NSL-5037
4-1-04

FORM 3160-3
(December 1990)

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

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: SF- 078773

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ]

1b. TYPE OF WELL: OIL WELL [ ] GAS WELL [X] OTHER [ ] SINGLE ZONE [ ] MULTIPLE ZONE [X]

7. UNIT AGREEMENT NAME: Rosa Unit

8. FARM OR LEASE NAME, WELL NO.: 184B

2. NAME OF OPERATOR: Williams Production Company, LLC

9. API WELL NO.: 30039 27604

3. ADDRESS OF OPERATOR: P.O. Box 316 - Ignacio, CO 81137 - (970) 563-3308

10. FIELD AND POOL OR WILDCAT: Blanco Mesaverde ~~Basin Dakota~~

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At Surface: 660' FSL and 250' ~~FWL~~ FEL
At proposed Prod. Zone:

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: P Sec. 34, T31N, R5W

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 29 miles NE of Blanco, NM

12. COUNTY OR PARISH: Rio Arriba

13. STATE: NM

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT.(Also to nearest drlg. unit line, if any): 250'

16. NO. OF ACRES IN LEASE: 1920.00

17. NO. OF ACRES ASSIGNED TO THIS WELL: 320 E/2 MV ~~& 320 S/2 (DK)~~

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR ON THIS LEASE, FT.: 1390'

19. PROPOSED DEPTH: ~~8288'~~ 6 300'

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 6569'

22. APPROX. DATE WORK WILL START*: June 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 with 2% $CaCl_2$
9-7/8"	7-5/8"	26.4#	+/- 3923'	~1267 cu.ft.65/35 poz & ~209 cu.ft.Typ
6-3/4"	5-1/2"	17.0#	+/- 8288'	~577cu.ft. PL HS + 1% FL-52 + 2% C.

Williams Production Company proposes to drill a vertical well to develop the Mesa Verde & 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 US Forest Service, Carson National Forest, Jicarilla District Office.
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 a approximately 1250' of new access road (see Pipeline & Well Plats #3 & #4). The new road will cross the SE qtr of sec 34 T31N R5W where it joins Forest Road 311A in the SE qtr of section 34 T31N R5W.

SEP 2005
RECEIVED
OIL CONS. DIV.
DIST. 3

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 W. Mankiewicz TITLE AFM DATE 6-1-05

NOA

*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.

OPERATOR

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 Depar.

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

070 Farmington, NM

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-039-27604	72319 / 71599	BLANCO MESAVERDE / ~~BASIN DAKOTA~~

4 Property Code	5 Property Name	6 Well Number
17033	ROSA UNIT	184B

7 OGRID No.	8 Operator Name	9 Elevation
120782	WILLIAMS PRODUCTION COMPANY	6569'

10 Surface Location

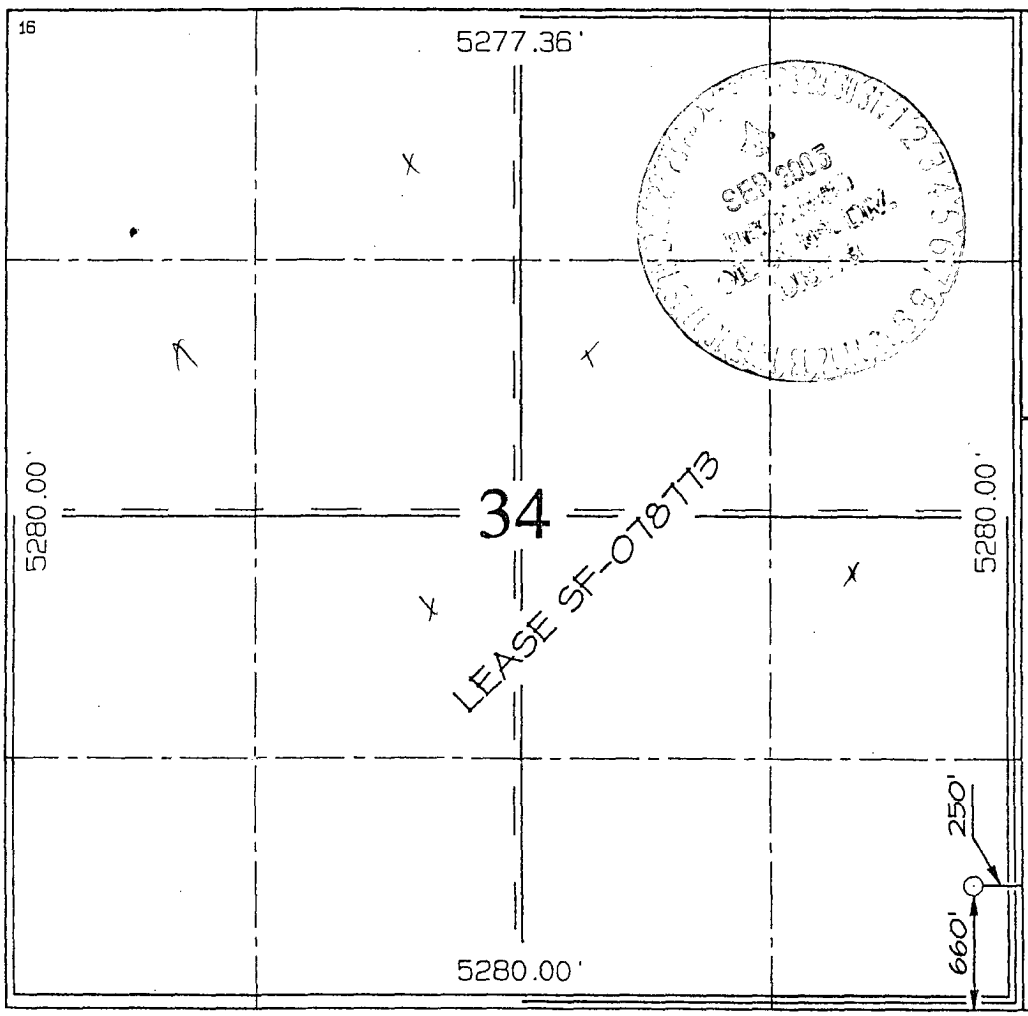
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	34	31N	5W		660	SOUTH	250	EAST	RIO ARRIBA

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

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
320.0 Acres (E/2) - MV 320.0 Acres (S/2) - DK			NSL 5037

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: 1-29-04

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.

Date of Survey: JUNE 28, 2002

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS

Certificate Number 15269

Form 3160-5
(August 1999)

U. ..ED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0135
Expires November 30, 2000

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side

5. Lease Serial No.
Federal NMSF 078773

6. If Indian, Allottee or Tribe Name

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

1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other

8. Well Name and No.
184B

2. Name of Operator
Williams Production Company, LLC

9. API Well No.
3003927604

3a. Address
P.O.Box 316, Ignacio, CO81137

3b. Phone No. *(include area code)*
(970)563-3308

10. Field and Pool, or Exploratory Area
Blanco Mesaverde

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Unit Letter P: 660 feet from the South line and 250 feet from the East line Section 34 Township 31N Range 5W NMPM Elevation 6569'GR

11. County or Parish, State
Rio Arriba, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☒ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

It is the intent of Williams Production Company, LLC to change the target formation of the proposed Rosa Unit 184B location from Blanco Mesaverde/ Basin Dakota dual completion to stand alone Blanco Mesaverde per the attache Operations Plan.

The original APD was submitted January 2004, and was approved June 2005.

BLM Bond # UT0847

SEP 2005
RECEIVED
OIL CONS. DIV.
DIST. 3

RECEIVED
2005 JUN 8 PM 4 08
070 FARMINGTON NM

14. I hereby certify that the foregoing is true and correct
Name *(Printed/Typed)* Larry Higgins — Title Drilling Co...

Signature Larry Higgins — Date June 7, 2005

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

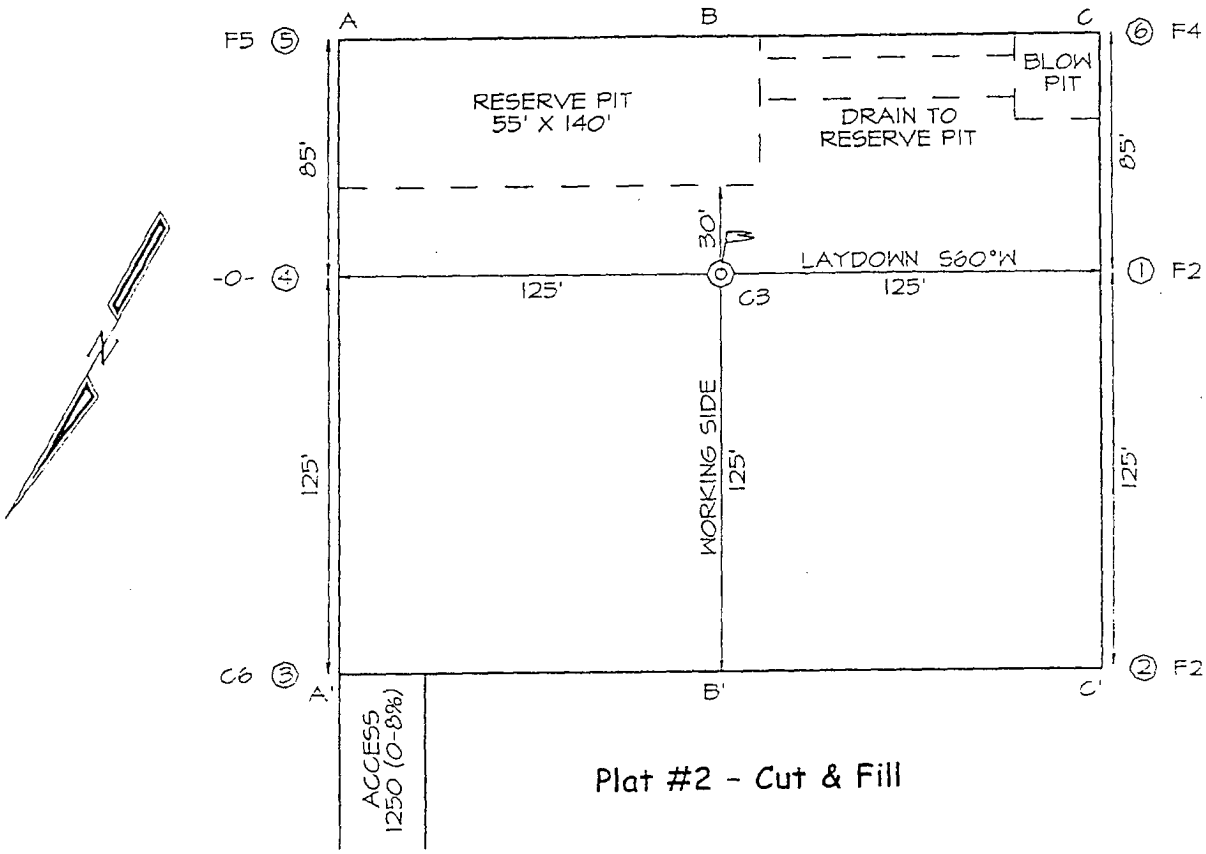
Approved by Adrienne Brumley — Title Pet. Eng — Date 6/20/05

Conditions of approval, if any, are attached. Approval of this notice 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. — Office FFO

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.

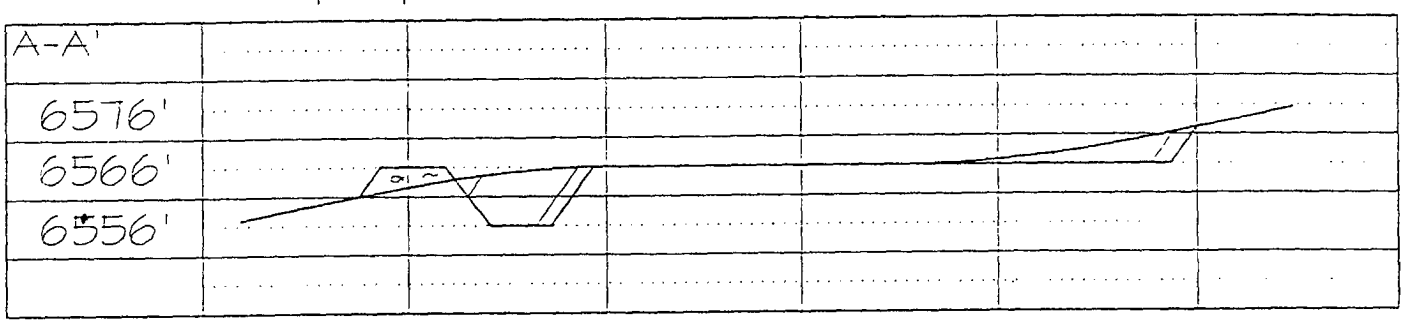
OPERATOR

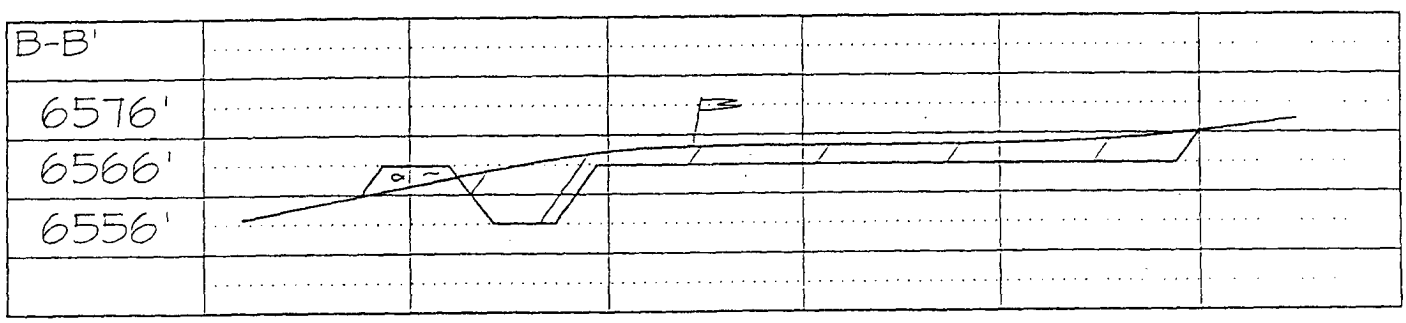
WILLIAMS PRODUCTION COMPANY ROSA UNIT #184B
660' F[illegible] & 250' FEL, SECTION 34, T31[illegible] 5W, NMPM
RIO ARRIBA COUNTY, NEW MEXICO
GROUND ELEVATION: 6569'

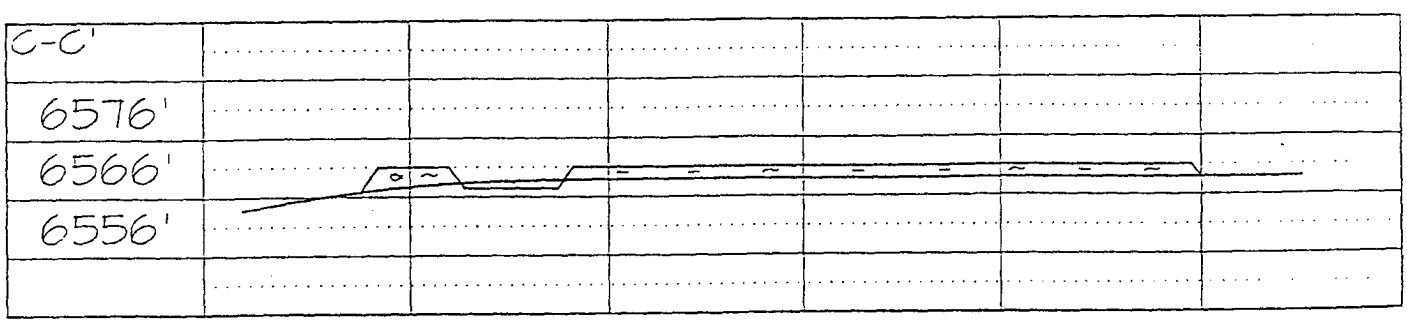


LATITUDE: 36°51'02"
LONGITUDE: 107°20'27"
DATUM: NAD1927

Plat #2 - Cut & Fill







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 #184B	**SURFACE:**	Forest
BH LOCATION:	SESE Sec 34-31N-6W Rio Arriba, NM	**MINERALS:**	State
ELEVATION:	6,569' GR	**LEASE #**	SF-078773
MEASURED DEPTH:	**8,288'**		

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

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

Name	MD	Name	MD
Ojo Alamo	2,678	Cliff House	5,598
Kirtland	2,863	Menefee	5,648
Fruitland	3,213	Point Lookout	5,853
Picture Cliffs	3,448	Mancos	6,148
Lewis	3,723	Gallup	7,098
		Greenhorn	7,858
		Graneros	7,908
		Dakota	8,038
		TD	**8,288**

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:

CASING TYPE	HOLE SIZE	DEPTH (MD)	CASING SIZE	WT. & GRADE
Surface	14-3/4"	+/- 300'	10-3/4"	32.75# H-40
Intermediate	9-7/8"	+/-3923'	7-5/8"	26.4# K-55
Prod. Casing	6-3/4"	+/- 8288'	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% $CaCl_2$ + ¼ # 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 - 605 sx (1267) cu.ft.) of "Type III" 65/35 poz with 8% gel, 1% $CaCl_2$ 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% $CaCl_2$ (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 = 1,476 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 (130ft^3) of Premium Light HS + 1% FL-52 + .2% CD-32, 0.1% R-3, 3 #/sk CSE, ¼ #/sk cello flake and 4% Phenoseal. (Yield = 2.59 cu.ft./sk, Weight = 11.6 #/gal.). Cement: 210 sx (447 ft^3) of Premium Light HS + 1% FL-52 + .2% CD-32, 0.1% R-3, 3 #/sk CSE, ¼ #/sk cello flake and 4% Phenoseal. (Yield = 2.15 ft^3/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 447ft^3. 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
FOR Sr. Drilling Engineer

Williams Production Company, LLC

Well Control Equipment Schematic for 2M Service

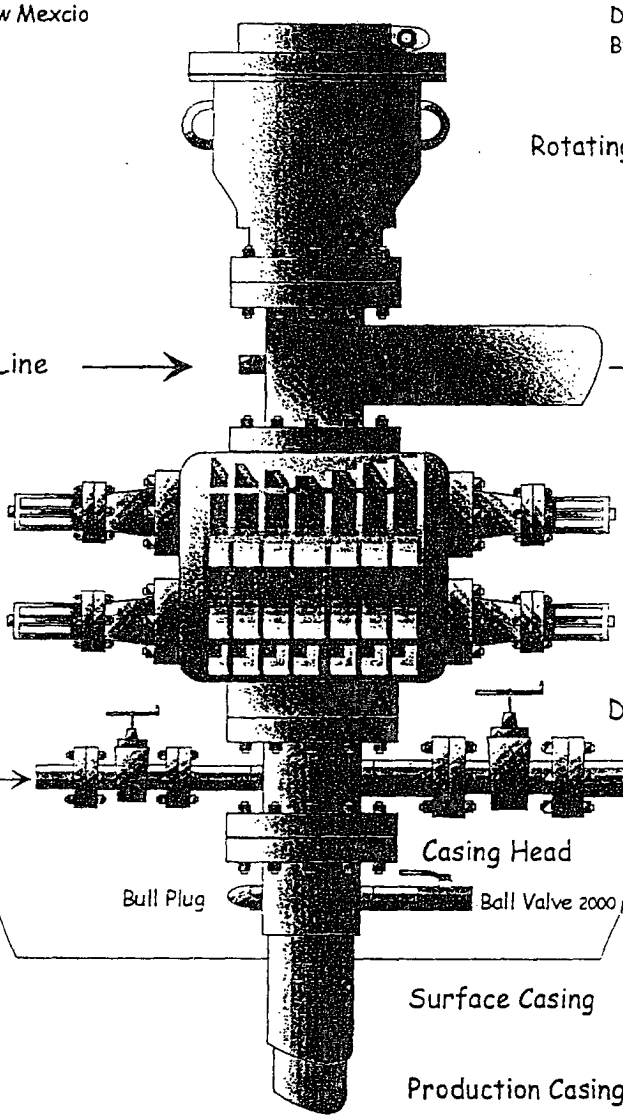
Attachment to Drilling Technical Program

Typical BOP setup

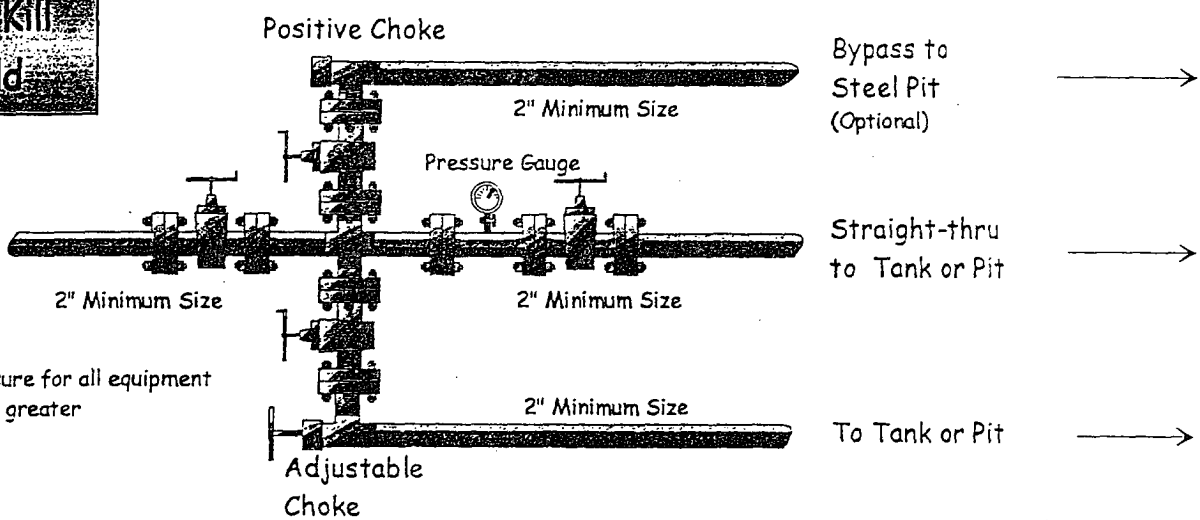
Location: San Juan Basin, New Mexcio

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

GENERAL ROSA DRILLING PLAN

Rosa Unit boundries:

T31N, R4W: all except sections 32-36
T31N, R5W: all except sections 1 & 2
T31N, R6W: all except sections 6,7,18,20, & 27-36
T32N, R6W: sections 32-36

FORMATION	LITHOLOGY	WATER	GAS	OIL/COND	OVER-PRES	LOST CIRC
Nacimiento	Interbedded shales, siltstones and sandstones	Possible	Possible	No	No	No
Ojo Alamo	Sandstone and conglomerates with lenses of shale	Fresh	No	No	No	No
Kirtland	Shale W/interbedded sandstones	No	Possible	No	No	No
Fruitland	Inter, SS, SiltSt, SH &Coals w/carb, SS, SiltSt, SH	Yes	Yes	No	Possible	Possible
Pictured Cliffs	Massive Sandstone w/thin interbedded shales	Possible	Yes	Possible	No	Possible
Lewis	Shale w/thin interbedded sandstones and siltstones	No	Possible	No	No	No
Cliff House	Transgressive sandstones	Possible	Yes	No	No	No
Menefee	Sandstones, carb shales and coal	Possible	Yes	No	No	No
Point Lookout	Regressive coastal barrier sandstone	Possible	Yes	Possible	No	Yes
Mancos	Marine shale and interbedded sandstone	No	Possible	Possible	No	Possible
Upr Dadota	Marine sand and shales	No	Yes	Possible	No	Possible
Lwr Dakota	Fluvial sands, shales, & coal	Possible	Yes	Possible	No	Possible

DRILLING

Potential Hazards:

1. There are no overpressured zones expected in this well.
2. No H2S zones will be penetrated while drilling this well.

Mud System:

1. Surface - The surface hole will be drilled with a low-solids, non-dispersed system with starch and lost circulation material as needed. Expected mud weights will be in the 8.4 to 9.0 lb per gal range. Viscosities will be in the 30 to 60 sec/qrt range as needed to remove drill cuttings.
2. Intermediate - The intermediate hole will be drilled with clear water and Benex to TD where the well will be mudded up to log and run casing. The mud system will be low-solids, non-dispersed with mud weights in the 9 to 10 lb per gal range as needed to control the well. Viscosities will be in the 45 to 55 range as needed to support any weight material. The weight material will consist of Barite.
3. Production - The well will be drilled using air from the intermediate casing point to TD. For Fruitland Coal wells, the coal section will be drilled with air/mist.