

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

5. LEASE DESIGNATION AND SERIAL NO.

SF- 078763

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

Rosa Unit

8. FARM OR LEASE NAME, WELL NO.

46A

9. API WELL NO.

30039 26986

10. FIELD AND POOL OR WILDCAT

Blanco Mesa Verde/DK

11. SEC., T., R., M., OR BLK
AND SURVEY OR AREA

0 Sec. 8. T31N. R5W

12. COUNTY OR PARISH

Rio Arriba

13. STATE

NM

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒DEEPEN ☐

1b. TYPE OF WELL

OIL
WELL ☐GAS
WELL ☒OTHER ☐SINGLE
ZONE ☐MULTIPLE
ZONE ☒

2. NAME OF OPERATOR

Williams Production Company, LLC

3. ADDRESS OF OPERATOR

c/o Walsh Engineering 7415 E. Main St., Farmington, NM 87402 (505) 327-4892

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. *)

At Surface 10' FSL and 2470' FEL

At proposed Prod. Zone

1000' FSL and 1830' FEL

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*

28 miles NE of Blanco, NM

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

1000'

16. NO. OF ACRES IN LEASE

2544.64

17. NO. OF ACRES ASSIGNED TO THIS WELL

320

E/F MV 5/2 OK

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

1800'

19. PROPOSED DEPTH

8268' (measure depth)

20. ROTARY OR CABLE TOOLS

Rotary

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

6191'

22. APPROX. DATE WORK WILL START*

May 30, 2002

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"	40.5#	+/- 250'	~230 cu.ft. Type III w/ 2% CaCl ₂
9-7/8"	7-5/8"	26.4#	+/- 3742'	~1253 cu.ft. 65/35 poz & ~354 cu.ft. Type
6-3/4"	5-1/2"	17.0#	+/- 8268'	~502 cu.ft. Prem. Lite HS w/ additives

Williams Production Company proposes to drill a directional well to develop the Mesa Verde and Dakota formations at the above described location in accordance with the attached drilling and surface use plans.

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 not require any new access road (see Pipeline & Well Plats #3 & #4). The well will be accessed by utilizing the existing "Rosa Road" as it runs through the SW/SE of section 8 of T31N, R5W.

This section 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".

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

TITLE John C. Thompson, Agent

DATE

5/15/02

(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

David J. Mankiewicz

TITLE

DATE

JUN - 7 2002

*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.

HOLD C104 FOR Directional Survey

Form C-102
Revised February 21, 1994
Instructions on back
Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

District IV
PO Box 2088, Santa Fe, NM 87504-2088

☐ AMENDED REPORT

*API Number 30-039-26986		*Pool Code 72319 / 71599	*Pool Name Blanco Mesaverde / Basin Dakota
*Property Code 17033	*Property Name ROSA UNIT		*Well Number 46A
*OGRID No. 120782	*Operator Name WILLIAMS PRODUCTION COMPANY		*Elevation 6191'

U/L or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	8	31N	5W		10	SOUTH	2470	EAST	RIO ARRIBA

U. or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	8	31N	5W		1000	SOUTH	1830	EAST	RIO ARRIBA

15	Order No.
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16

5276.04'

5280.00'

5280.00'

8

SF - 078163

1000'

1830'

2470'

10'

SURFACE LOCATION

BOTTOM HOLE LOCATION

2002 APR 17 AM 8:44

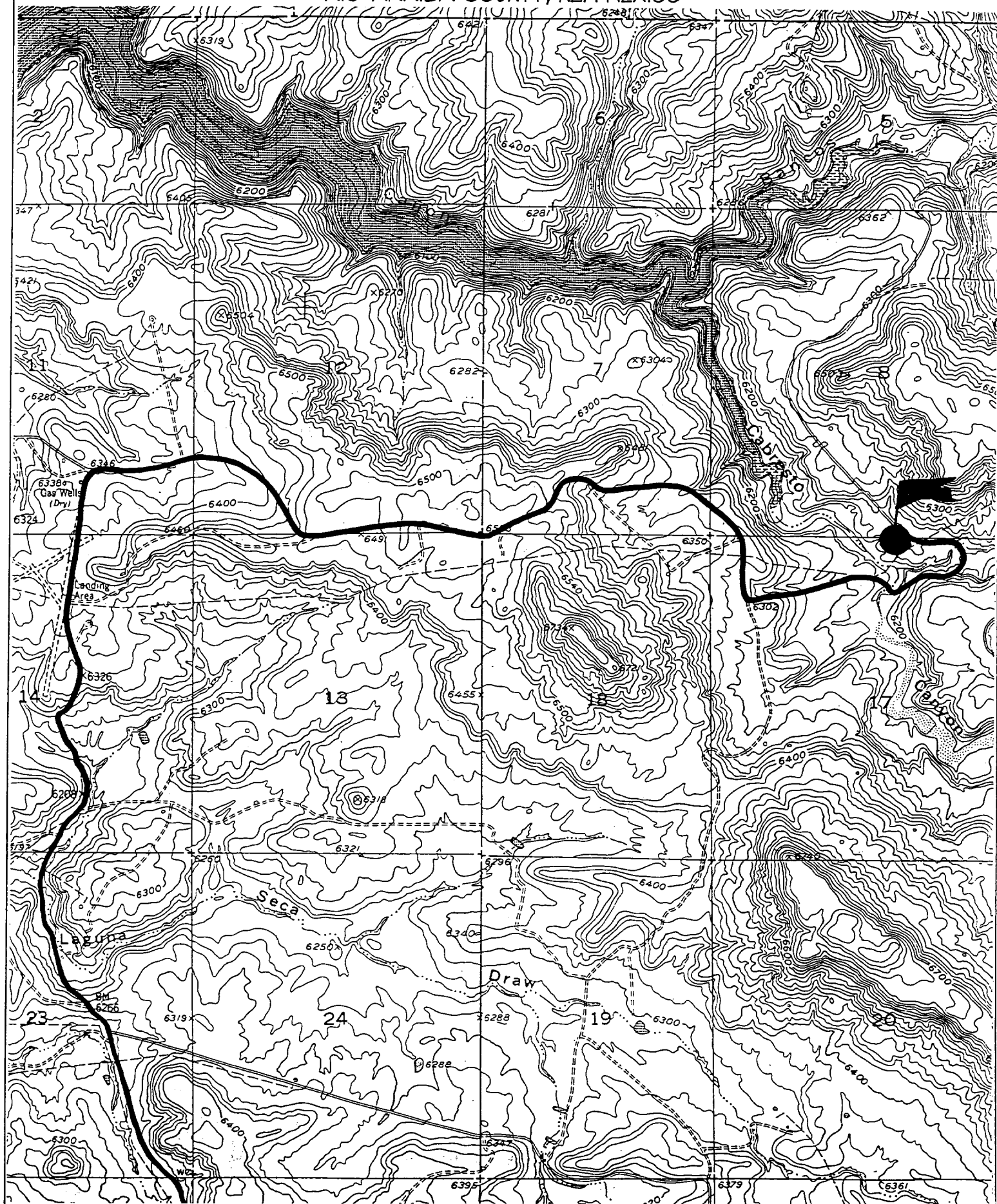
078163

078163

JASON C. EDWARDS
Certificate Number 15269

WILLIAMS PRODUCTION COMPANY ROSA UNIT #46A

10' FSL & 2470' FEL, SECTION 8, T31N, R5W, N.M.P.M.
RIO ARriba COUNTY, NEW MEXICO





WILLIAMS PRODUCTION COMPANY

OPERATIONS PLAN

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

DATE: 4/15/2002

WELL NAME: Rosa Unit 46A **FIELD:** Basin DK/ Blanco MV

SURFACE LOCATION: SW/4 SE/4 Sec. 8-T31N-R5W **SURFACE:** BLM
Rio Arriba, NM

ELEVATION: 6191' GR **MINERALS:** BLM

LEASE # SF-078763

MEASURED DEPTH: 8268'

I. GEOLOGY: Surface formation - San Jose

A. FORMATION TOPS: (KB)

	<u>TVD</u>	<u>MD</u>		<u>TVD</u>	<u>MD</u>
Ojo Alamo	2308'	2462'	Mancos sh	5868'	6113'
Kirtland sh	2418'	2586'	Gallup ss	6853'	7098'
Fruitland cl	2808'	3017'	Greenhorn ls	7578'	7823'
Pictured Cliffs ss	3028'	3251'	Graneros sh	7638'	7883'
Lewis sh	3348'	3584'	Dakota ss	7773	8018'
Cliff House ss	5258'	5503'			
Menefee	5298'	5543'			
Point Lookout ss	5493'	5738'	Total Depth	8023'	8268'

B. LOGGING PROGRAM: DIL from TD to the Intermediate Casing Shoe. DEN/Neutron/GR
(selected intervals by on-site Geologist). *Subject to change as wellbore conditions dictate.*

C. NATURAL GAUGES: Gauge any noticeable increases in gas flow. Gauge well @ 5800' and before TOH for logs @ 7954'. Record all gauges in Tour book and on morning reports.

II. DRILLING

A. MUD PROGRAM: Clear water with benex to 7" casing point. LSND to log and run pipe.
Treat for lost circulation as necessary. Obtain 100% returns prior to cementing. Notify Engineering of any mud losses.

B. BOP TESTING: While drill pipe is in use, the pipe rams will be function tested not less than once each day. 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.

- C. **BIT PROGRAM:** Use **Hammer** bit from Intermediate to just above the Greenhorn formation. Replace **Hammer** bit with **Tricone** bit to drill through the Dakota formation

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"	+/- 250'	10-3/4"	40.5# K-55
Intermediate	9-7/8"	+/-3742'	7-5/8"	26.4# K-55
Prod. Casing	6-3/4"	+/- 8268'	5-1/2"	17.0# N-80

B. **FLOAT EQUIPMENT:**

1. **SURFACE CASING:** 10-3/4" notched regular pattern guide shoe. Run (1) Standard centralizer on each of the bottom (3) Joints.
2. **INTERMEDIATE CASING:** 7-5/8" cement nose guide shoe with a self- fill insert float. Place float one (1) joint above the shoe and five (5) centralizers, spaced every other joint, starting with the float collar. Place turbulent centralizers, at 120' intervals, starting at 1500' to the surface. Total centralizers (5 regular and 13 turbulent).
3. **PRODUCTION CASING:** 5-1/2" whirler type cement nose guide shoe with a latch collar on top of 20' bottom joint. Place 20' marker joint on top of 10 th joint and one above 5100'.

C. **CEMENTING:**

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

1. **SURFACE:** Use 230sx (323cu.ft.) of class "Type III" with 2% CaCl₂ and 1/4# of cello-flake/sk (Yield = 1.39 cu.ft./sk, Weight = 14.5 #/gal.). 125% excess to circulate the surface. WOC 12 hours. Test to 1500#.
2. **INTERMEDIATE:** Lead: 600sx (1253cu.ft.) of class "Premium Lite" 65/35, Type III/Poz with 8% gel and 1/4# cello-flake/sk (Yield = 2.09 cu.ft./sk, Weight = 12.1 #/gal.). Tail: 255sx (354cu.ft.) of class "Type III" with 1/4# cello-flake/sk (Yield = 1.39 cu.ft./sk, Weight = 14.5#/gal.). 100% excess in lead and tail to circulate to surface. Total volume = 1607 cu.ft. WOC 12 hours. Run a temperature survey after 8 hours if cement is not circulated.
3. **PRODUCTION CASING:** 30 sks Scavenger of Premium Light HS + 1% FL-52 + .3% CD-32 + 2% KCl + .25 #/sk Celloflake + 4% Phenoseal + .3% R3. (Weight = 11 #/gal.). **Cement Slurry:** 250 sx (502t³) of Premium Light HS + 1% FL-52 + .3% CD-32 + 2% KCl .25 #/sk Celloflake + 4% Phenoseal + .2% R3. (Yield = 2.02 ft³/sk, Weight = 12.5 #/gal.). Displace cement at a minimum of 8 BPM. Use 30% excess in calculation to raise cement 100' into intermediate casing. Total volume 502ft³. WOC 12 hours.

IV COMPLETION : (This work to be performed after the drilling rig is off location or just prior to stimulation.)

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

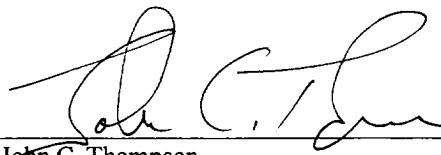
1. Pressure test 5-1/2" casing to 6000# for 15 minutes.

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 and SN w/ pump-out plug on top of bottom joint. Will run a production packer with 5 seal elements to isolate Dakota and Mesa Verde formations. 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.


John C. Thompson
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 Mexico

Date: August 20, 2001

By: John Thompson (Walsh E&P)

