

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

Si  
Energy, Mi.

OIL COI  
Santa

AL  
3-24-97

Form C-101  
Revised February 21, 1994  
Instructions on back  
Submit to Appropriate District Office  
State Lease - 6 Copies  
Fee Lease - 5 Copies

☐ AMENDED REPORT

# APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

<sup>1</sup> Operator Name and Address. WILLIAMS PRODUCTION COMPANY ✓ c/o Walsh Engr. & Prod. Corp. 7415 E. Main Farmington, New Mexico 87402		<sup>2</sup> OGRID Number 120782
		<sup>3</sup> API Number 30 - 039-25561 ✓
<sup>4</sup> Property Code 17033	<sup>5</sup> Property Name Rosa Unit ✓	<sup>6</sup> Well No. 152A ✓

## <sup>7</sup> 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	36	32N	6W		1065	South	1475	West	R.A.

## <sup>8</sup> Proposed 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
<sup>9</sup> Proposed Pool 1 Blanco Mesa Verde 72319					<sup>10</sup> Proposed Pool 2 w/320 ✓				

<sup>11</sup> Work Type Code N	<sup>12</sup> Well Type Code XJ	<sup>13</sup> Cable/Rotary Rotary	<sup>14</sup> Lease Type Code S	<sup>15</sup> Ground Level Elevation 6359
<sup>16</sup> Multiple No	<sup>17</sup> Proposed Depth 6055	<sup>18</sup> Formation Mesa Verde	<sup>19</sup> Contractor N/A	<sup>20</sup> Spud Date May 1996

## <sup>21</sup> Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
12 1/4	9 5/8	36# K-55	250	132	Surface
8 3/4	7	20# K-55	3620	410 + 165	Surface
6 1/4	4 1/2	10.5# K-55	3520-6055	240	3520

<sup>22</sup> Describe the proposed program. If this application is to DEEPEN or PLUG BACK give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

Williams Production proposes to drill a vertical well and test the Mesa Verde formation according to the attached drilling plan.

RECEIVED  
FEB 23 1996

OIL CON. DIV.

<sup>23</sup> I hereby certify that the information given above is true and complete to the best of my knowledge and belief. Signature: <i>Paul C. Thompson</i> Printed name: Paul C. Thompson Title: Agent Date: 2/20/96		OIL CONSERVATION DIVISION Approved by: <i>Eugene P. Welch</i> 2-26-96 Title: DEPUTY OIL & GAS INSPECTOR, DIST. #3 Approval Date: FEB 26 1996 Expiration Date: FEB 26 1997 Conditions of Approval: Attached <input type="checkbox"/>	
Phone: (505) 327-4892			

**C-101 Instructions**

Measurements and dimensions are to be in feet/inches. Well locations will refer to the New Mexico Principal Meridian.

**IF THIS IS AN AMENDED REPORT CHECK THE BOX LABELED "AMENDED REPORT" AT THE TOP OF THIS DOCUMENT.**

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|---|--|
| <p>1 Operator's OGRID number. If you do not have one it will be assigned and filled in by the District office.</p> <p>2 Operator's name and address</p> <p>3 API number of this well. If this is a new drill the OCD will assign the number and fill this in.</p> <p>4 Property code. If this is a new property the OCD will assign the number and fill it in.</p> <p>5 Property name that used to be called 'well name'</p> <p>6 The number of this well on the property.</p> <p>7 The surveyed location of this well New Mexico Principal Meridian NOTE: If the United States government survey designates a Lot Number for this location use that number in the 'UL or lot no.' box. Otherwise use the OCD Unit Letter.</p> <p>8 The proposed bottom hole location of this well at TD</p> <p>9 and 10 The proposed pool(s) to which this well is beeing drilled.</p> <p>11 Work type code from the following table:<br/>N New well<br/>E Re-entry<br/>D Drill deeper<br/>P Plugback<br/>A Add a zone</p> <p>12 Well type code from the following table:<br/>O Single oil completion<br/>G Single gas completion<br/>M Mutiple completion<br/>I Injection well<br/>S SWD well<br/>W Water supply well<br/>C Carbon dioxide well</p> <p>13 Cable or rotary drilling code<br/>C Propose to cable tool drill<br/>R Propose to rotary drill</p> <p>14 Lease type code from the following table:<br/>S State<br/>P Private</p> <p>15 Ground level elevation above sea level</p> <p>16 Intend to mutiple complete? Yes or No</p> <p>17 Proposed total depth of this well</p> <p>18 Geologic formation at TD</p> <p>19 Name of the intended drilling company if known.</p> | <p>20 Anticipated spud date.</p> <p>21 Proposed hole size ID inches, proposed casing OD inches, casing weight in pounds per foot, setting depth of the casing or depth and top of liner, proposed cementing volume, and estimated top of cement</p> <p>22 Brief description of the proposed drilling program and BOP program. Attach additional sheets if necessary.</p> <p>23 The signature, printed name, and title. of the person authorized to make this report. The date this report was signed and the telephone number to call for questions about this report.</p> |
|---|--|

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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  
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☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number 30-039-25561		2 Pool Code 72319		3 Pool Name BLANCO MESA VERDE	
4 Property Code 17033		5 Property Name Rosa Unit			6 Well Number 152A
7 OGRID No. 120782		8 Operator Name Williams Production Co.			9 Elevation 6359'

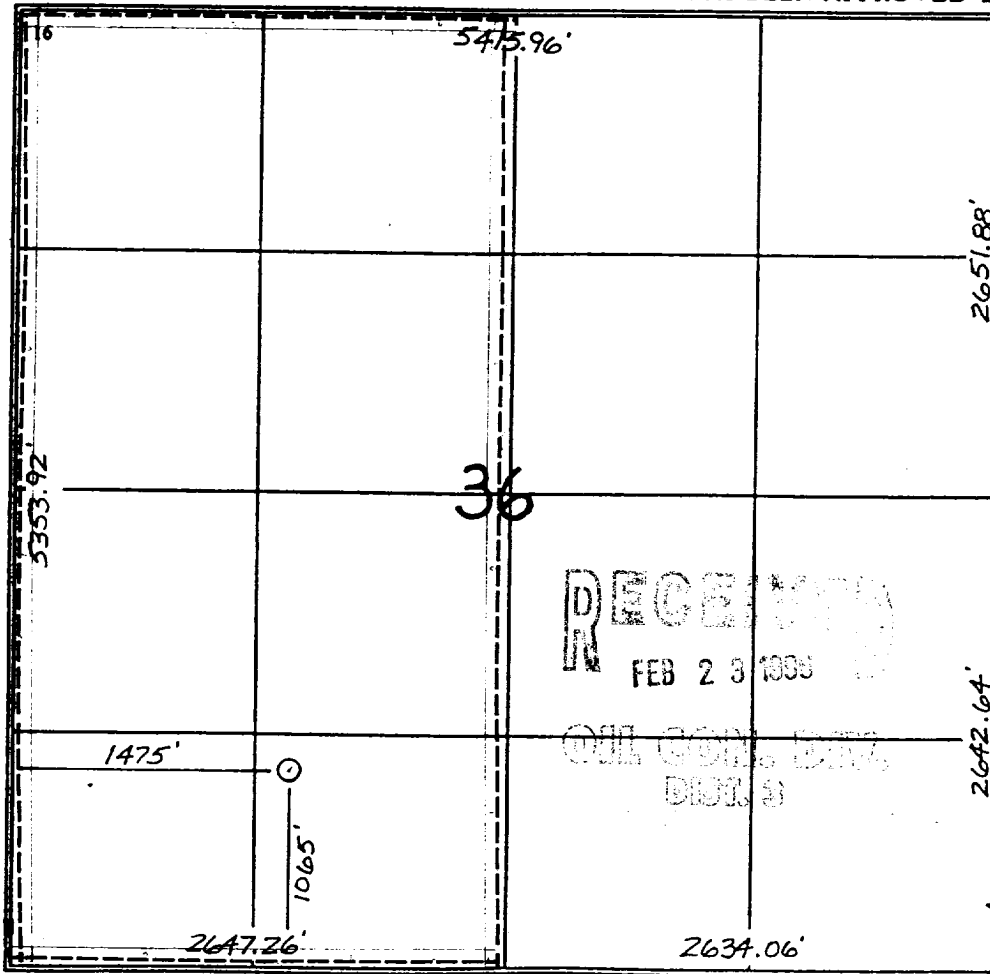
10 Surface Location

UL or lot no. N	Section 36	Township 32N	Range 6 W	Lot Idn	Feet from the 1065	North/South line South	Feet from the 1475	East/West line West	County R.A.
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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 w/320	13 Joint or Infill N	14 Consolidation Code U		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

		<p>17 OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</p> <p><u>Paul C. Thompson</u> Signature Paul C. Thompson, Agent Printed Name President Walsh Engr. &amp; Prod. Corp. Title 2/20/96 Date</p>	
<p>RECEIVED FEB 23 1995 OIL CON. DIV. DIST. 3</p>		<p>18 SURVEYOR CERTIFICATION</p> <p>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.</p> <p>11-14-95 Date of Survey <u>NEALE C. EDWARDS</u> Signature and Seal of Professional Surveyor 8857 Certificate Number</p>	

**WILLIAMS PRODUCTION COMPANY**  
**OPERATIONS PLAN**

**DATE:** 2/1/96

<b><u>WELLNAME:</u></b>	ROSA UNIT #152A	<b><u>FIELD:</u></b>	Blanco MV
<b><u>LOCATION:</u></b>	SE/4 SW/4 Sec. 36, T32N, R6W San Juan Co., NM	<b><u>SURFACE:</u></b>	State of NM
<b><u>ELEVATION:</u></b>	6359' GR	<b><u>MINERALS:</u></b>	State of NM
<b><u>TOTAL DEPTH:</u></b>	6055'	<b><u>LEASE #</u></b>	E-347

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

**A. FORMATION TOPS:**

Ojo Alamo	2401'	Cliff House	5396'
Kirtland	2516'	Menefee	5441'
Fruitland	2926'	Point Lookout	5656'
Pictured Cliffs	3141'	Mancos	5821'
Lewis	3471'	Total Depth	6055'

**B. LOGGING PROGRAM:** IND/GR, CDL/SNL. Log the Pictured Cliffs from TD to the Kirtland. Log the Mesa Verde from TD to 500' above the Cliff House.

**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. LSND to log and run pipe.

**B. BOP TESTING:** While drill pipe is in use, the pipe rams will be tested not less than once each day. The blind rams will be tested once each trip. The drum brakes will 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:**

<b><u>CASING TYPE</u></b>	<b><u>HOLE SIZE</u></b>	<b><u>DEPTH</u></b>	<b><u>CASING SIZE</u></b>	<b><u>WT. &amp; GRADE</u></b>
Surface	12-1/4"	250'	9-5/8"	36# K-55
Intermediate	8-3/4"	3620'	7"	20# K-55
Prod. Liner	6-1/4"	3520'-6055'	4-1/2"	10.5# K-55

**B. FLOAT EQUIPMENT:**

1. **SURFACE CASING:** 9-5/8" notched regular pattern guide shoe.

2. **INTERMEDIATE CASING:** 7" 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 2401' to the surface. Total centralizers = 5 regular and 19 turbulent.

3. **PRODUCTION CASING:** 4-1/2" whirler type cement nose guide shoe with a latch collar on top of 20' joint. Place 20' marker joint above 5396'.

### **C. CEMENTING:**

1. **SURFACE:** Use 132 sx (157cu.ft.) of class "B" with 3% CaCl<sub>2</sub> and 1/4# of cello-flake/sk (Yield = 1.19 cu.ft./sk, Weight = 15.6 #/gal.). Use 100% excess to circulate the surface. WOC 12 hours. Test to 1500#.
2. **INTERMEDIATE:** Lead - 410 sx (847cu.ft.) of class "B" 65/35 poz with 8% gel and 1/4# cello-flake/sk (Yield = 2.1 cu.ft./sk, Weight = 12.1 #/gal.). Tail - 165 sx (192 cu.ft.) of class "B", 1/4# cello-flake/sk and 2% CaCl<sub>2</sub> (Yield = 1.20 cu.ft./sk, Weight = 15.6#/gal.). Use 100% excess in Lead and 75% in tail to circulate to surface. Total volume = 1039 cu.ft. WOC 12 hours. Run a temperature survey after 8 hours if cement is not circulated. Test to 1500#.
3. **PRODUCTION LINER:** Use 240 sx (416 cu.ft.) of class "B" with 4% gel, 6-1/4# fine gilsonite/sk and 0.5% CF-14 (Yield = 1.73 cu.ft./sk, Weight = 13.5 #/gal.). Displace cement at a minimum of 10 BPM. Use 60% excess to cover liner top. WOC 12 hours. Run a temperature survey after 8 hours if liner top is not circulated.

## **IV COMPLETION**

### **A. CBL**

1. Run Cement Bond Log across all intervals to be perforated and find Top of Cement behind all casing strings.

### **B. PRESSURE TEST**

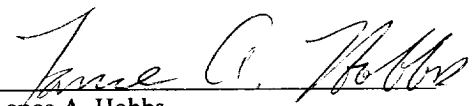
1. Pressure test 7" & 4-1/2" casing to 3300# for 15 minutes.

### **C. STIMULATION**

1. Stimulate with approximately 100,000# of 20/40 sand in slick water.
2. Isolate Point Lookout with a RBP.
3. Perforate the Menefee/Cliff House as determined from the open hole logs.
4. Stimulate with approximately 80,000# of 20/40 sand in slick water.
5. 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.

  
Lance A. Hobbs  
Engineer, Production & Drilling

**GENERAL ROSA UNIT DRILLING PLAN**  
Mesa Verde

ROSA UNIT BOUNDARIES: T31N, R04W: All - Except sections 32-36; T31N, R05W: All - Except sections 1 & 2;  
T31N, R06W: All - Except sections 6,7, 18, 20, 27-36; T32N, R05W: Sections 32-36.

**FORMATION CHARACTERISTICS:**

FORMATION	LITHOLOGY	WATER	GAS	OIL	OVER PRES.	LOST CIRC.
NACIMIENTO	Interbedded shales, siltstones & sandstones	no	no	no	no	no
OJO ALAMO	Sandstone & conglomerates w/ lenses of shales	fresh	no	no	no	no
KIRTLAND	Shale w/ Interbedded sandstones	no	poss.	no	no	no
FRUITLAND	Inter. SS, SiltSt, SH & Coals w/ Carb. SS, SiltSt, SH	yes	yes	no	poss.	no
PICTURED CLIFFS	Massive Sandstone w/ thin Interbedded Shales	poss.	yes	poss.	no	poss.
LEWIS	Shale w/ thin Interbedded sandstones & siltstones	no	poss.	no	no	no
CLIFF HOUSE	Transgressive sandstone	poss.	yes	no	no	no
MENEFEE	Sandstones, Carb shales & coal	poss.	yes	no	no	no
POINT LOOKOUT	Regressive coastal barrier sandstone	poss.	yes	poss.	no	yes
MANCOS	Marine shale	no	no	no	no	no

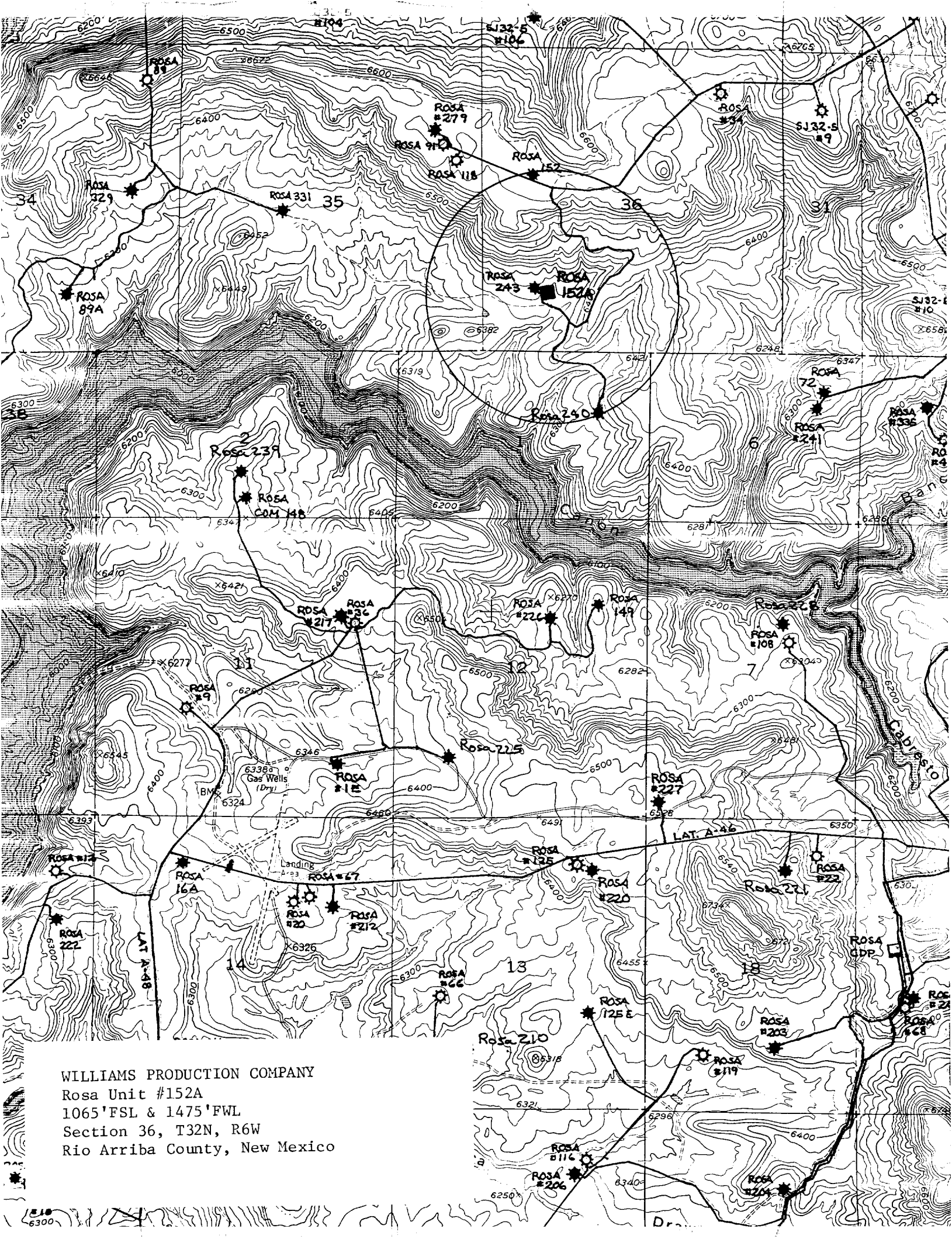
**DRILLING**

**Potential Hazards**

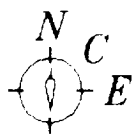
1. There are no overpressured zones expected in this well.
2. No H<sub>2</sub>S zones will be penetrated while drilling this well.

**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 #/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 #/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 natural gas from the intermediate casing point to TD.



WILLIAMS PRODUCTION COMPANY  
Rosa Unit #152A  
1065' FSL & 1475' FWL  
Section 36, T32N, R6W  
Rio Arriba County, New Mexico



P.O. BOX 6812  
FARMINGTON, NEW MEXICO 87402  
(505) 325-2654

**SURVEYS, INC.**

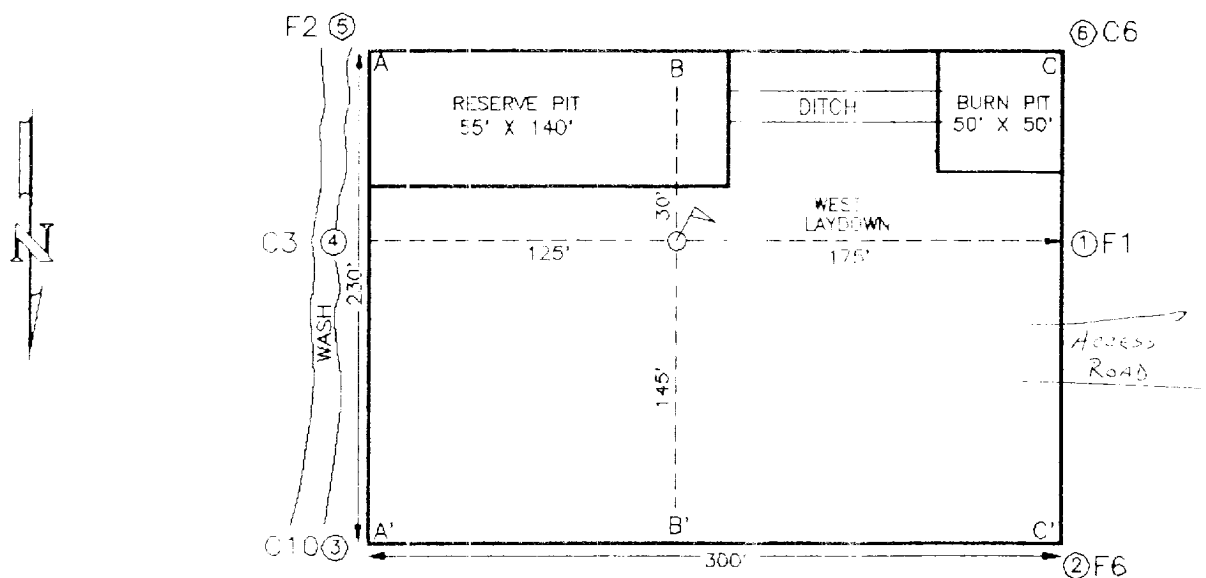
NAME: WILLIAMS PRODUCTION CO. ROSA UNIT #152A

FOOTAGE: 1065' FSL 1475' FWL

SECTION: 36 T 32 N, R 6 W, NMPM

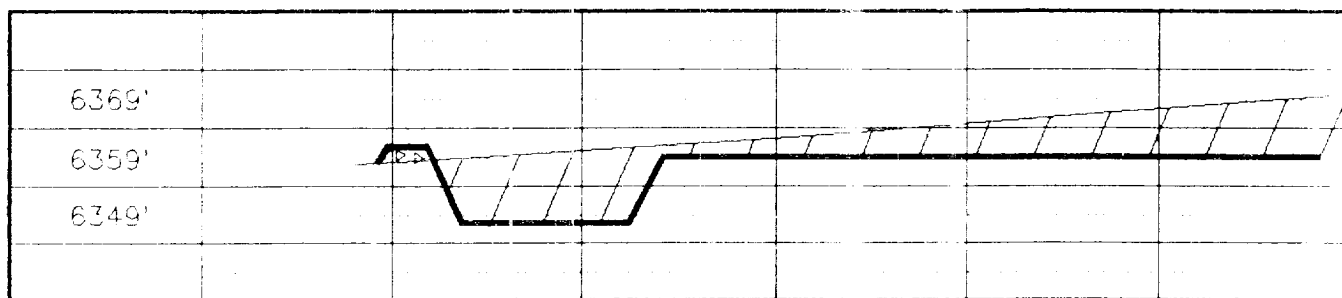
COUNTY: RIO ARriba STATE: NEW MEXICO

ELEVATION: 6359' DATE: 11/14/95



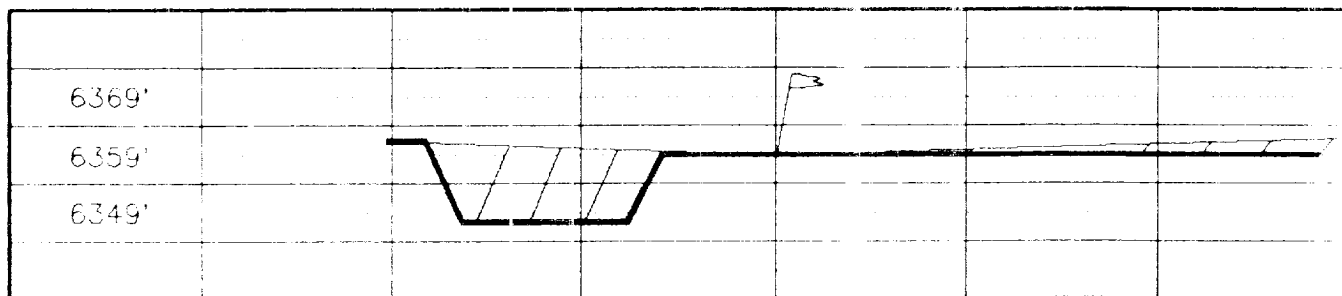
A-A'

C/L



B-B'

C/L



C-C'

C/L

