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

2005 SEP 27 PM 4 22

RECEIVED
070 FARMINGTON NM

5. Lease Serial No.	NMSF-078768
6. If Indian, Allottee or Tribe Name	
7. If Unit or CA Agreement, Name and No.	Rosa Unit
8. Lease Name and Well No.	362
9. API Well No.	30-039-29672
10. Field and Pool, or Exploratory	Basin Fruitland Coal
11. Sec., T., R., M., or Blk. and Survey or Area	K Section 36, 31N, 5W
12. County or Parish	Rio Arriba
13. State	NM

1a. Type of Work: ☒ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

2. Name of Operator: Williams Production Company, LLC

3a. Address: P.O. Box 640 Aztec, NM 87410

3b. Phone No. *(include area code)*: (505) 634-4208

4. Location of Well *(Report location clearly and in accordance with any State requirements. *)*
At surface: Lot K: 1625' FSL & 1560' FWL
At proposed prod. zone: same

14. Distance in miles and direction from nearest town or post office*: approximately 17 miles northeast of Navajo City, New Mexico

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1,560'	16. No. of Acres in lease 2,560	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. 15'	19. Proposed Depth 3,731'	20. BLM/BIA Bond No. on file UT0847
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6,802' GR	22. Approximate date work will start* October 31, 2005	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: 09/23/2005
Title: Drilling COM		
Approved by *(Signature)*: Matthew Mankiewicz	Name *(Printed/Typed)*	Date: 3/15/06
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 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 Carson National Forest.

This location has been archaeologically surveyed by Aztec Archaeological Consultants. Copies of their report have been submitted directly to the USFS.

A 228.50 foot pipeline tie would be required for this location.

3500' of existing two-track road would be upgraded to access this location.

MAR 2006
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OIL CONS. DIV.
DIST. 3

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".

NMOCD

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

2005 SEP 27 PM 4 22

RECEIVED
070 FARMINGTON NM

Form C-1
Revised February 21, 19
Instructions on ba
Submit to Appropriate District Offi
State Lease - 4 Copi
Fee Lease - 3 Copi

☐ AMENDED REPOR

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-039-29672	71629	Basin Fruitland Coal

4 Property Code	5 Property Name	6 Well Number
17033	ROSA UNIT	362

7 OGRID No.	8 Operator Name	9 Elevation
120782	WILLIAMS PRODUCTION COMPANY	6802'

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
K	36	31N	5W		1625	SOUTH	1560	WEST	RIO ARRIBA

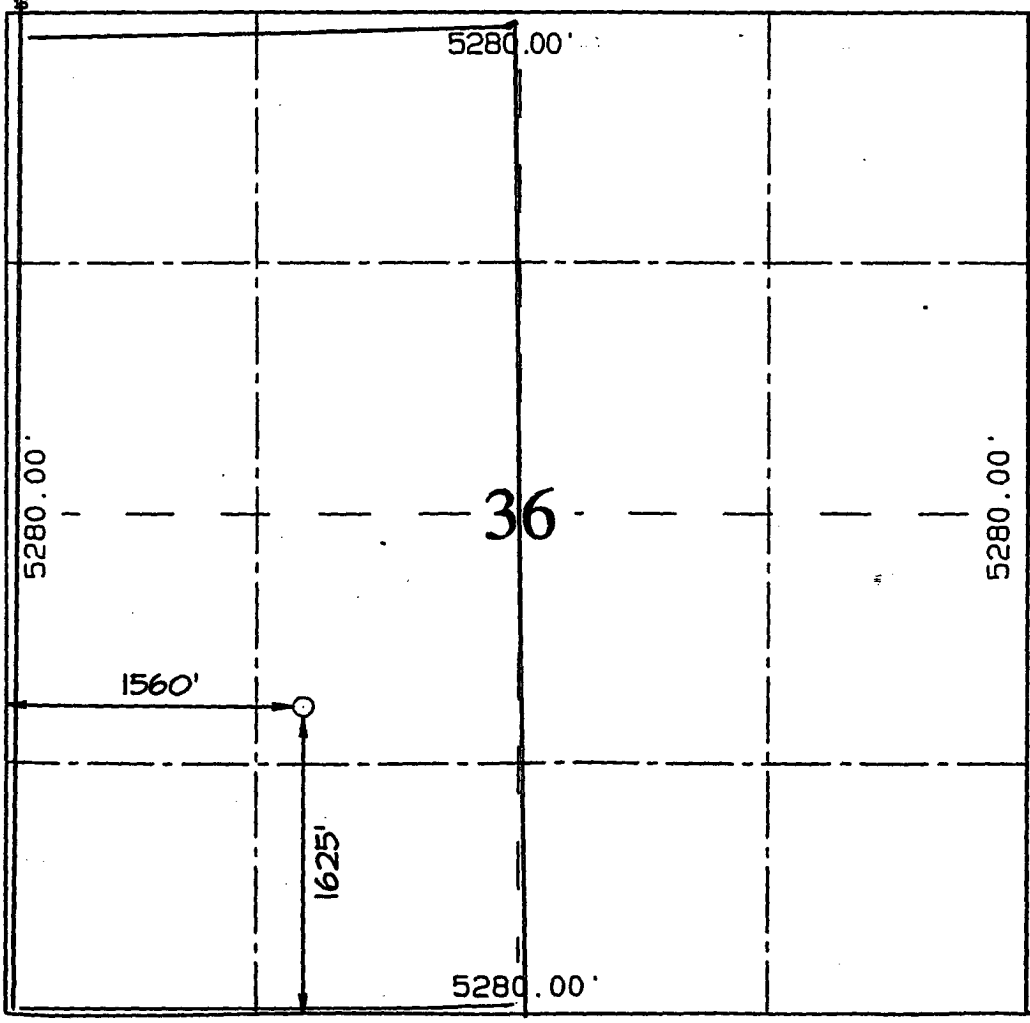
11 Bottom Hole Location If Different From Surface

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

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
320 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

16



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

Title

9-23-05

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.

APRIL 10, 2001

Date of Survey

Signature and Seal of Professional Surveyor

NEALE C. EDWARDS
NEW MEXICO
6857
REGISTERED PROFESSIONAL SURVEYOR

Certificate 6857

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. 30-039-29672

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

6. State Oil & Gas Lease No. Federal NMSF-0078768

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 362

2. Name of Operator: Williams Production Company, LLC

9. OGRID Number 120782

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

10. Pool name or Wildcat: Basin Fruitland Coal

4. Well Location
Unit Letter K: 1625 feet from the south line and 1560 feet from the west line
Section 36 Township 31N Range 5W NMPM County Rio Arriba

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)* 6,802' GR

Pit or Below-grade Tank Application ☒ or Closure ☐

Pit type Drlg/Completion Depth to Groundwater >100' Distance from nearest fresh water well >1,000' Distance from nearest surface water >500'

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 50-75 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 9/22/05

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

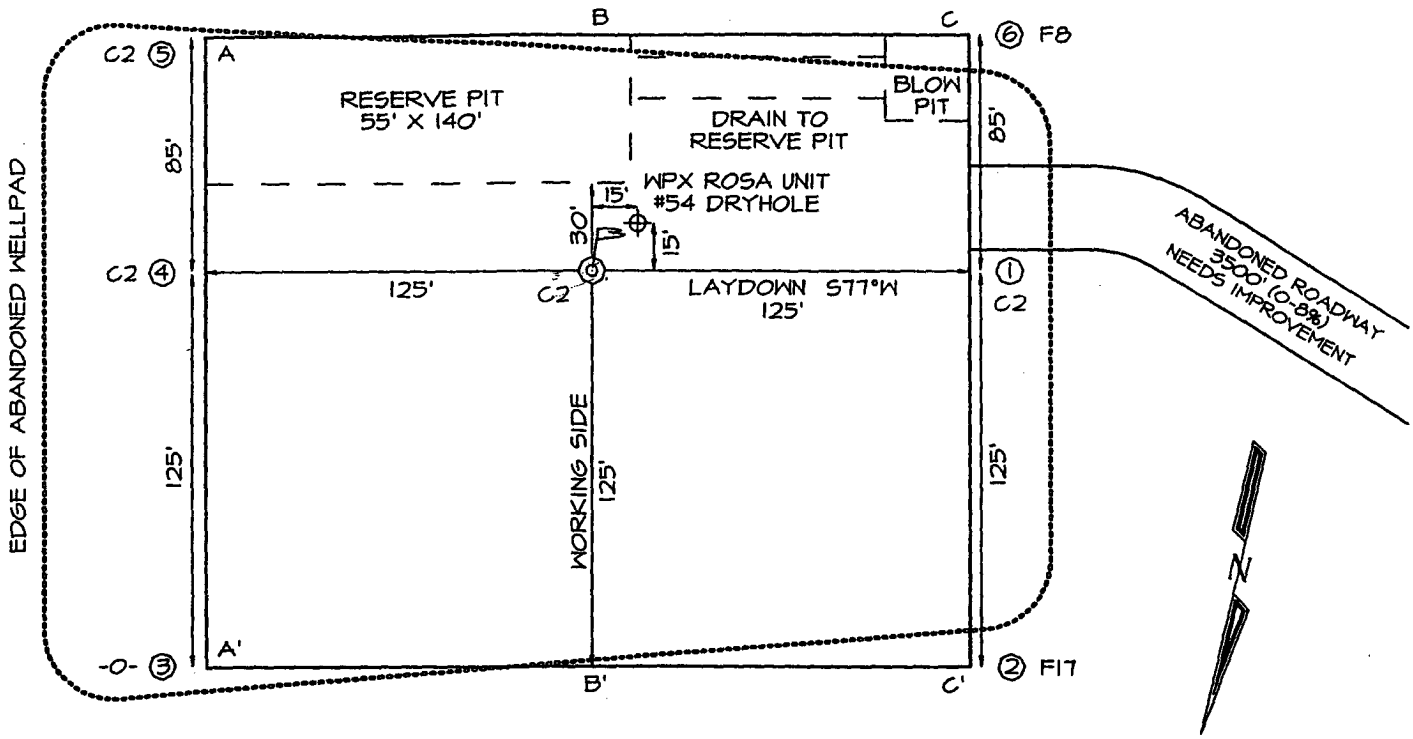
For State Use Only

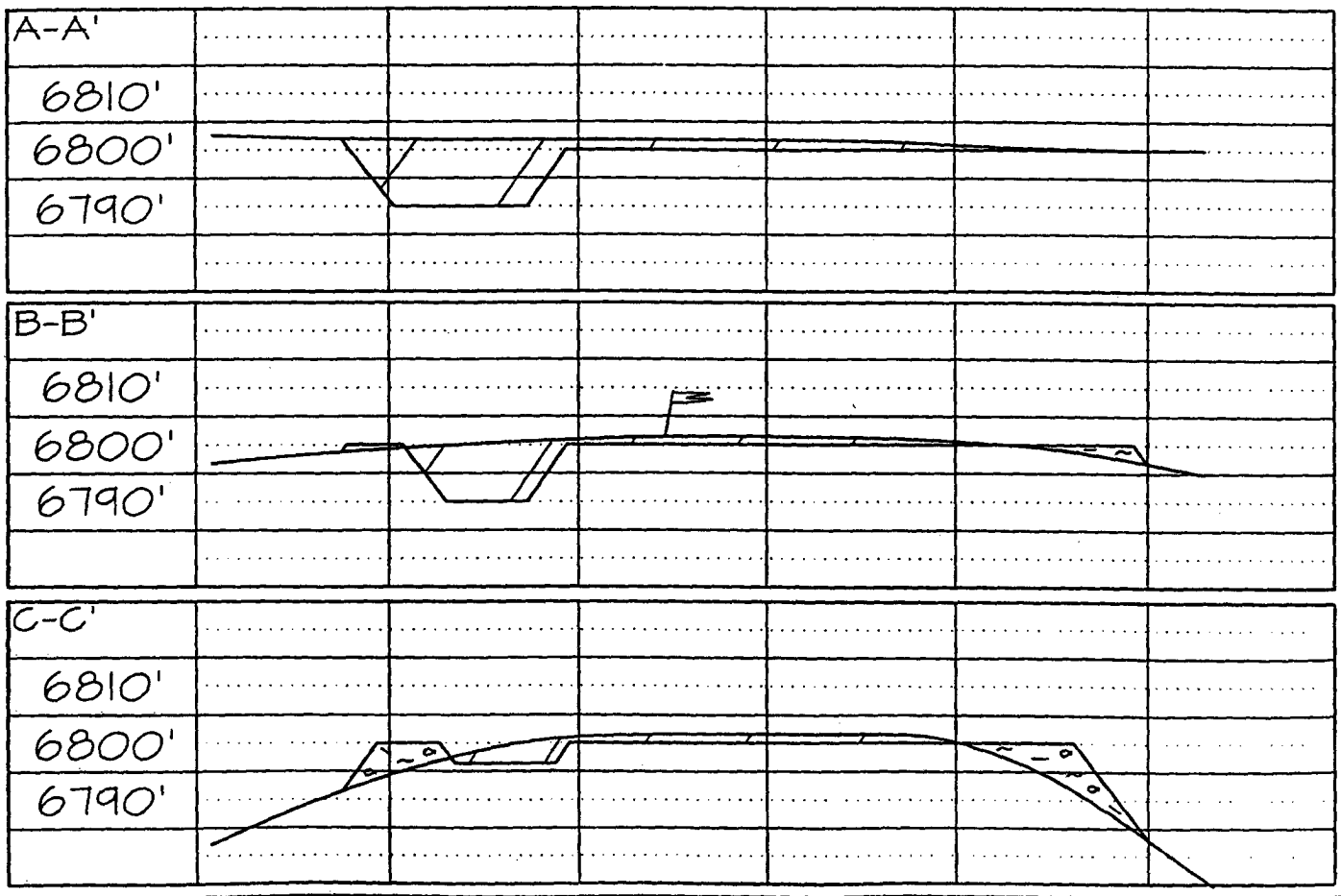
APPROVED BY: TITLE DEPUTY OIL & GAS INSPECTOR, DIST. #3 DATE MAR 17 2006

Conditions of Approval (if any):

WILLIAMS PRODUCTION COMPANY ROSA UNIT #362
1625' FSL & 1560' FWL, SECTION 36, T31N, R5W, NMPM
RIO ARRIBA COUNTY, NEW MEXICO
GROUND ELEVATION: 6802'

LATITUDE: 36°51'12"
LONGITUDE: 107°19'02"





FILENAME: 31536KT	SHEET 2 OF 2	NCE SURVEYS, INC.	DRAWN BY: JCE	CHECKED BY: NCE

WILLIAMS PRODUCTION COMPANY

Operations Plan

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

DATE:	**9/22/2005**		
WELLNAME:	Rosa Unit #362	**FIELD:**	Basin Fruitland Coal
LOCATION:	NESW Sec. 36-T31N-5W Rio Arriba, NM	**SURFACE:**	USFS
ELEVATION:	6,802' GR	**MINERALS:**	BLM
TOTAL DEPTH:	**3,731'**	**LEASE #**	SF-078768

I. GEOLOGY: Surface formation - San Jose

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

NAME		DEPTH		NAME		DEPTH
San Jose		Surface		Top Coal		3,551
Nacimiento		1,671		Bottom Coal		3,631
Ojo Alamo		2,946		Pictured Cliffs		3,631
Kirtland		3,151		**TD**		**3,731**
Fruitland		3,446				

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 **3,531'** 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 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	CASING SIZE	WT. & GRADE
Surface	12-1/4"	+/- 300'	9-5/8"	36# K-55
Intermediate	8-3/4"	+/- 3,531'	7"	20# K-55
Prod. Liner	6-1/4"	+/- ~~3,531'~~ 3491 minimum - 3,631'	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 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~~ 208 cu.ft.) of "Type III" with 2% $CaCl_2$ 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~~ 208 cu.ft. Test to 1500#.

2. INTERMEDIATE: Lead - 490 sx (1,026 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 **120% excess in Lead Slurry** to circulate to surface. **No excess in Tail Slurry.** Total volume = 1,096 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 2-7/8", 6.5#, J-55, EUE tubing with a SN on top of bottom joint. Land tubing approximately 50' above TD.

Gary Sizemore
Sr. Drilling Engineer

Williams Production Company, LLC

Well Control Equipment Schematic for 2M Service

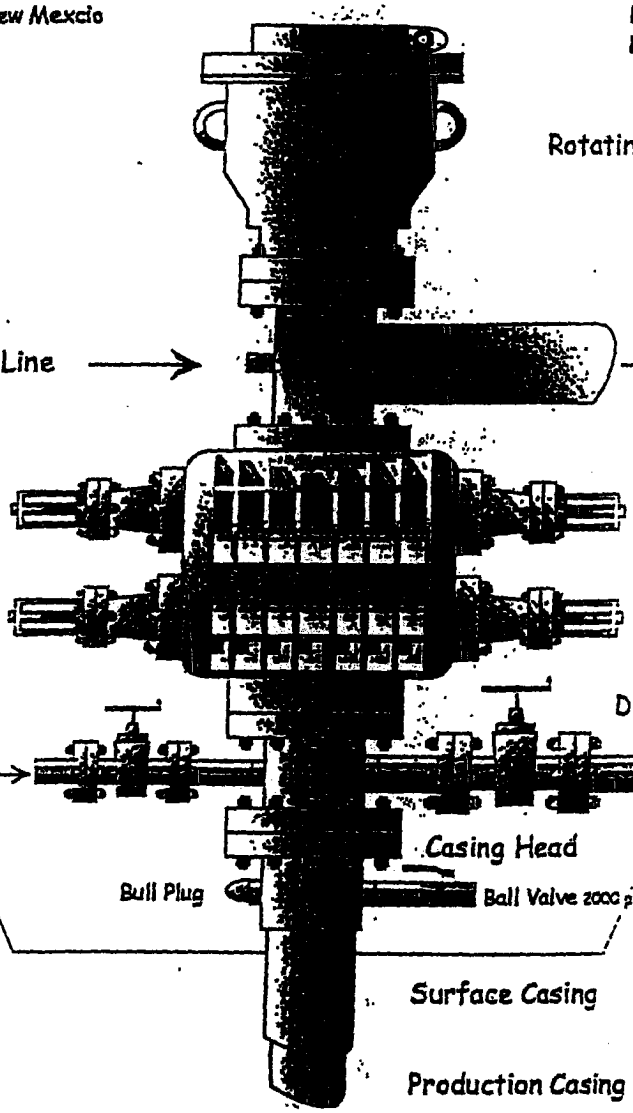
Attachment to Drilling Technical Program

Typical BOP setup

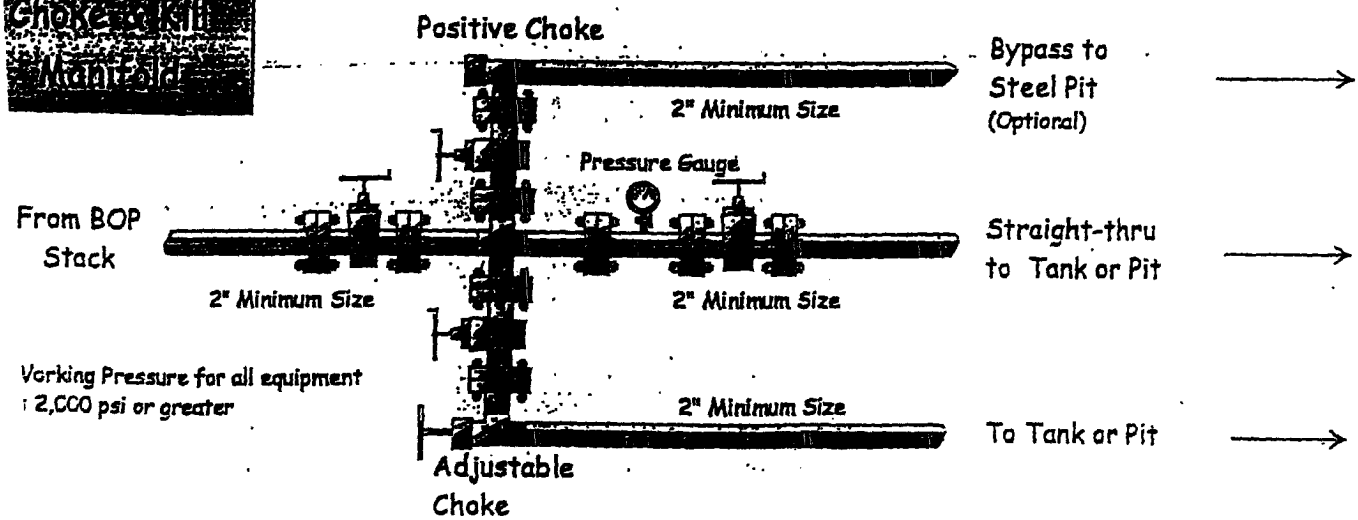
Location: San Juan Basin, New Mexcio

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.