

SUBMIT IN TRIPLICATE*
(Other instructions on
reverse side)

Form approved.
Budget Bureau No. 1004-0136
Expires December 31, 1991

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. SF- 078772	
1b. TYPE OF WELL OIL <input type="checkbox"/> GAS <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
2. NAME OF OPERATOR Williams Production Company, LLC		7. UNIT AGREEMENT NAME Rosa Unit	
3. ADDRESS OF OPERATOR P.O. Box 316 - Ignacio, Colorado 81137 - Phone (970)563-3308		8. FARM OR LEASE NAME, WELL NO. 169C	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)* At Surface 150' FSL & 315' FWL - sec 2, T31N, R6W At proposed Prod. Zone 990' FSL & 330' FEL - sec 3, T31N, R6WL		9. API WELL NO. 30039 27717	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* ~27 miles NE of Blanco, NM		10. FIELD AND POOL OR WILDCAT Blanco Mesaverde	
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 330'		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA M Sec. 3, T31N, R6W	
16. NO. OF ACRES IN LEASE 2561.86		12. COUNTY OR PARISH Rio Arriba	
17. NO. OF ACRES ASSIGNED TO THIS WELL 320 W/2 A11 350.54		13. STATE NM	
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR ON THIS LEASE, FT. 25'		19. PROPOSED DEPTH 6342'	
20. ROTARY OR CABLE TOOLS Rotary		21. ELEVATIONS (Show whether DF, RT, GR, etc.) 6403' GR	
22. APPROX. DATE WORK WILL START* June 15, 2004			

23. PROPOSED CASING AND CEMENTING PROGRAM				
SIZE OF HOLE	SIZE OF CASING	WEIGHT/FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	9-5/8"	36.0#	+/- 300'	~205 cu.ft. Type III with 2% CaCl ₂
8-3/4"	7"	20.0#	+/- 3851'	~880 cu.ft. 65/35 poz & ~139 cu.ft. Type
6-1/4"	4-1/2"	10.5#	+/- 3751'-6342'	~317 cu.ft. Prem. Lite HS w/additives

HOLD C104 FOR Directional Survey

Williams Production Company, LLC proposes to drill a directional well to develop the Mesa Verde formation 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 require 2100' of new access road (see Pipeline & Well Plats #3 & #4). The well will share a location with the Rosa Unit #181C. This new road will proceed East across the SW qtr sec 2, T31N, R6W where it joins an existing road. This road then proceeds South through the SW qtr sec 2 and the E/2 sec 11, T31N, R6W where it joins the main "Rosa Road" in the SE qtr sec 11, T31N, R6W.

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 4/28/2004

(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 ATM DATE 9-2-04

*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.

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

NMOCD

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

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 30-039-27717		*Pool Code 72319	*Pool Name BLANCO MESAVERDE
*Property Code 17033	*Property Name ROSA UNIT		*Well Number 169C
*GRID No. 120782	*Operator Name WILLIAMS PRODUCTION COMPANY		*Elevation 6403'

¹⁰ Surface Location

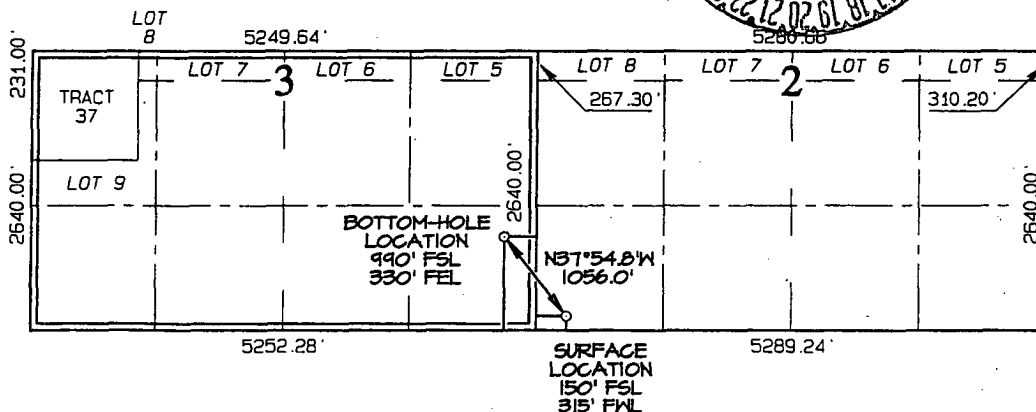
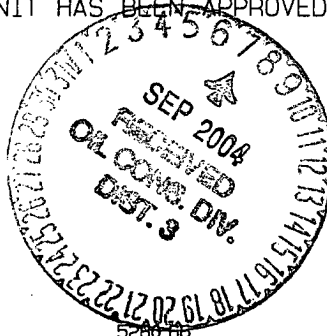
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	2	31N	6W		150	SOUTH	315	WEST	RIO ARriba

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
P	3	31N	6W		990	SOUTH	330	EAST	RIO ARriba

¹² Dedicated Acres 350.54 A11	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 4-28-04

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.

Survey Date: FEBRUARY 5, 2004

Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
March 4, 2004

For drilling and production facilities, submit to appropriate NMOCD District Office.
For downstream facilities, submit to Santa Fe office

Pit or Below-Grade Tank Registration or Closure

Type of action: Registration of a pit or below-grade tank ☒ Closure of a pit or below-grade tank

Operator: Williams Production Company Telephone: (970) 563-3308 e-mail address: larry.higgins@williams.com

Address: P.O. Box 316 - Ignacio, Colorado

Facility or well name: Rosa Unit #169C/#181C API #: U/L or Qtr/Qtr SW/SW Sec 2 T 31N R 6W

County: Rio Arriba Latitude Longitude Surface Owner Federal ☒ State Private Indian

Note: This pit will be shared by the Rosa #169C and the Rosa #181C

Pit	Below-grade tank	
Type: Drilling <input checked="" type="checkbox"/> Production Disposal	Volume: bbl Type of fluid:	
Vorkover <input type="checkbox"/> Emergency <input type="checkbox"/>	Construction material:	
Lined <input checked="" type="checkbox"/> Unlined <input type="checkbox"/>	Double-walled, with leak detection? Yes <input type="checkbox"/> If not, explain why not.	
Liner type: Synthetic <input checked="" type="checkbox"/> Thickness 20 mil Clay <input type="checkbox"/> Volume 13715 bbl		
Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.)	Less than 50 feet	(20 points)
	50 feet or more, but less than 100 feet	(10 points)
	100 feet or more <input checked="" type="checkbox"/>	(0 points)
Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)	Yes	(20 points)
	No <input checked="" type="checkbox"/>	(0 points)
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet	(20 points)
	200 feet or more, but less than 1000 feet <input checked="" type="checkbox"/>	(10 points)
	1000 feet or more	(0 points)
Ranking Score (Total Points)		10

If this is a pit closure:

- attach a diagram of the facility showing the pit's relationship to other equipment and tanks.
- Indicate disposal location: onsite ☐ offsite ☐ If offsite, name of facility
- Attach a general description of remedial action taken including remediation start date and end date.
- Groundwater encountered: No ☐ Yes ☐ If yes, show depth below ground surface ft. and attach sample results.
- Attach soil sample results and a diagram of sample locations and excavations.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described pit or below-grade tank will be constructed or closed according to NMOCD guidelines.

Date: 4-28-04

Printed Name/Title Larry Higgins Signature 

Our certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval:

Date:

Printed Name/Title Signature 

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1301 W. Grand Avenue, Artesia, NM 88210
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County: Rio Arriba Latitude Longitude Surface Owner Federal ☒ State Private Indian

Note: This pit will be shared by the Rosa #169C and the Rosa #181C

Pit Type: Drilling Production <input checked="" type="checkbox"/> Disposal Vorkover <input type="checkbox"/> Emergency <input type="checkbox"/> Lined Unlined <input type="checkbox"/> Liner type: Synthetic Thickness mil Clay <input type="checkbox"/> Volume bbl	Below-grade tank Volume: 120 bbl Type of fluid: produced water Construction material: fiberglass Double-walled, with leak detection? Yes <input checked="" type="checkbox"/> If not, explain why not.
Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.)	Less than 50 feet (20 points) 50 feet or more, but less than 100 feet (10 points) 100 feet or more <input checked="" type="checkbox"/> (0 points)
Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)	Yes (20 points) No <input checked="" type="checkbox"/> (0 points)
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet (20 points) 200 feet or more, but less than 1000 feet <input checked="" type="checkbox"/> (10 points) 1000 feet or more (0 points)
	Ranking Score (Total Points) 10

If this is a pit closure:

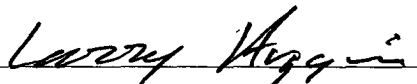
- attach a diagram of the facility showing the pit's relationship to other equipment and tanks.
- Indicate disposal location: onsite ☐ offsite ☐ If offsite, name of facility
- Attach a general description of remedial action taken including remediation start date and end date.
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I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that the above-described pit or below-grade tank will be constructed or closed according to NMOCD guidelines.

Date: 4-28-04

Printed Name/Title: Larry Higgins

Signature



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Approval:

SEP - 7 2004

Date: DEPUTY OIL & GAS INSPECTOR, DIST. 48

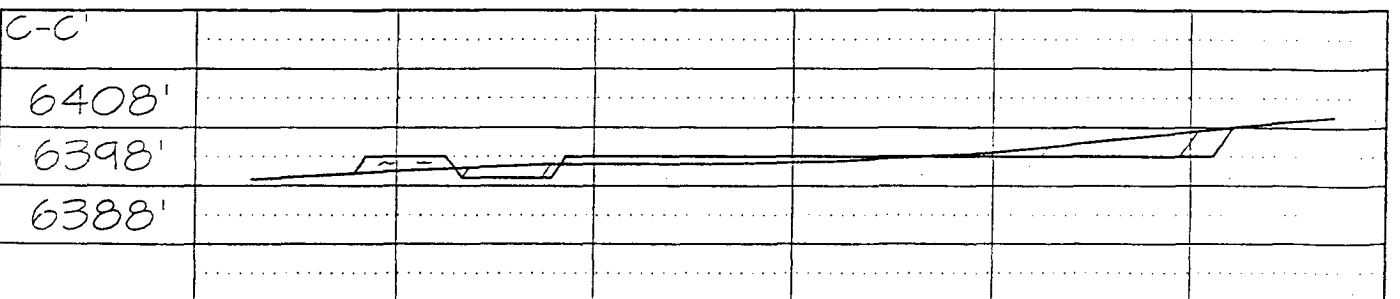
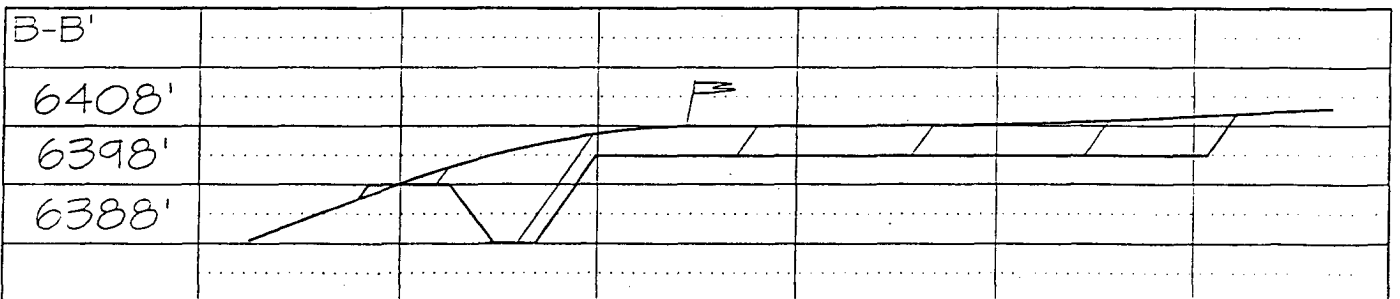
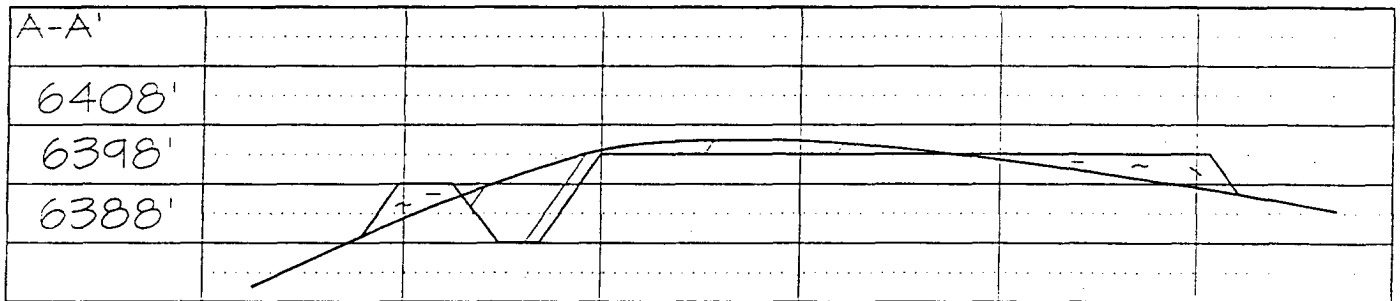
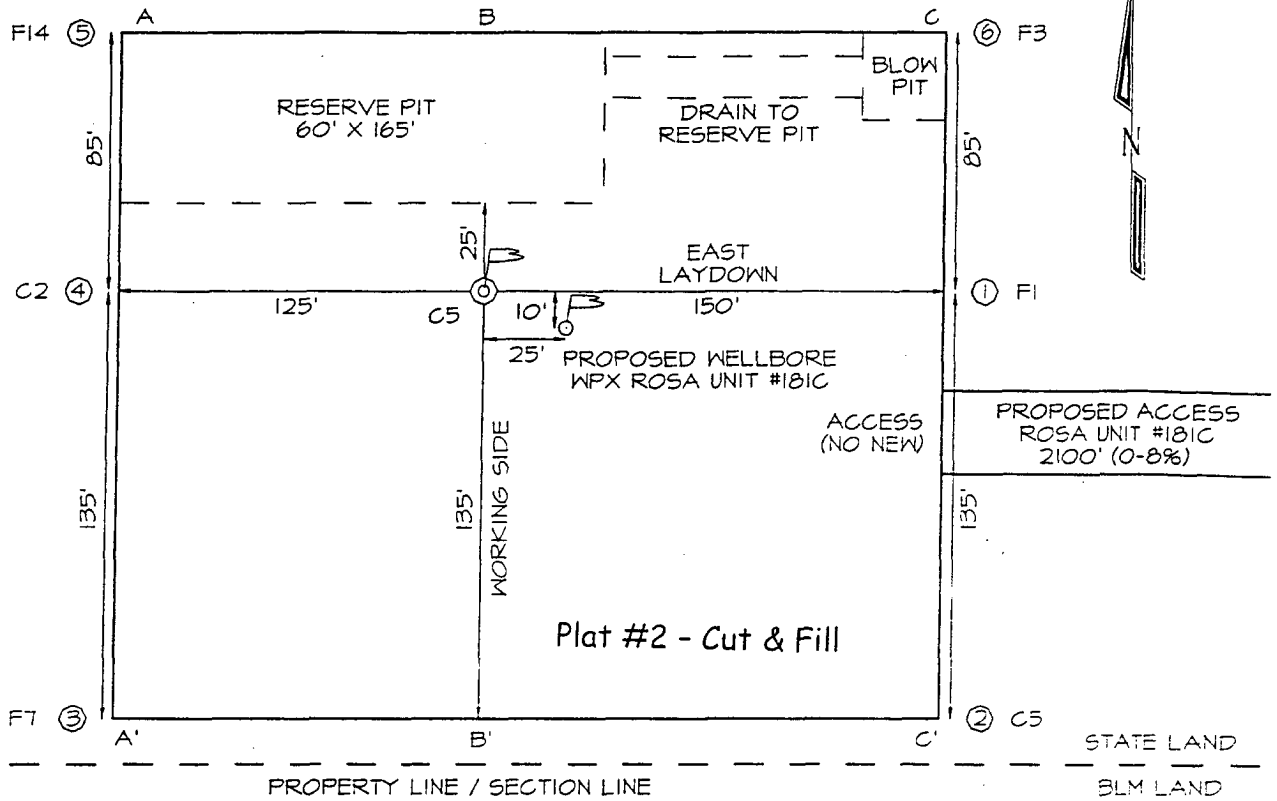
Printed Name/Title

Signature



WILLIAMS PRODUCTION COMPANY ROSA UNIT #169C
150' FSL & 315' FWL, SECTION 2, T31N, R6W, NMPM
RIO ARriba COUNTY, NEW MEXICO
GROUND ELEVATION: 6403'

LATITUDE: 36°55'19"
 LONGITUDE: 107°26'22"
 DATUM: NAD1927





WILLIAMS PRODUCTION COMPANY

Operations Plan

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

<u>DATE:</u>	4/28/2004	<u>FIELD:</u>	Blanco MV
<u>WELL NAME:</u>	Rosa Unit #169C	<u>SURFACE:</u>	Fed
<u>BH LOCATION:</u>	SESE Sec 3-31N-6W Rio Arriba, NM	<u>MINERALS:</u>	Fed
<u>SURF. LOCATION:</u>	SWSW Sec 2-31N-6W		
<u>ELEVATION:</u>	6,403' GR	<u>LEASE #</u>	SF-078772
<u>MEASURED DEPTH:</u>	6,342'		

I. GEOLOGY: Surface formation - San Jose

A. FORMATION TOPS: (KB)

Name	TVD	MD	Name	TVD	MD
Ojo Alamo	2,377	2,501	Cliff House	5,452	5,312
Kirtland	2,497	2,631	Menefee	5,497	5,642
Fruitland	2,952	3,123	Point Lookout	5,677	5,687
Picture Cliffs	3,187	3,369	Mancos	6,032	6,222
Lewis	3,512	3,700	TD	6,152	6,342

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 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	12-1/4"	+/- 300'	9-5/8"	36# K-55
Intermediate	8-3/4"	+/- 3,851'	7"	20# K-55
Prod. Liner	6-1/4"	+/- 3,751'-6,342'	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 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: 150sx (205 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 - 420 sx (880) 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 - 100 sx (139cu.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 = 1,019 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 (130ft³) 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: 90 sx (187 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 319 ft³. 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.


Gary Sizemore
Sr. Drilling Engineer

Williams Production Company, LLC

Well Control Equipment Schematic for 2M Service

Attachment to Drilling Technical Program

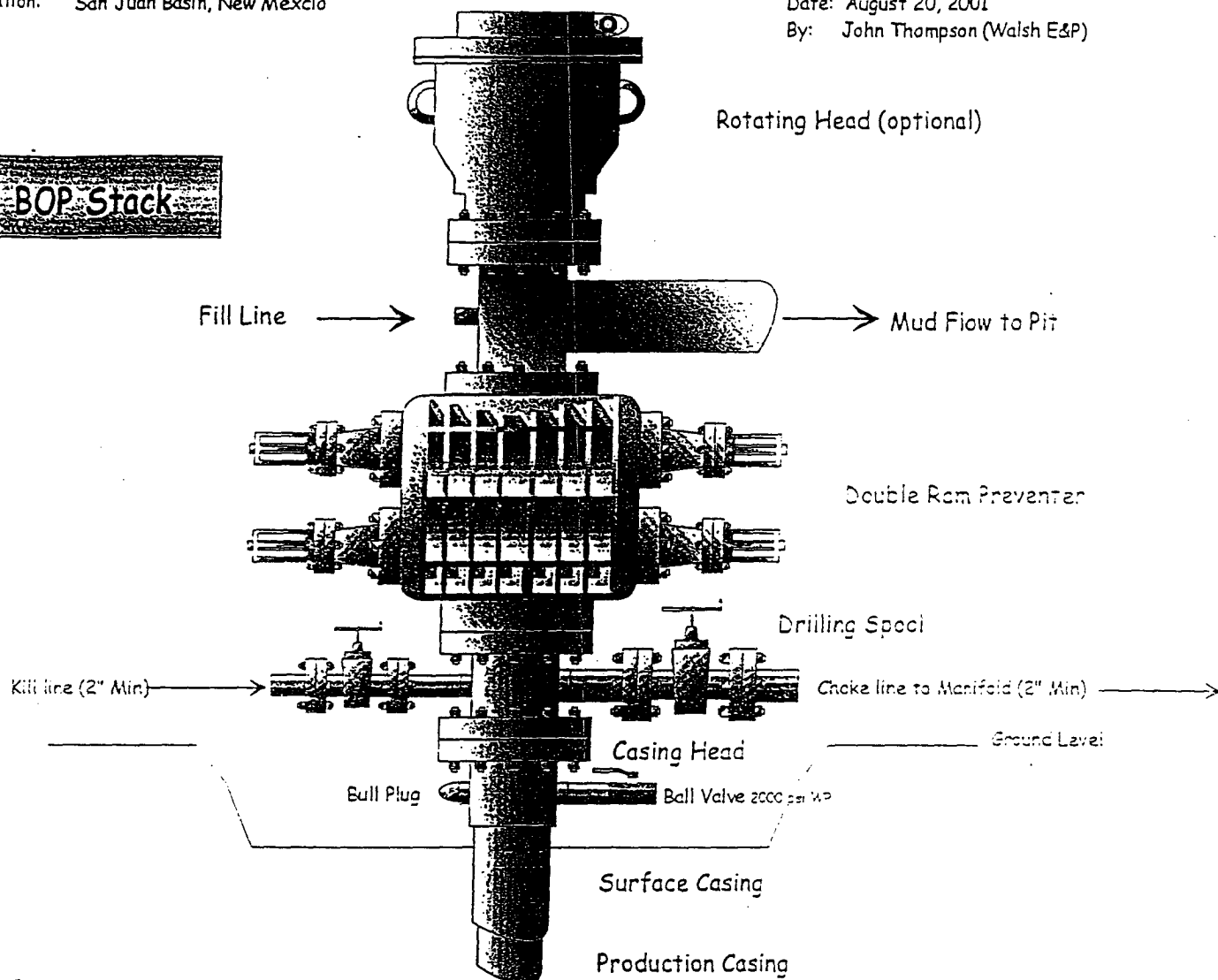
Typical BOP setup

Location: San Juan Basin, New Mexico

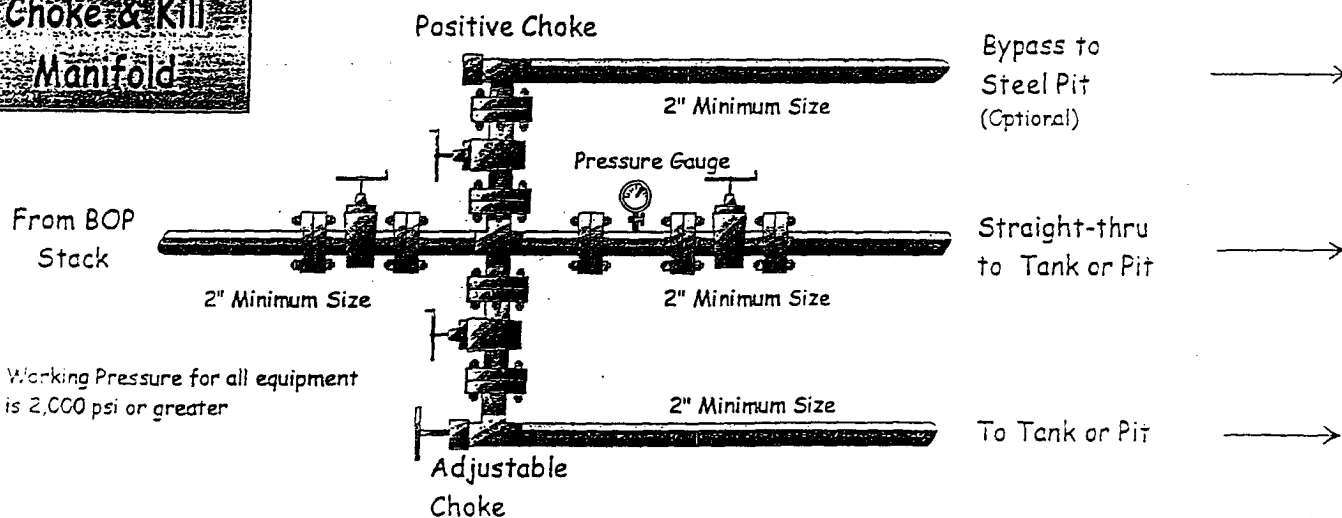
Date: August 20, 2001

By: John Thompson (Walsh E&P)

BOP Stack



Choke & Kill Manifold



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