

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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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 Rosa Unit	
1b. TYPE OF WELL OIL <input type="checkbox"/> GAS <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> SINGLE <input type="checkbox"/> MULTIPLE <input checked="" type="checkbox"/> WELL <input type="checkbox"/> WELL <input checked="" type="checkbox"/> ZONE <input type="checkbox"/> ZONE <input checked="" type="checkbox"/>		8. FARM OR LEASE NAME, WELL NO. 138B	
2. NAME OF OPERATOR Williams Production Company		9. API WELL NO. 3004532168	
3. ADDRESS OF OPERATOR P.O. Box 316 - Ignacio, CO 81137 - phone (970) 563-3308		10. FIELD AND POOL OR WILDCAT Blanco Mesa Verde/Basin Dakota	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)* At Surface 1805' FNL and 1170' FEL At proposed Prod. Zone 990' FNL and 2310' FEL		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA H Sec. 17, T31N, R6W	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 25 miles NE of Blanco, NM		12. COUNTY OR PARISH San Juan	13. STATE NM
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 990'	16. NO. OF ACRES IN LEASE 2552.71	17. NO. OF ACRES ASSIGNED TO THIS WELL 320 - E/2	
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR ON THIS LEASE, FT. 25'	19. PROPOSED DEPTH 8480'	20. ROTARY OR CABLE TOOLS Rotary	
21. ELEVATIONS (Show whether DF, RT, GR, etc.) 6367'		22. APPROX. DATE WORK WILL START* April 1, 2004	

23. PROPOSED CASING AND CEMENTING PROGRAM				
SIZE OF HOLE	SIZE OF CASING	WEIGHT/FOOT	SETTING DEPTH	QUANTITY OF CEMENT
14-3/4"	10-3/4"	32.75#	+/- 300'	~356 cu.ft. Type III w/ 2% CaCl ₂
9-7/8"	7-5/8"	26.4#	+/- 4005'	~1302 cu.ft. 65/35 poz & ~209 cu.ft. Type
6-3/4"	5-1/2"	17.0#	+/- 8480'	~560 cu.ft. Prem. Lite HS w/ additives

Williams Production Company proposes to drill a vertical well to develop the Mesa Verde and Dakota formations at the above described location in accordance with the attached drilling and surface use plans. The surface is under the jurisdiction of the Bureau of Reclamation.

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 require no new road. Access will originate from the Rosa Unit #138 well pad which is accessed by an existing road that runs in the through the NE qtr sec 17, NW qtr sec 16, the W/2 sec 9, N/2 sec 8, NE qtr sec 7, SE qtr sec 6, SW qtr 5, T31N, R6W, SW qtr sec 32, E/2 sec 31, all sec 30, T32N, R6W, and the NE qtr sec 25, T32N, R7W, where it joins San Juan County road #4020.

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 Larry Higgins TITLE Larry Higgins, Drlg COM DATE 1/29/2004

(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 [Signature] TITLE AFM DATE 8-10-04

*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.

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

NMOCD

HOLD C104 FOR Dir. Summary - is on target will require NSL for both pools
DRILLING OPERATIONS AUTHORIZED ARE
SUBJECT TO COMPLIANCE WITH ATTACHED
"GENERAL REQUIREMENTS".

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

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised February 21, 1994

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

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

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

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

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

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☐ AMENDED REPORT

070 Farmington, NM

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-045-32168		*Pool Code 72319 - 71599	*Pool Name Blanco Mesaverde - Basin Dakota
*Property Code 17033	*Property Name ROSA UNIT		*Well Number 138B
*GRID No. 120782	*Operator Name WILLIAMS PRODUCTION COMPANY		*Elevation 6367'

¹⁰ Surface Location

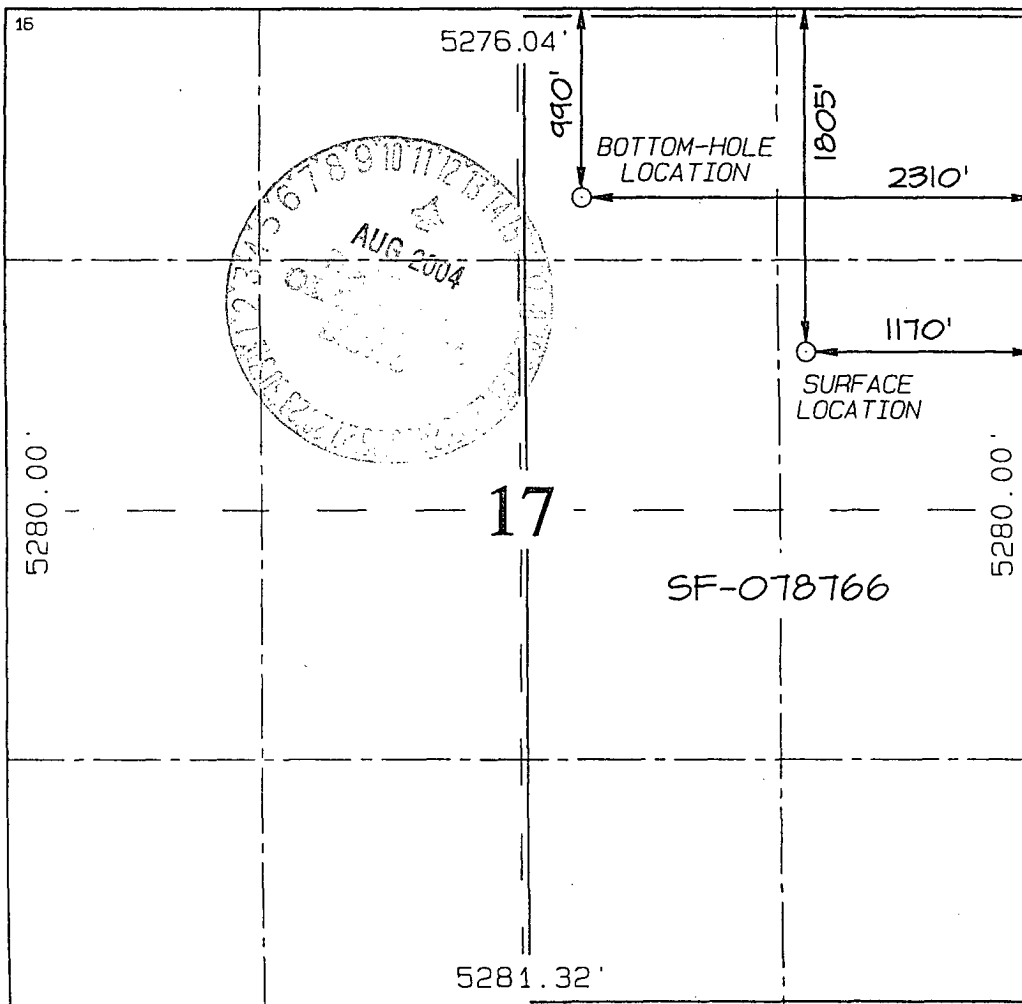
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	17	31N	6W		1805	NORTH	1170	EAST	SAN JUAN

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
B	17	31N	6W		990	NORTH	2310	EAST	SAN JUAN

¹² Dedicated Acres 320.0 Acres - (E/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

Larry Higgins
Signature

LARRY HIGGINS
Printed Name

DRILLING COM
Title

1-29-04
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.

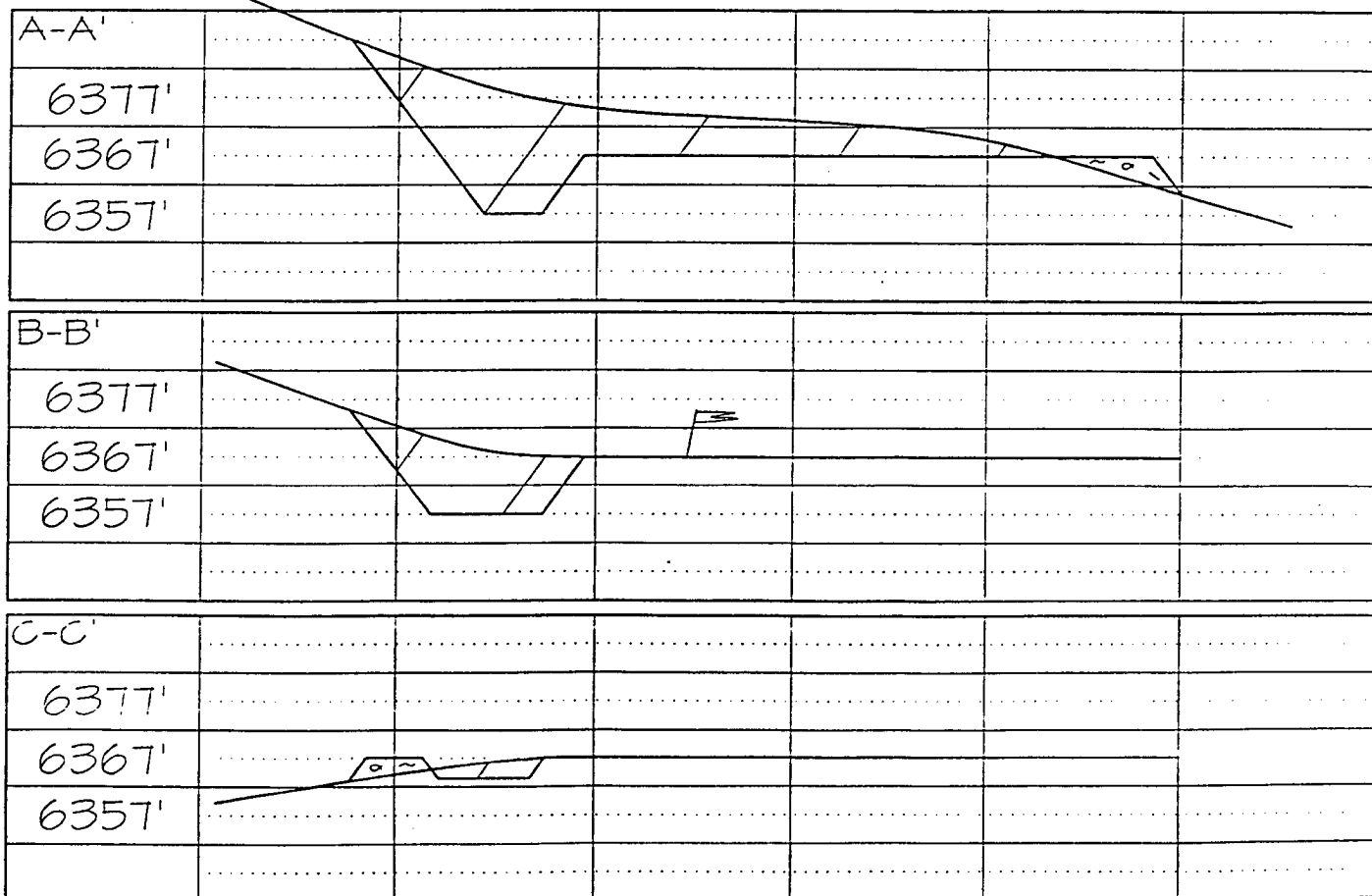
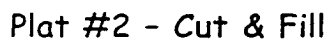
Date of Survey: JULY 11, 2001
Revised: JANUARY 22, 2002

Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269

LATITUDE: 36°54'07"
LONGITUDE: 107°28'50"
DATUM: NAD1927





WILLIAMS PRODUCTION COMPANY

Operations Plan

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

DATE: 1/28/2004 **FIELD:** BasinDK/BlancoMV
WELL NAME: Rosa #138B **SURFACE:** Fed
BH LOCATION: SENE Sec 17-31N-6W
San Juan, NM **MINERALS:** Fed
SURF. LOCATION: SENE Sec 17-31N-6W
ELEVATION: 6,367' GR **LEASE #** SF-078766
MEASURED DEPTH: 8,480'

I. GEOLOGY: Surface formation - San Jose

A. FORMATION TOPS: (KB)

Name	TVD	MD	Name	TVD	MD
Ojo Alamo	2,341	2,567	Cliff House	5,351	5,707
Kirtland	2,441	2,690	Menefee	5,396	5,752
Fruitland	2,946	3,276	Point Lookout	5,641	5,997
Picture Cliffs	3,176	3,521	Mancos	5,931	6,287
Lewis	3,486	3,840	Gallup	6,966	7,322
			Greenhorn	7,686	8,042
			Graneros	7,746	8,102
			Dakota	7,876	8,232
			TD	8,124	8,480

- B. MUD LOGGING PROGRAM:** Mud logger on location from approximately 3,000' to intermediate casing point.
- C. LOGGING PROGRAM:** High Resolution Induction/ GR and Density/ Neutron log from surface to intermediate casing point and High Resolution Induction/ GR and Density/ Neutron log from intermediate shoe to TD. Onsite geologist will pick Density/ Neutron log intervals on both logging runs.
- 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 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. & GRADE</u>
Surface	14-3/4"	+/- 300'	10-3/4"	32.75# H-40
Intermediate	9-7/8"	+/- 4005'	7-5/8"	26.4# K-55
Prod. Casing	6-3/4"	+/- 8480'	5-1/2"	17.0# N-80

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 one Turbulent centralizer on each of the bottom (3) joints and one standard centralizer every (4) joints to the surface casing. Total centralizers = (26) regular and (3) turbulent.
3. **PRODUCTION CASING:** 4-1/2" whirler type cement nose guide shoe with a latch collar on top of 20" bottom joint. Place marker joint above 5630'. Place one positive standoff turbolizer every other joint. Total turbolizers is 34.

C. CEMENTING:

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

1. SURFACE: Slurry: 255sx (356 cu.ft.) of "Type III" + 2% CaCl₂ + 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 - 625 sx (1302) cu.ft.) of "Type III" 65/35 poz with 8% gel, 1% CaCl₂ and 1/4# cello-flake/sk (Yield = 2.09 cu.ft./sk, Weight = 12.1 #/gal.). Tail - 150 sx (209cu.ft.) of "Type III" with 1/4# cello-flake/sk, and 1% CaCl₂ (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 = 1,511 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. Scavenger: 50sx (130ft³) 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 = 2.59 cu.ft./sk, Weight = 11.6 #/gal.). Cement: 215 sx (430 ft³) 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 ft³/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 460ft³. 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 not circulated to surface..

B. PRESSURE TEST


1. Pressure test 7 5/8" & 5-1/2" casing to 3300# for 15 minutes.

C. STIMULATION

1. Stimulate Dakota with approximately 70,000# of 20/40 sand in x-link foam.
2. Isolate Dakota with a RBP.
3. Stimulate Point Lookout with approximately 80,000# of 20/40 sand in slick water.
4. Isolate Point Lookout with a RBP.
5. Perforate the Menefee/Cliff House as determined from the open hole logs.
6. Stimulate with approximately 80,000# of 20/40 sand in slick water.
7. Test each zone before removing bridge plugs.

D. RUNNING TUBING

1. Dakota: Run 2-1/16", 3.25#, J-55, IJ tubing with 1/2 mule shoe on bottom, SN with pump-out plug on top of adeem joint and 5 Seal Units. Land tubing approximately 100' below top Dakota perf.
2. Mesa Verde: Run 2-1/16", 2.9#, J-55, EUE tubing with a SN (1.91" ID) on top of bottom joint. Land tubing approximately 25' above the bottom Point Lookout perforations.


Gary Sizemore
Sr. Drilling Engineer

Williams Production Company, LLC

Well Control Equipment Schematic for 2M Service

Attachment to Drilling Technical Program

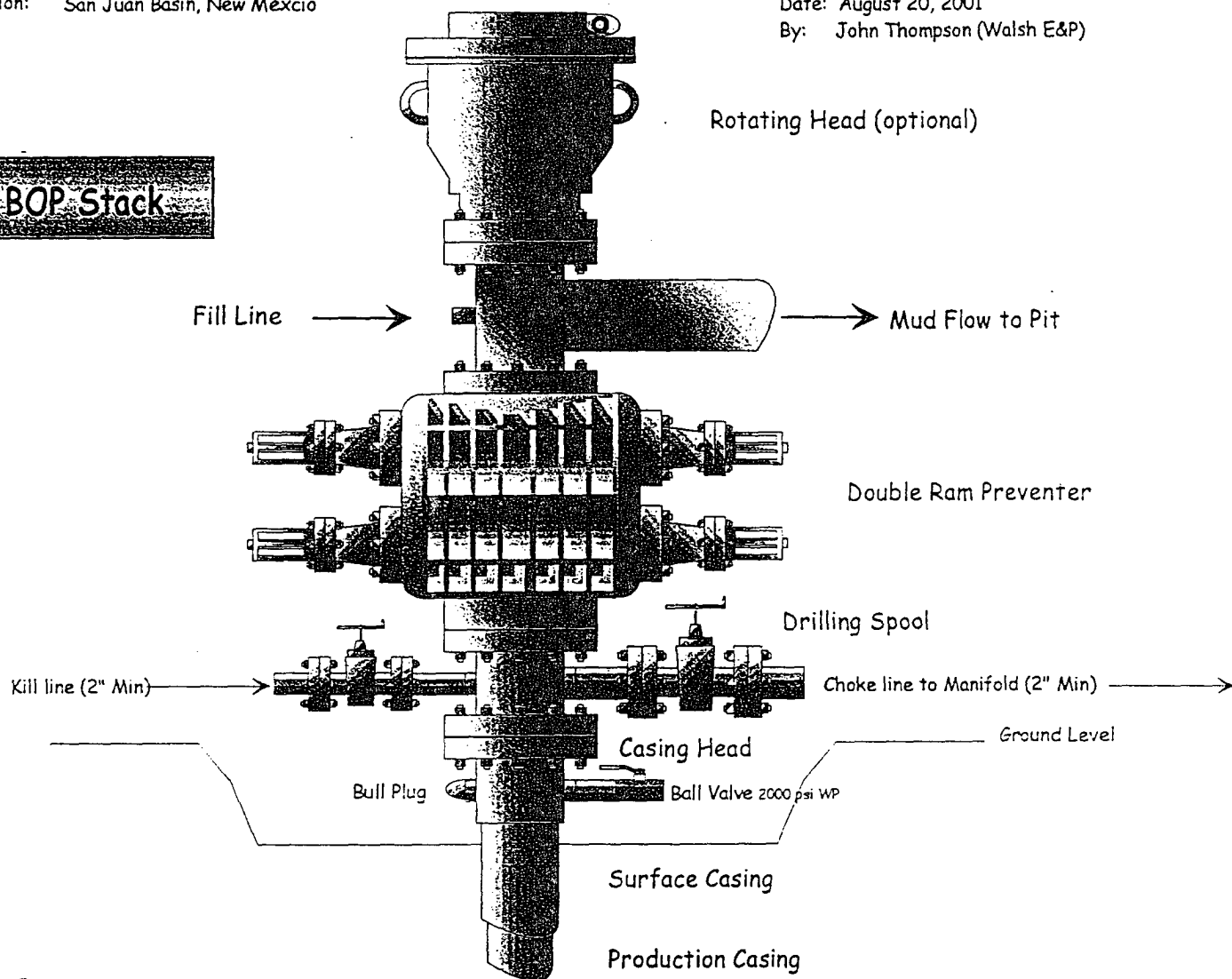
Typical BOP setup

Location: San Juan Basin, New Mexico

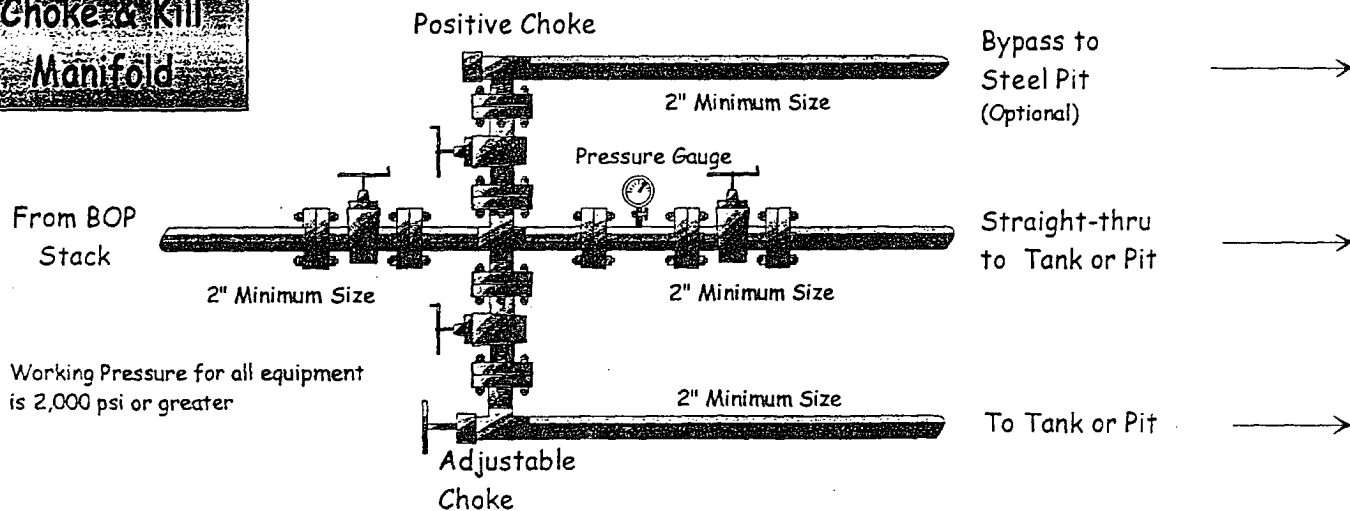
Date: August 20, 2001

By: John Thompson (Walsh E&P)

BOP Stack



Choke & Kill Manifold



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