

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/>		2005 JUN 3 AM 10 28	5. LEASE DESIGNATION AND SERIAL NO. SF-078766
b. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>		RECEIVED	6. IF INDIAN, ALLOTTEE OR TRIBE NAME N/A
2. NAME OF OPERATOR Williams Production Company, LLC		070 FARMINGTON NM	7. UNIT AGREEMENT NAME Rosa Unit
3. ADDRESS AND TELEPHONE NO. P.O. Box 316— Ignacio, Colorado 81137-0316			8. FARM OR LEASE NAME, WELL NO. Rosa Unit 145B
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. *) At surface 590' FNL, 510' FEL NE/4 NE/4 (A) At proposed prod. zone 590' FNL, 510' FEL NE/4 NE/4 (A)			9. API WELL NO. 30-045-33133
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE* 12.88 miles NE of Navaho City, NM			10. FIELD AND POOL, OR WILDCAT Basin DK / Blanco MV
15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drig, unit line, if any) +/- 590'		16. NO. OF ACRES IN LEASE	11. SEC., T., R., M., OR BLK. Section 16, A T31N. R6W. NMPM
18. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. +/- 50'		19. PROPOSED DEPTH +/- 8,125' MD	12. COUNTY OR PARISH San Juan
21. ELEVATIONS (Show whether DF, RT, GR, etc.) 6,326' GR		17. NO. OF ACRES ASSIGNED TO THIS WELL 320 acres N/A	13. STATE NM
20. ROTARY OR CABLE TOOLS Rotary		22. APPROX. DATE WORK WILL START* August 1, 2005	

23. PROPOSED CASING AND CEMENTING PROGRAM				
SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
14-3/4"	10-3/4" H-40	32.75#	+/- 300'	255 sacks Type III cement + 2% CaCl ₂ + 1/4 #/sk. Cello-Flakes
9-7/8"	7-5/8" K-55	26.4#	+/- 3,610'	600 sacks Lead and 100 sacks Tail (see Drilling Plan)
6-3/4"	5-1/2" N-80	17.0#	+/- 7,820'	50 sacks Lead and 200 sacks Tail (see Drilling Plan)
4-3/4"	3-1/2" liner	9.3#	+/- 8,125'	50 sacks (see Drilling Plan)

Other Information:

Drilling Plan, Surface Use Plan and pit application are attached.



NSL in Basin DK
HOLD CITY FOR

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data 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 Don Hamilton Don Hamilton TITLE Agent for Williams DATE May 31, 2005

(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 3/22/06

*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 or the

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

This action is subject to technical and
procedural review pursuant to 43 CFR 3165.2
and appeal pursuant to 43 CFR 3165.4

NMOC D

0300W

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 30-045-33133		Pool Code 72319 \ 71599	Pool Name BLANCO MESAVERDE \ BASIN DAKOTA
Property Code 17033 ✓	Property Name ROSA UNIT ✓		Well Number 145B ✓
GRID No. 120782 ✓	Operator Name WILLIAMS PRODUCTION COMPANY ✓		Elevation 6326' ✓

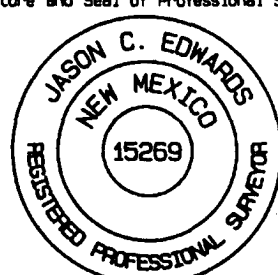
¹⁰ Surface Location

UL or lot no. A	Section 16	Township 31N	Range 6W	Lot Idn	Feet from the 590	North/South line NORTH	Feet from the 510	East/West line EAST	County SAN JUAN ✓
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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
¹² Dedicated Acres 320.0 Acres - (N/2)					¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.		

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

16	5277.36'		590'	510'	¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. <u>Don Hamilton</u> Signature <u>Don Hamilton</u> Printed Name <u>Agent</u> Title <u>May, 31, 2005</u> Date
	SF-078766				
LOT 1		LOT 2	LOT 3		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: MARCH 7, 2002 Signature and Seal of Professional Surveyor  <u>JASON C. EDWARDS</u> Certificate Number 15269
5280.00'		16 FEE		5280.00'	
TRACT 40		TRACT 40		TRACT 39	
5280.00'		5280.00'		5280.00'	

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. <u>30-0415-33133</u>	
5. Indicate Type of Lease Federal STATE <input type="checkbox"/> FEE <input type="checkbox"/>	
6. State Oil & Gas Lease No. SF-078766	
7. Lease Name or Unit Agreement Name Rosa Unit	
8. Well Number 145B	
9. OGRID Number 120782	
10. Pool name or Wildcat Basin DK / Blanco MV	

Pit or Below-grade Tank Application ☐ or Closure ☐

Pit type Drilling Depth to Groundwater 50' - 100' Distance from nearest fresh water well >1000 ft Distance from nearest surface water >200'

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
999 Goddard Ave, Ignacio, CO 81137

4. Well Location
Unit Letter A : 590 feet from the N line and 510 feet from the E line
Section 16 Township 31N Range 6W NMPM County San Juan

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
6326' GL

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.

Pit to be located approximately 50 to 75 feet from well head. Pit will be for multi-use drilling and completion to avoid additional site disturbance and pit will be considered out of service once production tubing set. Pit to be constructed, operated and closed in accordance with NMOCD guidelines and Williams procedures.

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 ☐.

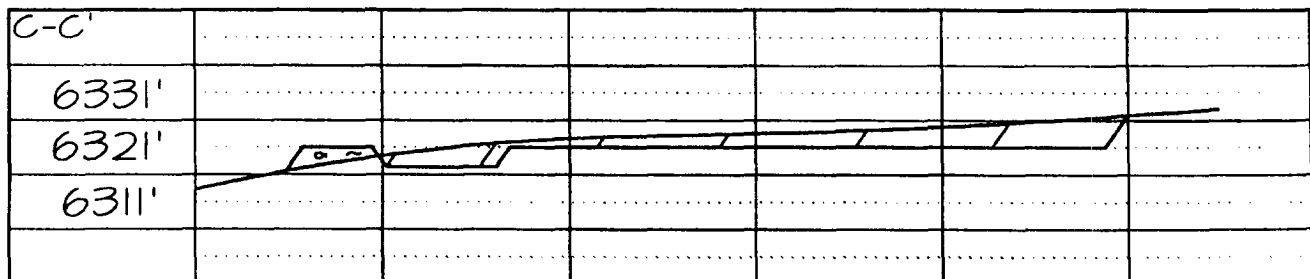
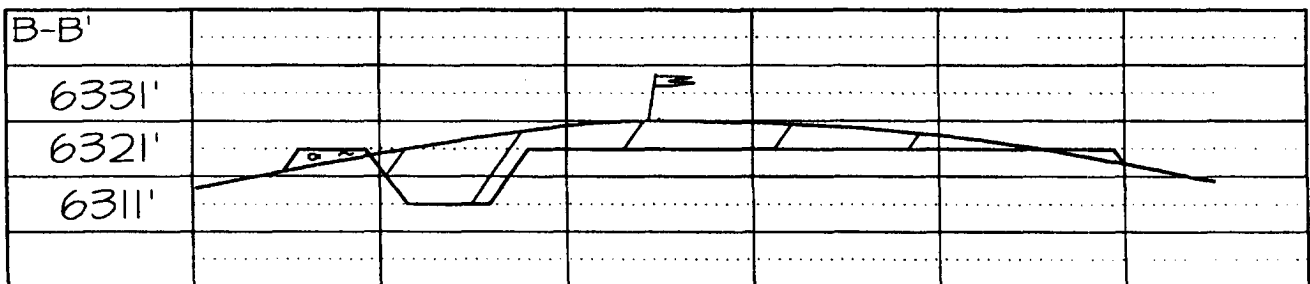
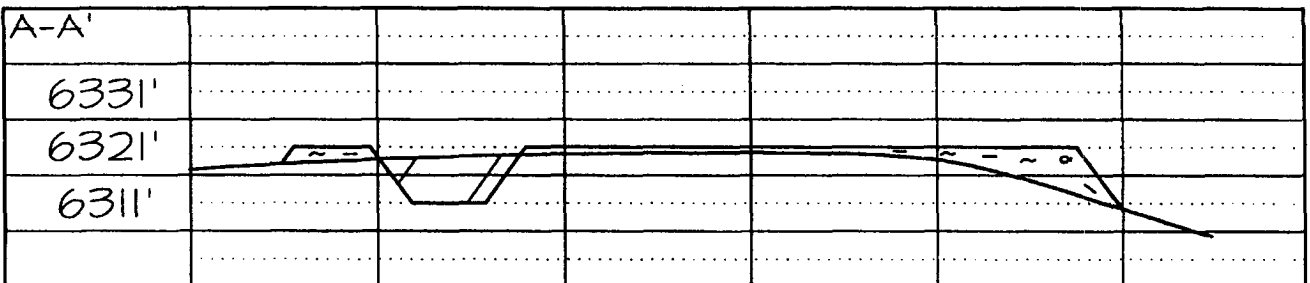
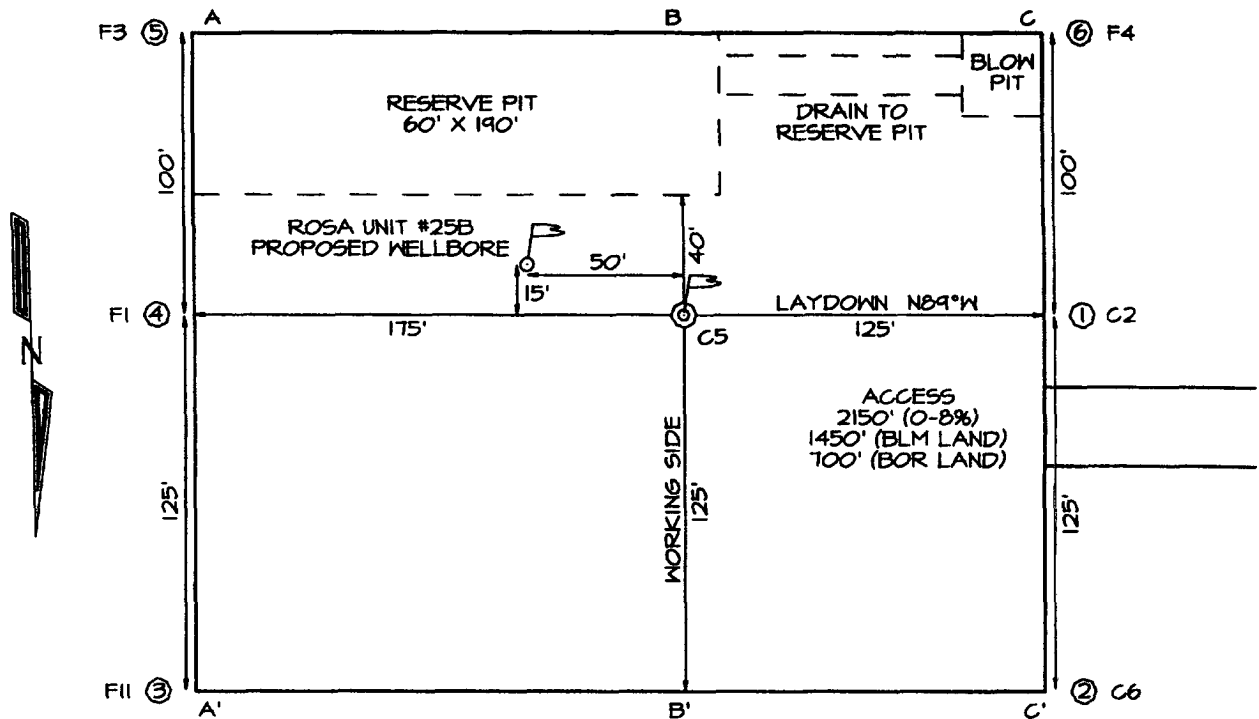
SIGNATURE Don Hamilton TITLE Agent DATE 5/31/05

Type or print name Don Hamilton E-mail address: starpoin@etv.net Telephone No. 435-719-2018
For State Use Only

APPROVED BY: [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. 30 DATE MAR 27 2006
Conditions of Approval (if any):

WILLIAMS PRODUCTION COMPANY ROSA UNIT #145B
590' FNL & 510' FEL, SECTION 16, T31N, R6W, NMPM
SAN JUAN COUNTY, NEW MEXICO
GROUND ELEVATION: 6326'

LATITUDE: 36°54'19"
LONGITUDE: 107°27'37"
DATUM: NAD1927





WILLIAMS PRODUCTION COMPANY

Operations Plan

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

<u>DATE:</u>	5/30/2005	<u>FIELD:</u>	Basin DK/Blanco MV
<u>WELL NAME:</u>	Rosa #145B	<u>SURFACE:</u>	BOR
<u>BH LOCATION:</u>	NENE Sec 16-31N-6W San Juan, NM	<u>MINERALS:</u>	FED
<u>ELEVATION:</u>	6,326' GR	<u>LEASE #</u>	SF-078766
<u>MEASURED DEPTH:</u>	8,125'		

I. GEOLOGY: Surface formation - San Jose

A. FORMATION TOPS: (KB)

Name	MD	Name	MD
Nancimiento	1,145	Cliff House	5,345
Ojo Alamo	2,340	Menefee	5,390
Kirtland	2,460	Point Lookout	5,630
Fruitland	2,890	Mancos	5,925
Pictured Cliffs	3,135	Gallup	6,955
Lewis	3,430	Greenhorn	7,675
		Graneros	7,735
		Dakota	7,870
		Morrison	8,095
		TD	8,125

- B. MUD LOGGING PROGRAM:** Mud logger on location from approximately 7,820' to TD.
- C. LOGGING PROGRAM:** High Resolution Induction/ GR and Density/ Neutron log over zones of interest from surface casing to intermediate casing then to protection casing TD. Cased hole logs over Dakota/ Morrison Onsite geologist will pick Density/ Neutron log intervals 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"	+/-3,610'	7-5/8"	26.4# K-55
Prod. Casing	6-3/4"	+/- 7,820'	5-1/2"	17.0# N-80
Production Liner	4-3/4"	+/-8,125'	3-1/2"	9.3#

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:** 3-1/2" & 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: ~~255~~¹²⁵⁴ sx (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 - ~~600~~¹²⁵⁴ sx (~~1246~~ 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~~¹²⁵⁴ 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 = ~~1404~~¹²⁵⁴ cu. ft. Bump Plug to 1,500 psi. Notify engineering if cement is not circulated to surface.
3. PRODUCTION CASING: 10 bbl Gelled Water space. Scavenger: ~~50~~¹⁰⁸ sx (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: ~~200~~⁴¹⁴ sx (~~414~~ 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 ~~428~~⁵⁶⁰ ft³. WOC 12 hours
4. PRODUCTION LINER: 10 bbl Gelled Water space. Cement: ~~50~~¹⁰⁸ sx (~~100~~ ¹⁰⁸ ft³) of Premium Light HS + 1% FL-52 + .2% CD-32, 0.1% R-3, 3 #/sk CSE, 1/4 #/sk cello flake. (Yield = 2.15 ft³/sk, Weight = 12.3 #/gal.). Displace cement at a minimum of 8 BPM. The 20% excess should cover 100 ft above liner top. Total volume ~~100~~¹⁰⁸ 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 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.

Williams

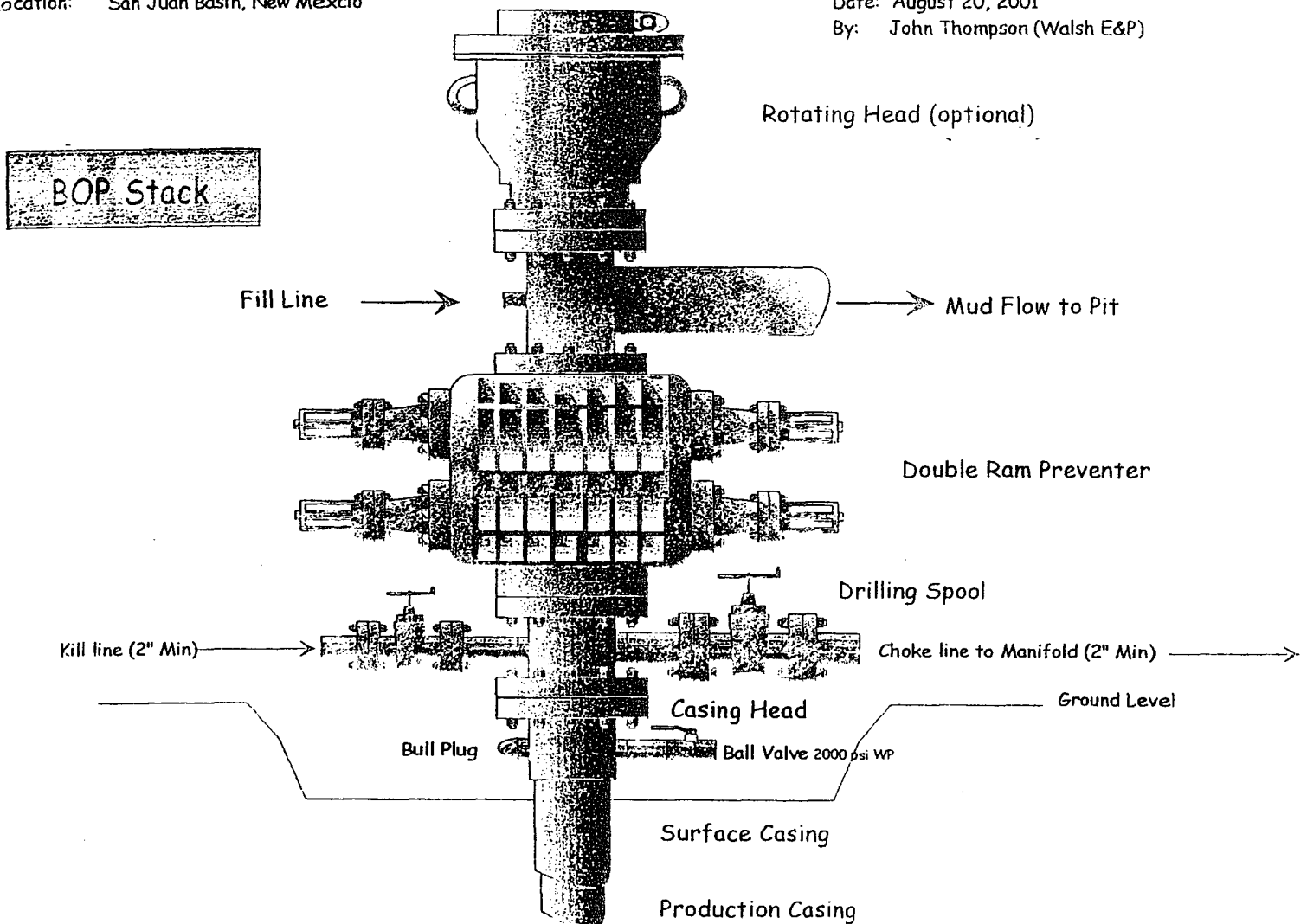
Well Control Equipment Schematic for 2M Service

Typical BOP setup

Location: San Juan Basin, New Mexico

Date: August 20, 2001

By: John Thompson (Walsh E&P)



Choke & Kill Manifold

