RCVD APR16'07
OIL CONS. DIV.

Form 3160-3
(September 2001)

FORM APPROVED
OMB No. 1004-0136
Expires January 31, 2004

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

2006 MAY 12 AM 8 34

RECEIVED
070 FARMINGTON NM

1a. Type of Work: ☒ DRILL ☐ REENTER	5. Lease Serial No. NMSF-078773
	6. If Indian, Allottee or Tribe Name
	7. If Unit or CA Agreement, Name and No. Rosa Unit NMNM-078407A
1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone	8. Lease Name and Well No. 188C
2. Name of Operator Williams Production Company, LLC	9. API Well No. 30-039-29909
3a. Address P.O. Box 640 Aztec, NM 87410	3b. Phone No. *(include area code)* (505) 634-4208
	10. Field and Pool, or Exploratory Blanco Mesaverde
4. Location of Well *(Report location clearly and in accordance with any State requirements. *)* At surface 880' FSL & 2450' FWL At proposed prod. zone same	11. Sec., T., R., M., or Blk. and Survey or Area N Section 34, 31N, 5W
14. Distance in miles and direction from nearest town or post office* approximately 31 miles northeast of Blanco, New Mexico	12. County or Parish Rio Arriba / 13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 880'	16. No. of Acres in lease 1,920.00 / 17. Spacing Unit dedicated to this well 320.0 (W/2)
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1500'	19. Proposed Depth 6,491 / 20. BLM/BIA Bond No. on file ~~UT0847~~ UTB000178
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6,712' GR	22. Approximate date work will start* June 1, 2006 / 23. Estimated duration 1 month

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature Larry Higgins	Name *(Printed/Typed)* Larry Higgins	Date 5-11-06
Title Drilling COM		
Approved by *(Signature)* /s/ Jim Lovato	Name *(Printed/Typed)*	Date 4/13/07
Title AFM	Office FFO	

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, are attached.

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.

**(Instructions on reverse)*

Williams Exploration and Production Company, LLC, proposes to drill a well to develop the Blanco Mesaverde formation at the above described location in accordance with the attached drilling and surface use plans.

The surface is under jurisdiction of the Carson National Forest, Jicarilla Ranger District.

This location has been archaeologically surveyed La Plata Archaeological Consultants. Copies of their report have been submitted directly to the CNF/JRD.

A 1150-foot on-lease access road and a 1352.30-foot pipeline tie would be required for this location. Williams Field Services has filed a pipeline route plan for the associated pipeline. The pipeline would be owned and operated by Williams Field Services.

NOTIFY AZTEC OCD 24 HRS.
PRIOR TO CASING & CEMENT

NMOCD

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

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

4/18/07

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

2006 MAY 12 AM 8 34

☐ AMENDED REPORT

RECEIVED
070 FARMINGTON NM

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹API Number	²Pool Code	³Pool Name
30-039-29909	72319	BLANCO MESAVERDE

⁴Property Code	⁵Property Name	⁶Well Number
17033	ROSA UNIT	188C

⁷OGRID No.	⁸Operator Name	⁹Elevation
120782	WILLIAMS PRODUCTION COMPANY	6712'

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
N	34	31N	5W		880	SOUTH	2450	WEST	RIO ARRIBA

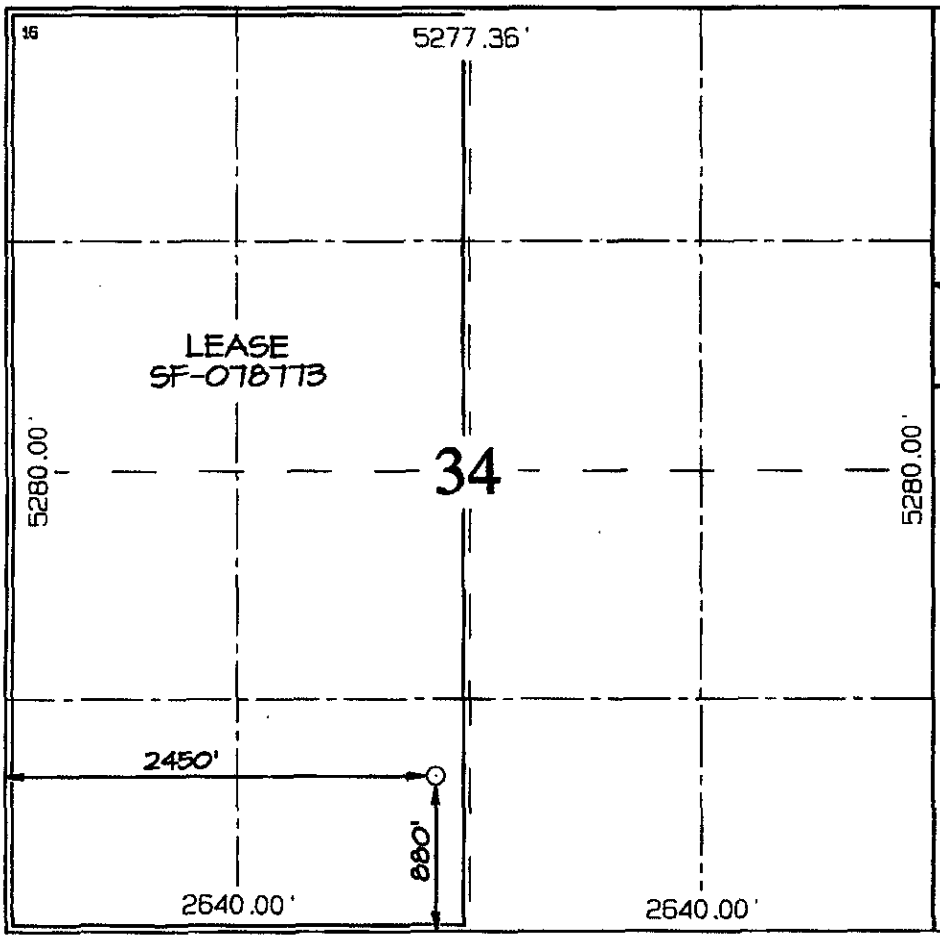
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

RCVD APR 16'07
OIL CONS. DIV.
DIST. 3

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
320.0 Acres - (W/2)			

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

Drilling Com'l
Title

5-11-06
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.

Survey Date: OCTOBER 5, 2005

Signature and Seal of Professional Surveyor

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS
Certificate Number 15269

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

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-103
May 27, 2004

WELL API NO. 30-039-29909

5. Indicate Type of Lease FEDERAL X
STATE ☐ FEE ☐

6. State Oil & Gas Lease No.
SF-078773

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.)

7. Lease Name or Unit Agreement Name
Rosa Unit

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

8. Well Number 188C

2. Name of Operator
Williams Production Company, LLC

9. OGRID Number 120782

3. Address of Operator
P.O. Box 640 Aztec, NM 87410

Blanco Mesaverde

4. Well Location
Unit Letter N: 880 feet from the south line and 2450 feet from the west line
Section 34 Township 31N Range 5W NMPM County Rio Arriba

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)*
6,712' GR

Pit or Below-grade Tank Application ☒ or Closure ☐

Pit type reserve Depth to Groundwater >100' Distance from nearest fresh water well >1,000' Distance from nearest surface water >1,000'

Pit Liner Thickness: 12 mil Below-Grade Tank: Volume _____ bbls; Construction Material _____

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	☐	PLUG AND ABANDON	☐	REMEDIAL WORK	☐	ALTERING CASING	☐
TEMPORARILY ABANDON	☐	CHANGE PLANS	☒	COMMENCE DRILLING OPNS.	☐	P AND A	☐
PULL OR ALTER CASING	☐	MULTIPLE COMPL	☐	CASING/CEMENT JOB	☐		
OTHER:	☐			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.

Drilling/Completion pit to be located approximately 50 to 75 feet from well head. Pit 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 Larry Higgins TITLE Drilling COM DATE 5-10-2006

Type or print name Larry Higgins E-mail address: larry.higgins@williams.com Telephone No. (505) 634-4208

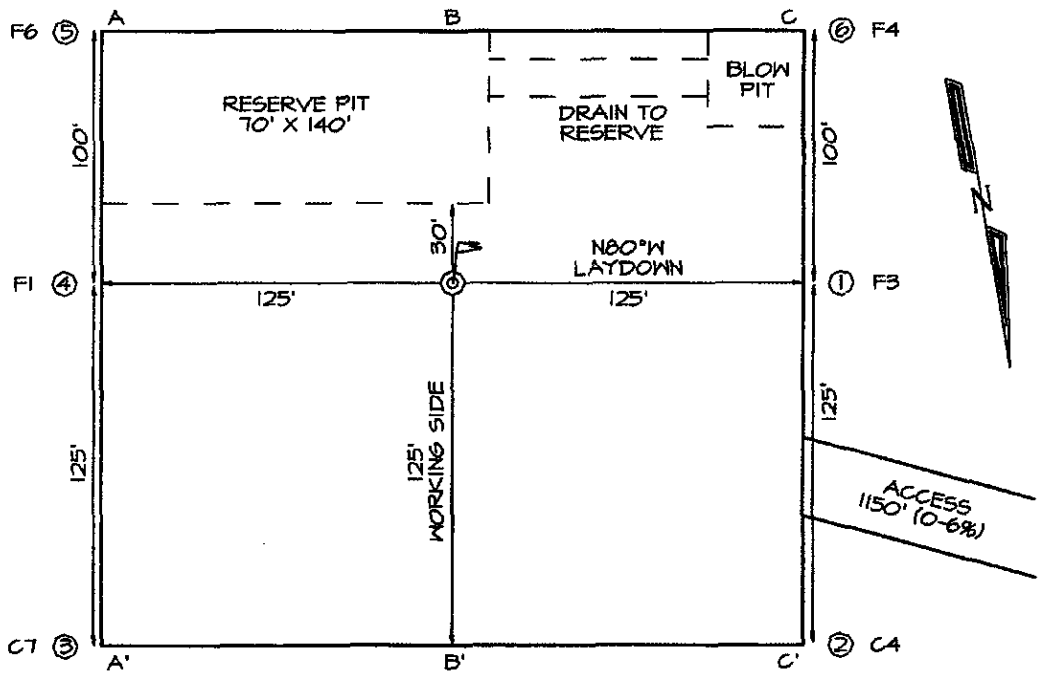
For State Use Only

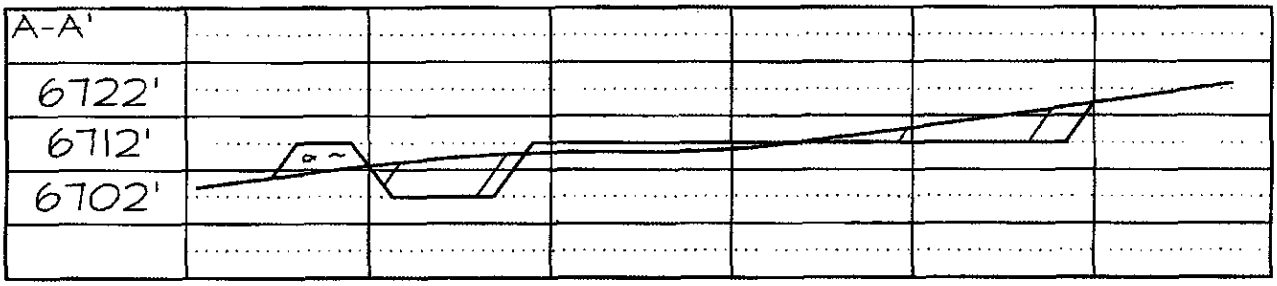
APPROVED BY: _____ TITLE DEPUTY OIL & GAS INSPECTOR, DIST. #3 DATE APR 18 2007

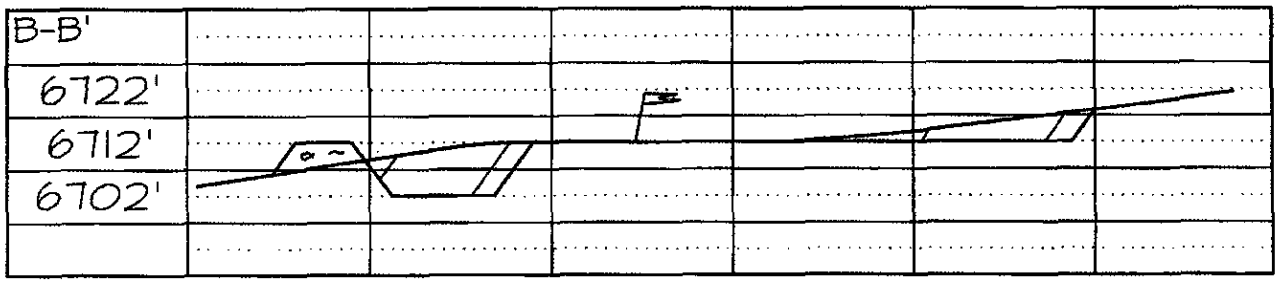
Conditions of Approval (if any):

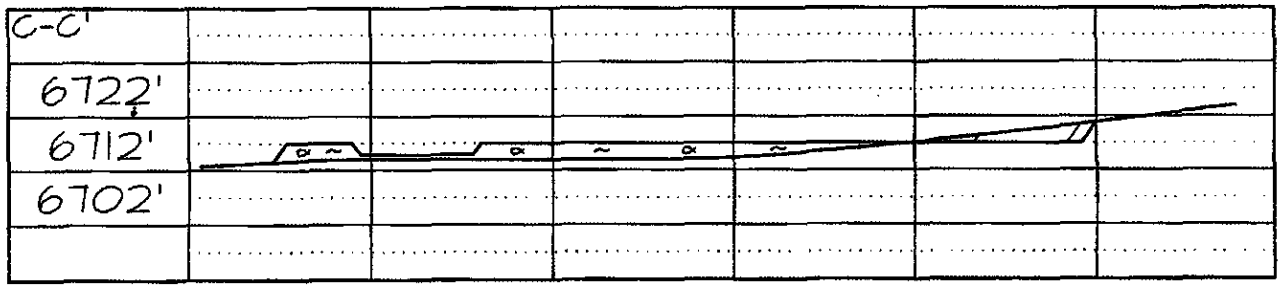
WILLIAMS PRODUCTION COMPANY ROSA UNIT #188C
880' FSL & 2450' FWL, SECTION 34, T31N, R5W, NMPM
RIO ARRIBA COUNTY, NEW MEXICO ELEVATION: 6712'

LATITUDE: 36°51'05"
LONGITUDE: 107°20'59"
DATUM: NAD1927









FILENAME: 31534NT	SHEET 2 OF 9	NCE SURVEYS, INC.	DRAWN BY: EDO	CHECKED BY: JCE

PLAT #1

WILLIAMS PRODUCTION COMPANY

Operations Plan

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

DATE:	5/10/2006	**FIELD:**	Blanco MV
WELL NAME:	Rosa #188C	**SURFACE:**	USFS
BH LOCATION:	SESW Sec 34-31N-5W Rio Arriba, NM	**MINERALS:**	BLM
ELEVATION:	6,712' GR	**LEASE #**	SF-078773
MEASURED DEPTH:	**6,426'**		

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

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

Name	MD	Name	MD
Ojo Alamo	2,801	Cliff House	5,721
Kirtland	2,986	Menefee	5,771
Fruitland	3,336	Point Lookout	5,976
Picture Cliffs	3,571	Mancos	6,271
Lewis	3,846	**TD**	**6,426**

B. **MUD LOGGING PROGRAM:** none

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 BOPE will be tested to **250 psi (Low) for 5 minutes** and **1500 psi (High) for 10 minutes**. Utilize a BOPE Testing Unit with a recording chart and appropriate test plug for testing. The drum brakes will be inspected and tested each tour. **All tests and inspections 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	12-1/4"	+/- 300'	9-5/8"	36# K-55
Intermediate	8-3/4"	+/- 4,046'	7"	20# K-55
Prod. Liner	6-1/4"	+/- 3,946'-6,426'	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 (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 CASING: 4-1/2" & 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.

IV. CEMENTING:

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

1. SURFACE: Slurry: 150sx (205 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 - 515 sx (1,076) 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 - 50 sx (70cu.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 = 1,146 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 (130ft^3) 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: 100 sx (215 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 ~~318~~ 345 ft^3. WOC 12 hours

V. 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 9,300# of 14/30 LiteProp™ 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 9,300# of 14/30 LiteProp™ 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.

FOR Gary Sizemore
Sr. Drilling Engineer

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.

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)