

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-101
Revised February 10, 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

Operator Name and Address: NORTHWEST PIPELINE CORPORATION c/o Walsh Engr. & Prod. Corp. 7415 E. Main Farmington, New Mexico 87402		RECEIVED APR - 3 1995 OIL CON. DIV. DIST. 3	OGRID Number 16189
Property Code 008480	ROSA UNIT		API Number 30 - 045-29229
			Well No. 150

7 Surface Location

UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
F	32	32N	6W		1575	North	1620	West	SJ

8 Proposed Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
72319 BLANCO MESA VERDE					w/320				

Work Type Code N	Well Type Code G	Cable/Rotary R	Lease Type Code S	Ground Level Elevation 6365'
Multiple N	Proposed Depth 5945'	Formation Mancos	Contractor N/A	Spud Date 6/15/95

21 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"	36.0#	250	135 (161 cuft)	Surface
8-3/4"	7"	20.0#	3515	570 (1030 cuft)	Surface
6-1/4"	4-1/2"	10.5#	3415'-5945'	240 (415 cuft)	3415'

22 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.

NORTHWEST PIPELINE proposes to drill a vertical well to develop the Mesa Verde formation at the above described location in accordance with the attached drilling plan. After surface pipe is set, a 3000# BOP will be installed for the remainder of the well. Please refer to the attached BOP and Choke Manifold Diagram.

23 I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

Signature: *Paul C. Thompson*
Printed name: Paul C. Thompson, P.E.

Title: Agent

Date: 3/31/95

Phone: 505 327-4892

OIL CONSERVATION DIVISION

Approved by: *Ernie Busch* 4-3-95

Title:

Approval Date: APR - 3 1995 Expiration Date: APR - 3 1996

Conditions of Approval:
Attached ☐

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-29229	² Pool Code 72319	³ Pool Name BLANCO MESA VERDE
⁴ Property Code 008480	⁵ Property Name Rosa Unit	
⁶ OGRID No. 16189	⁷ Operator Name Northwest Pipeline Production	⁸ Well Number 150
		⁹ Elevation 6365'

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
F	32	32 N	6 W		1575	North	1620	West	S.J.

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 320	¹³ Joint or Infill	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>RECEIVED APR - 3 1995 OIL CON. DIV. DIST. 3</p>	<p>17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</p> <p><i>Paul C. Thompson</i> Signature Paul C. Thompson, PE (AGENT) Printed Name President Walsh Engr. & Prod. Corp. Title 3/31/95 Date</p>
	<p>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.</p> <p>3-18-95 Date of Survey Signature and Seal of Professional Surveyor: Certificate Number</p>	

WILLIAMS PRODUCTION COMPANY
OPERATIONS PLAN

DATE: 03/24/95

WELLNAME: ROSA UNIT #150 FIELD: Blanco MV

LOCATION: SE/4 NW/4 Sec. 32, T32N, R6W SURFACE: State
San Juan Co., NM

ELEVATION: 6365' GR MINERALS: State

TOTAL DEPTH: 5945' LEASE # E-504

I. GEOLOGY: Surface formation - San Jose

A. FORMATION TOPS:

Ojo Alamo	2217'	Cliff House	5302'
Kirtland	2332'	Menefee	5352'
Fruitland	2797'	Point Lookout	5545'
Pictured Cliffs	3062'	Mancos	5742'
Lewis	3365'	Total Depth	5945'

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:


<u>CASING TYPE</u>	<u>HOLE SIZE</u>	<u>DEPTH</u>	<u>CASING SIZE</u>	<u>WT. & GRADE</u>
Surface	12-1/4"	250'	9-5/8"	36# K-55
Intermediate	8-3/4"	3515'	7"	20# K-55
Prod. Liner	6-1/4"	3415'-5945'	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 2332' to the surface. Total centralizers: 5 regular & 19 turbulent.
3. PRODUCTION CASING: 4-1/2" whirler type cement nose guide shoe with a float collar and an insert float on top of bottom joint.

C. CEMENTING:

1. SURFACE: Use 135 sx (161 cu.ft.) of class "B" with 3% CaCl₂ 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 (841 cu.ft.) of class "B" 65/35 poz with 2% CaCl₂, 8% gel and 1/4# cello-flake/sk (Yield = 2.05 cu.ft./sk, Weight = 12.1 #/gal.). Tail - 160 sx (189 cu.ft.) of class "B", 1/4# cello-flake/sk and 2% CaCl₂ (Yield = 1.18 cu.ft./sk, Weight = 15.6 #/gal.). Use 100% excess in lead to circulate surface and 75% excess in tail to circulate Fruitland. Reciprocate pipe while cementing. Precede cement with 40 BBIs gel water and 20 BBIs of scavenger slurry. Total volume = 1030 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 (415 cu.ft.) of class "B" with 4% gel, 6-1/4# fine gilsonite/sk and CF14 (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. Test to 1500#.


Mark McCallister
Sr. 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, R06W: 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, SltSt, SH & Coals w/ Carb. SS, SltSt, 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

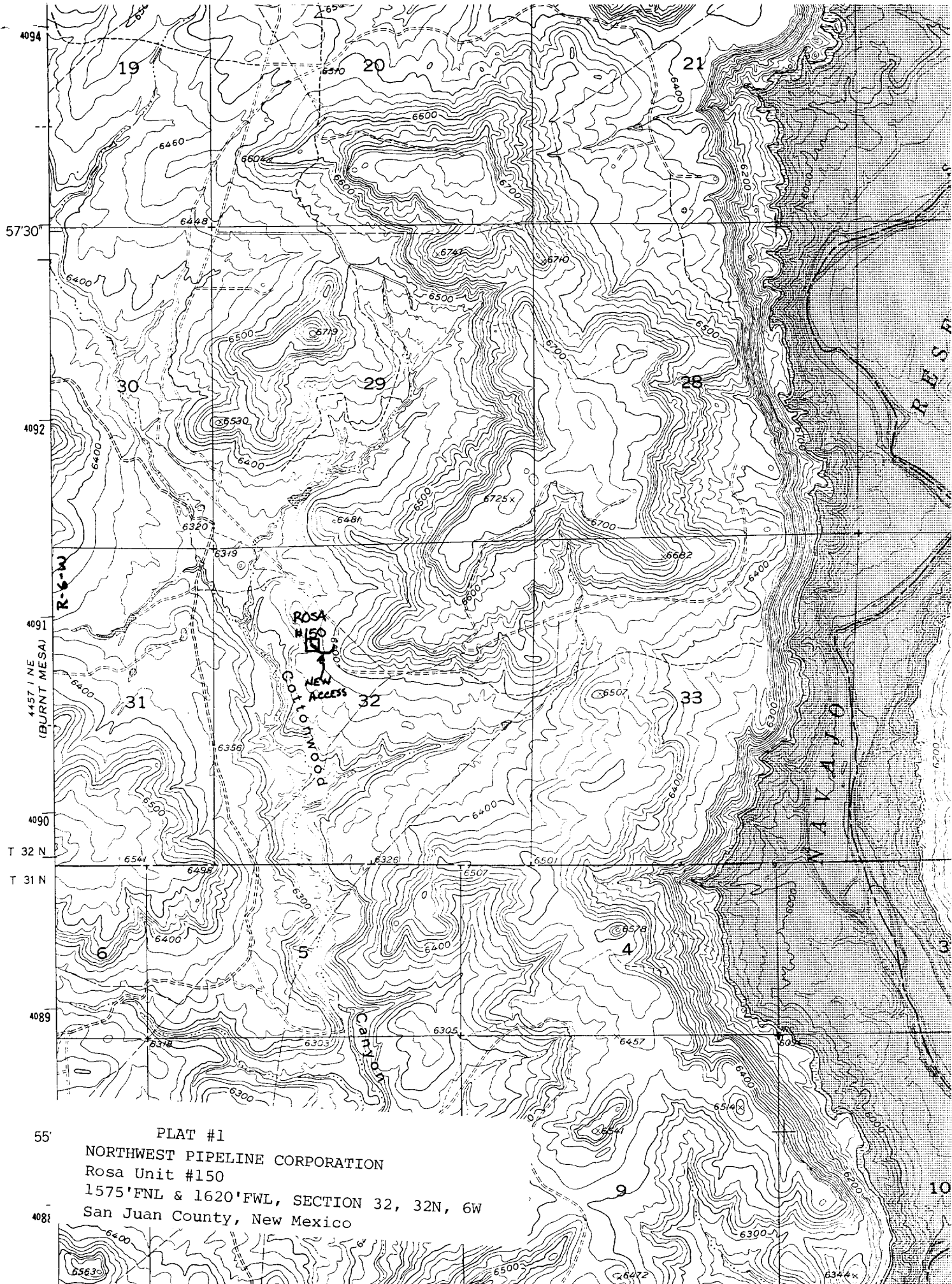
DRILLING

Potential Hazards

1. There are no overpressured zones expected in this well.
2. No 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 #/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.



55' PLAT #1
NORTHWEST PIPELINE CORPORATION
Rosa Unit #150
1575'FNL & 1620'FWL, SECTION 32, 32N, 6W
San Juan County, New Mexico