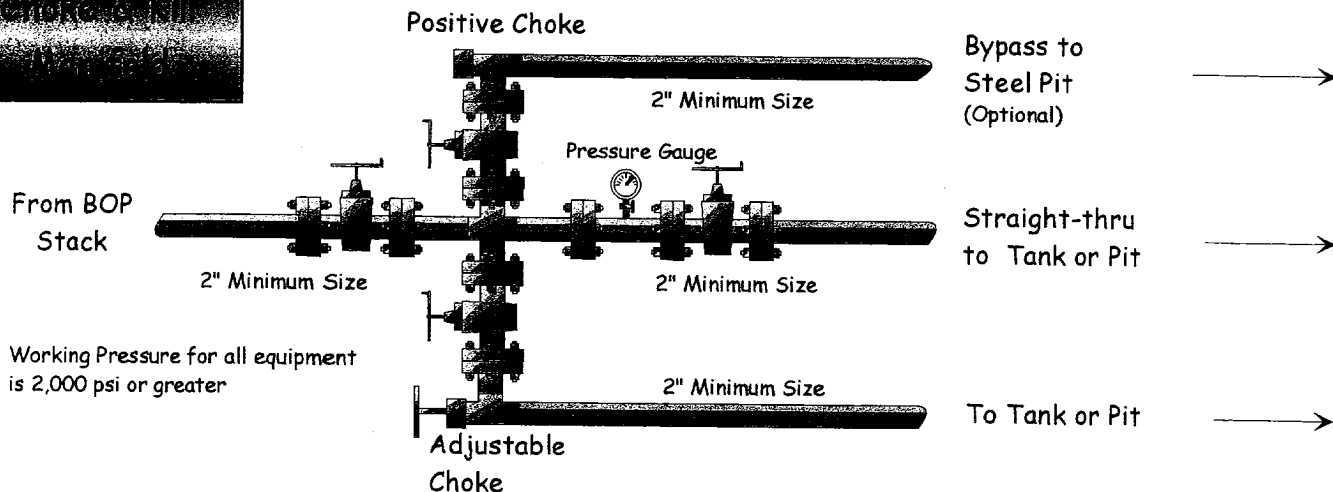
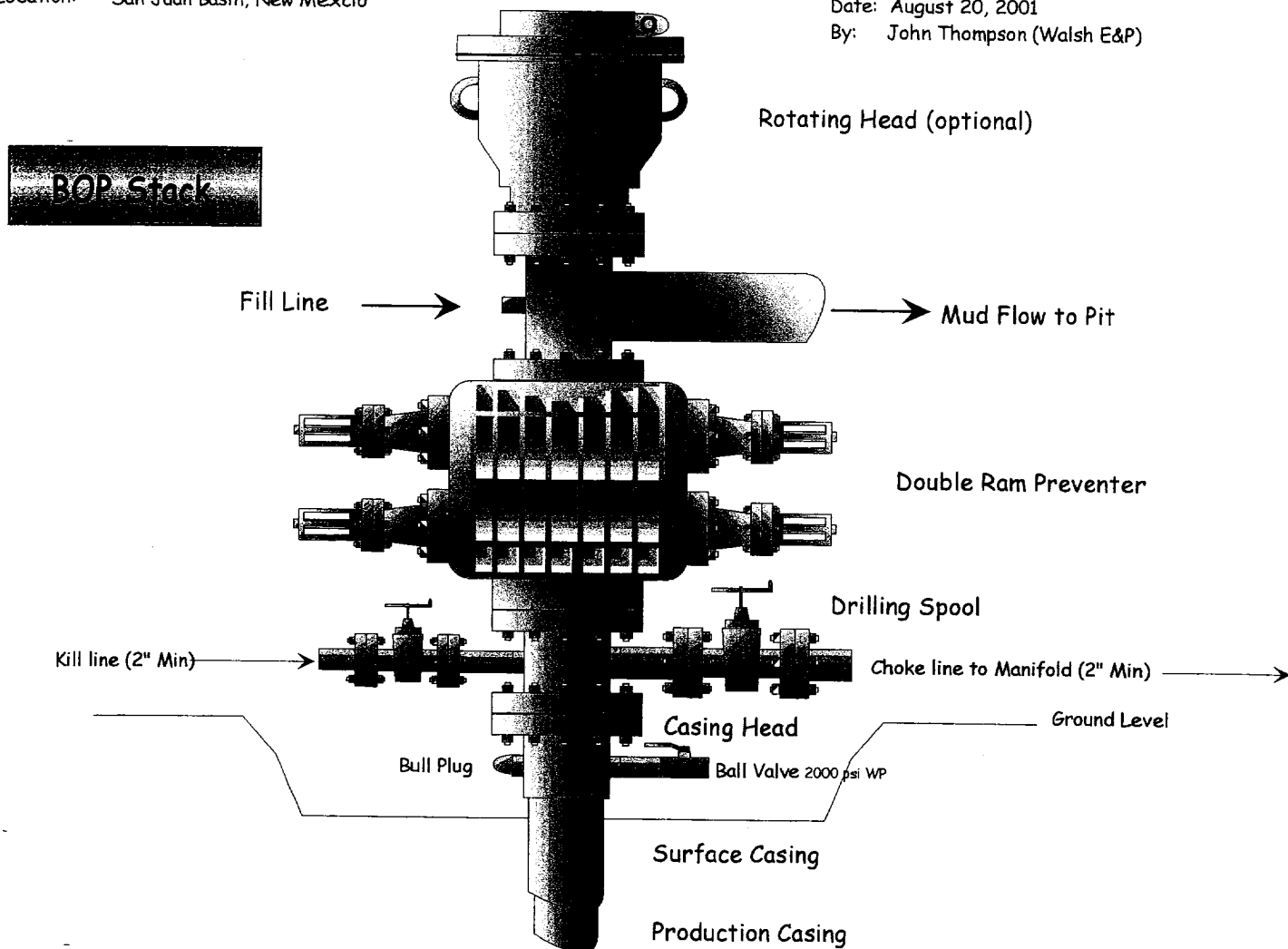
Attachment to Drilling Technical Program

Typical BOP setup

Location: San Juan Basin, New Mexico

Date: August 20, 2001

By: John Thompson (Walsh E&P)



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