

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

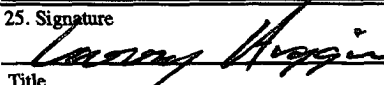
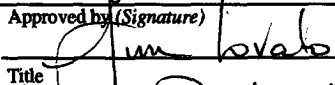
APPLICATION FOR PERMIT TO DRILL OR REENTER

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

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMSF-078772	
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name Rosa	
2. Name of Operator Williams Exploration and Production Company, LLC		7. If Unit or CA Agreement, Name and No. 329A	
3a. Address P.O. Box 316 Ignacio, CO 81137		8. Lease Name and Well No. 30039 29398	
3b. Phone No. (include area code) (970) 563-3308		9. API Well No. 30039 29398	
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 2265' FSL & 765' FEL At proposed prod. zone same		10. Field and Pool, or Exploratory Basin Fruitland Coal	
14. Distance in miles and direction from nearest town or post office* approximately 22 miles northeast of Blanco, New Mexico		11. Sec., T., R., M., or Blk. and Survey or Area Section 34, 32N, 6W	
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 765'		12. County or Parish Rio Arriba	
16. No. of Acres in lease 2,561.86		13. State NM	
17. Spacing Unit dedicated to this well 320.00 (E/2)			
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1,900'		20. BLM/BIA Bond No. on file UT0847	
19. Proposed Depth 3,197'		21. Estimated duration 1 month	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6,318' GR		22. Approximate date work will start* April 1, 2005	
23. 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 	Name (Printed/Typed) Larry Higgins	Date 12/10/04
Title Drilling COM		
Approved by (Signature) 	Name (Printed/Typed) Jim Lovato	Date 7/8/05
Title Acting Field Manager - Minerals		
Office Acting Field Manager - Minerals		

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 Basin Fruitland Coal Formation at the above described location in accordance with the attached drilling and surface use plans.

The surface is under jurisdiction of the Bureau of Land Management, Farmington Field Office.

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

This APD is also serving as an application to obtain road and pipeline rights-of-way. Approximately 100 feet of new road will be required to access the well pad. 260.3 feet of pipeline tie will also be required for this location.

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

2004 DEC 30 PM 1:15 AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30039-29398		*Pool Code 71629	*Pool Name BASIN FRUITLAND COAL
*Property Code 17033	*Property Name ROSA UNIT COM		*Well Number 329A
*GRID No. 120782	*Operator Name WILLIAMS PRODUCTION COMPANY		*Elevation 6318

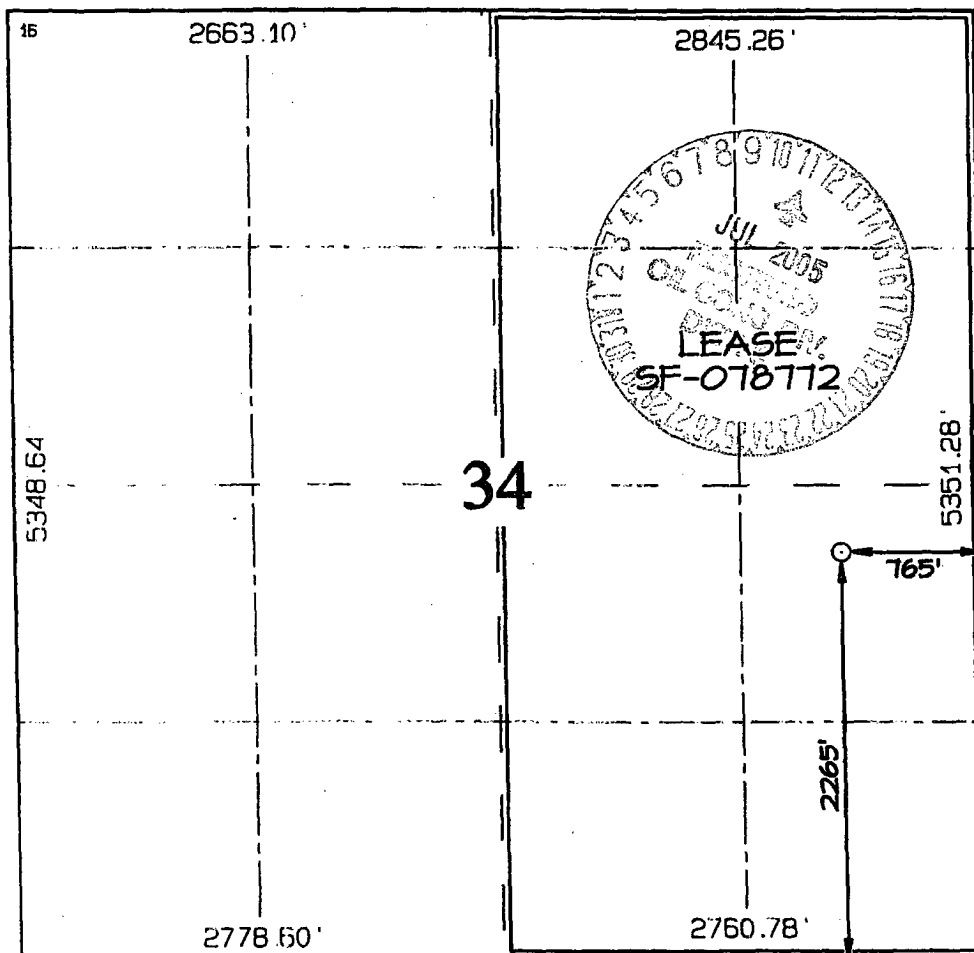
10 Surface Location

UL or lot no. I	Section 34	Township 32N	Range 6W	Lot Idh	Feet from the 2265	North/South line SOUTH	Feet from the 765	East/West line EAST	County RIO ARriba
--------------------	---------------	-----------------	-------------	---------	-----------------------	---------------------------	----------------------	------------------------	----------------------

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idh	Feet from the	North/South line	Feet from the	East/West line	County
12 Dedicated Acres 320.0 Acres - (E/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



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

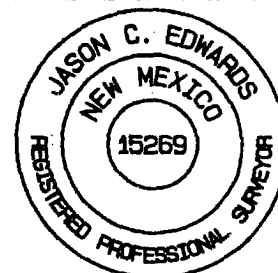
12-10-04
Date

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 30, 2004

Signature and Seal of 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

Form C-103
May 27, 2004

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

WELL API NO.

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

6. State Oil & Gas Lease No.
Federal NMSF-0078772

7. Lease Name or Unit Agreement Name

Rosa Unit

8. Well Number 329A

9. OGRID Number 120782

10. Pool name or Wildcat
Basin Fruitland Coal

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 Exploration and Production Company

3. Address of Operator
P.O. Box 316, Ignacio, CO 81137

4. Well Location

Unit Letter I: 2265 feet from the south line and 765 feet from the east line

Section 34 Township 32N Range 4W NMPM County Rio Arriba

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
6,318' GR

Pit or Below-grade Tank Application ☒ or Closure ☐

Pit type production 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:

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.

Reserve pit to be constructed in accordance with NMOCD Interim Pit and Below-grade Tank Guidelines

Reserve pit to be located approximately 25 feet north of the well head, in the northwest corner of the well pad

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 12-10-2004

Type or print name Larry Higgins E-mail address: larry.higgins@williams.com Telephone No. (970) 563-3308

For State Use Only

APPROVED BY: [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. 38
Conditions of Approval (if any):

JUL 11 2005
DATE

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.

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

6. State Oil & Gas Lease No.
Federal NMSF-0078772

7. Lease Name or Unit Agreement Name

Rosa Unit

8. Well Number 329A

9. OGRID Number 120782

10. Pool name or Wildcat
Basin Fruitland Coal

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 Exploration and Production Company

3. Address of Operator

P.O. Box 316, Ignacio, CO 81137

4. Well Location

Unit Letter I: 2265 feet from the south line and 765 feet from the east line

Section 12 Township 31N Range 5W NMPM County Rio Arriba

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
6,318' GR

Pit or Below-grade Tank Application ☒ or Closure ☐

Pit type drilling 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:

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.

Below-grade Tank to be constructed in accordance with NMOCDC Interim Pit and Below-grade Tank Guidelines

Production pit to be located approximately 50 feet south of the well head

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 NMOCDC guidelines ☒, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Larry Higgins TITLE Drilling COM DATE 12-10-2004

Type or print name Larry Higgins E-mail address: larry.higgins@williams.com Telephone No. (970) 563-3308

For State Use Only

DEPUTY OIL & GAS INSPECTOR, DIST. AS

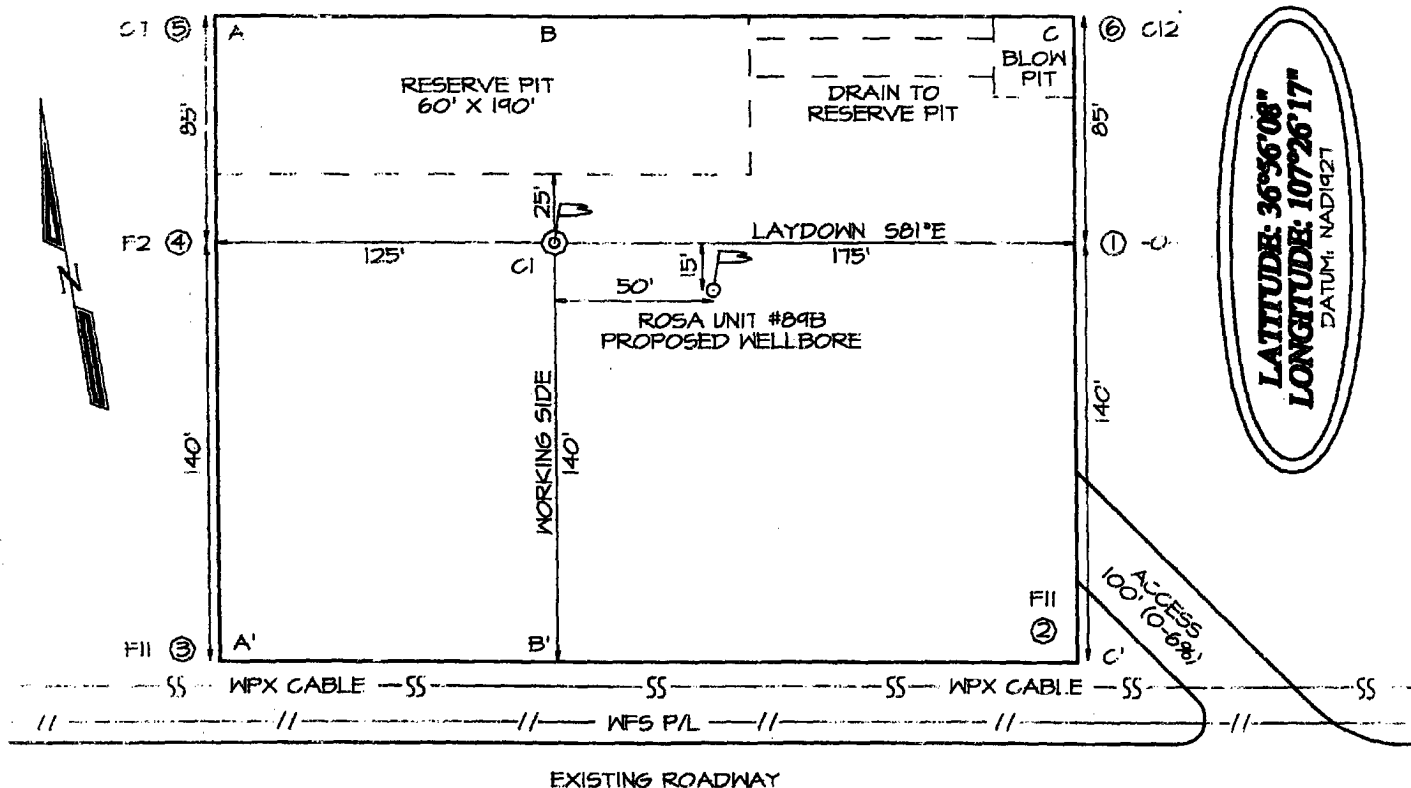
APR 11 2005

APPROVED BY: [Signature] TITLE DATE

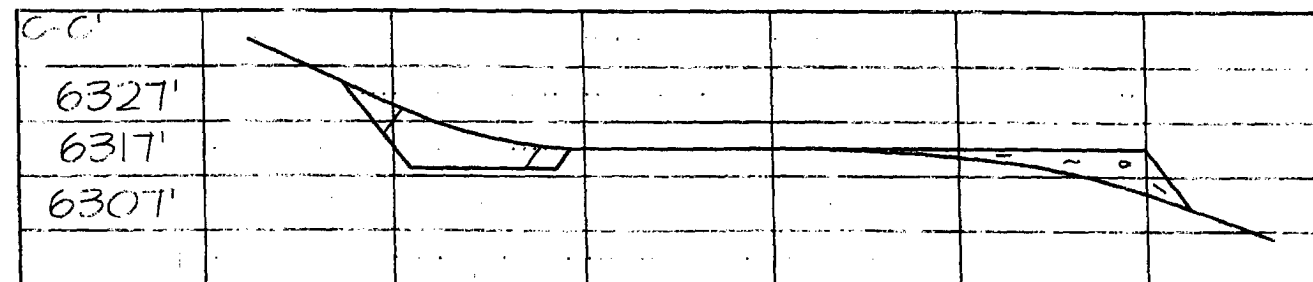
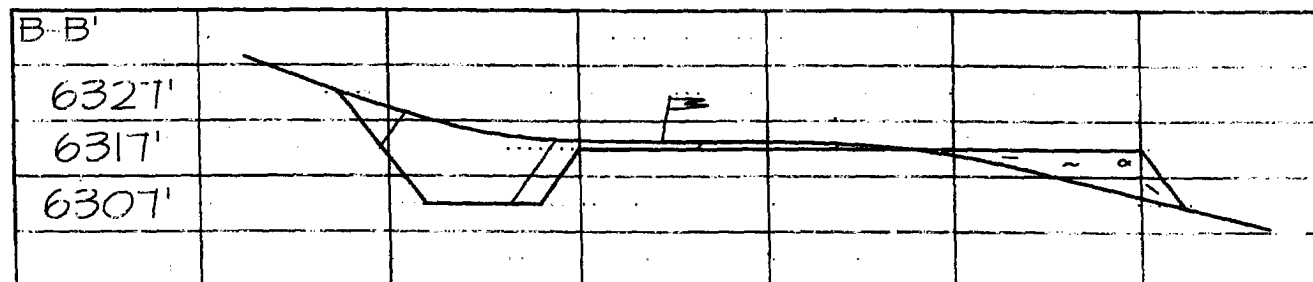
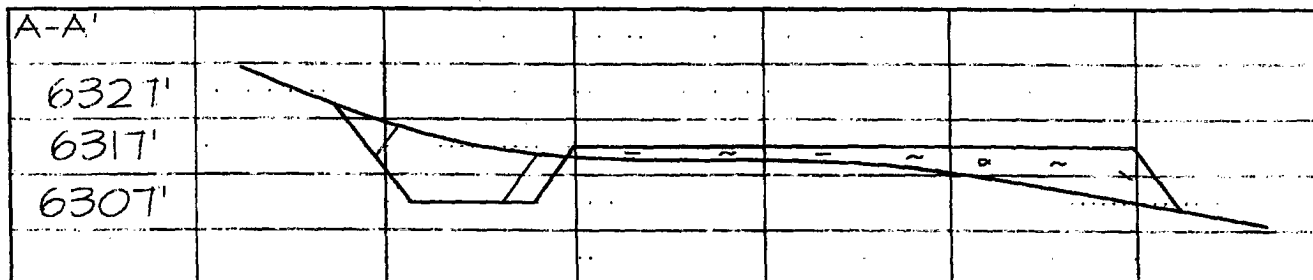
Conditions of Approval (if any):

WILLIAMS PRODUCTION COMPANY ROSA UNIT COM #329A
2265 FSL & 765' FEL, SECTION 34, T32N, R6W, NMPM
RIO ARriba COUNTY, NEW MEXICO GROUND ELEVATION: 6318'

Plat #2 Location Layout



LATITUDE: 36°36'08"
LONGITUDE: 107°26'17"
 DATUM: NAD1927





WILLIAMS PRODUCTION COMPANY

Operations Plan

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

DATE: 10/19/2004

WELLNAME: Rosa Unit #329A **FIELD:** Basin Fruitland Coal

LOCATION: NESE Sec. 34-T32N-6W
Rio Arriba, NM **SURFACE:** BOR

ELEVATION: 6,318' GR **MINERALS:** Federal

TOTAL DEPTH: 3,197' **LEASE #** SF-078772

I. GEOLOGY: Surface formation - San Jose

A. FORMATION TOPS: (KB)

NAME	DEPTH	NAME	DEPTH
San Jose	Surface	Top Coal	2,967
Nancimiento	1,087	Bottom Coal	3,097
Ojo Alamo	2,322	Pictured Cliffs	3,107
Kirtland	2,432	TD	3,197
Fruitland	2,857		

B. LOGGING PROGRAM: GR and Density/ Neutron log from intermediate shoe to TD. Density/ Neutron log from surface casing to TD. Onsite geologist will pick Density/ Neutron log intervals on both logging runs.

C. 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. Treat for lost circulation as necessary. Expect 100% returns prior to cementing. Notify Engineering of any mud losses. If coal is detected before 2,947' DO NOT drill deeper until Engineering is contacted.
- B. Drilling Fluid:** Coal section will be drilled with Fruitland Coal water.
- C. MUD LOGGING PRORAM:** Mud logger will be on location at drill out below 7" casing to TD.

- D. **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</u>	<u>CASING SIZE</u>	<u>WT. & GRADE</u>
Surface	12-1/4"	+/- 300'	9-5/8"	36# K-55
Intermediate	8-3/4"	+/- 2,947'	7"	20# K-55
Prod. Liner	6-1/4"	+/- 2,847' - 3,197'	5-1/2"	15.5# 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 (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:** 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.

C. **CEMENTING:**

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

1. **SURFACE:** Use 190 sx (264 cu.ft.) of "Type III" with 2% CaCl₂ and 1/4# of cello-flake/sk (Yield = 1.41 cu.ft./sk, Weight = 14.5 #/gal.). Use **150% excess** to circulate the surface. WOC 12 hours. Total volume = 206 cu.ft. Test to 1500#.
2. **INTERMEDIATE:** Lead - 400 sx (820 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 - 50 sx (70cu.ft.) of "Type III" with 1/4# cello-flake/sk, and 1% CaCl₂ (Yield = 1.4 cu.ft./sk, Weight = 14.5#/gal.). Use **120% excess in Lead Slurry** to circulate to surface. **No excess in Tail Slurry.** Total volume = 890 cu.ft. Bump Plug to 1,500 psi. Notify engineering if cement is not circulated to surface.
3. **PRODUCTION LINER:** Open hole completion. No cement.

IV COMPLETION

A. PRESSURE TEST


Pressure test 7" casing to 3300# for 15 minutes.

B. STIMULATION

Cavitate Well with reciprocation and rotation. Surge wells with water and air and then flow back to pit.
Cavitate for 2 to 3 weeks. Maximum pressure not expected to exceed 2,000 psi.

C. RUNNING TUBING

1. Fruitland Coal: Run 2-3/8", 4.7#, J-55, EUE tubing with a SN (1.375" ID) on top of bottom joint. Land tubing approximately 50' above TD.

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 Dakota	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 Mexico

Date: August 20, 2001

By: John Thompson (Walsh E&P)

