

DISTRICT I
P.O.Box 1980, Hobbs, NM 88241-1980

DISTRICT II
P.O.Box DD, Artesia, NM 88211-0719

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
P.O.Box 2088

Santa Fe, New Mexico 87504-2088

RECEIVED
Form C-107
Revised 4-1-91
AUG 25 1994

OIL CON. DIV.
DIST. 3
Filing Instructions
Bottom of Page

APPLICATION FOR MULTIPLE COMPLETION

NORTHWEST PIPELINE CORPORATION P.O. BOX 58900 SALT LAKE CITY, UTAH 84158-0900

Operator	Address		
ROSA UNIT	#8	M 26 31 06	RIO ARRIBA
Lease	Well No.	Unit Ltr. — Sec — Twp — Rge	County

All applicants for multiple completion must complete Items 1 and 2 below.

1. The following facts are submitted:	Upper Zone	Immediate Zone	Lower Zone
a. Name of Pool and Formation	PICTURED CLIFFS		MESAVERDE
b. Top and Bottom of Pay Section (Perforations)	3272' - 3327'		5406' - 5689'
c. Type of Production (Oil or Gas)	GAS		GAS
d. Method of Production (Flowing or Artificial Lift)	FLOWING		FLOWING
e. Daily Production <input type="checkbox"/> Actual <input checked="" type="checkbox"/> Estimated Oil Bbls. Gas MCF Water Bbls.	IP TEST 2,556 MCF/D		ACTUAL PRODUCTION 48 MCF/D

2. The following must be attached:

- Diagrammatic Sketch of the Multiple Completion, showing all casing strings, including diameters and setting depths, centralizers and/or turbolizers and location thereof, quantities used and top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.
- Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
- Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed it shall be submitted as provided by Rule 112-A.)

OPERATOR:

I hereby certify above information is true and complete to best of my knowledge, and belief.

Signature Kathy Barney
Printed Name & Title **KATHY BARNEY SR. OFFICE ASSISTANT**

Date **08/24/94** Telephone **(801)584-6981**

OIL CONSERVATION DIVISION

Approved by: **ORIGINAL SIGNED BY ERNIE BUSCH**

Title: **DEPUTY OIL & GAS INSPECTOR, DIST. #3**

Date: **AUG 25 1994**

NOTE: If the proposed multiple completion will result in an unorthodox well location and/or a non-standard proration unit in one or more of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

FILING INSTRUCTIONS:

- District Approval — See rule 112-A-B — Submit 4 copies of Form C-107 with attachments to appropriate district office.
- Division Director Administrative Approval — See Rule 112-C — Submit 2 copies of Form C-107 with attachments to Division office in Santa Fe and 2 copies of Form C-107 with attachments to appropriate district office.
- Multiple completions not qualifying for District or Division Director approval may be set for hearing as outlined in Rule 112-A-E.

WELLBORE DIAGRAM **ROSA UNIT #8 PC/MV**

Location: SW/4 SW/4 Sec. 26
T31N,R06W, Rio Arriba Co., NM
Elevation: 6428' GR
KB = 12'

TOPS:

NACIMIENTO	n/a
OJO ALAMO	2420'
KIRTLAND	2588'
FRUITLAND	3090'
PICTURED CLIFFS	3305'
LEWIS	3612'
CLIFF HOUSE	5387'
MENEFEE	5438'
POINT LOOKOUT	5658'

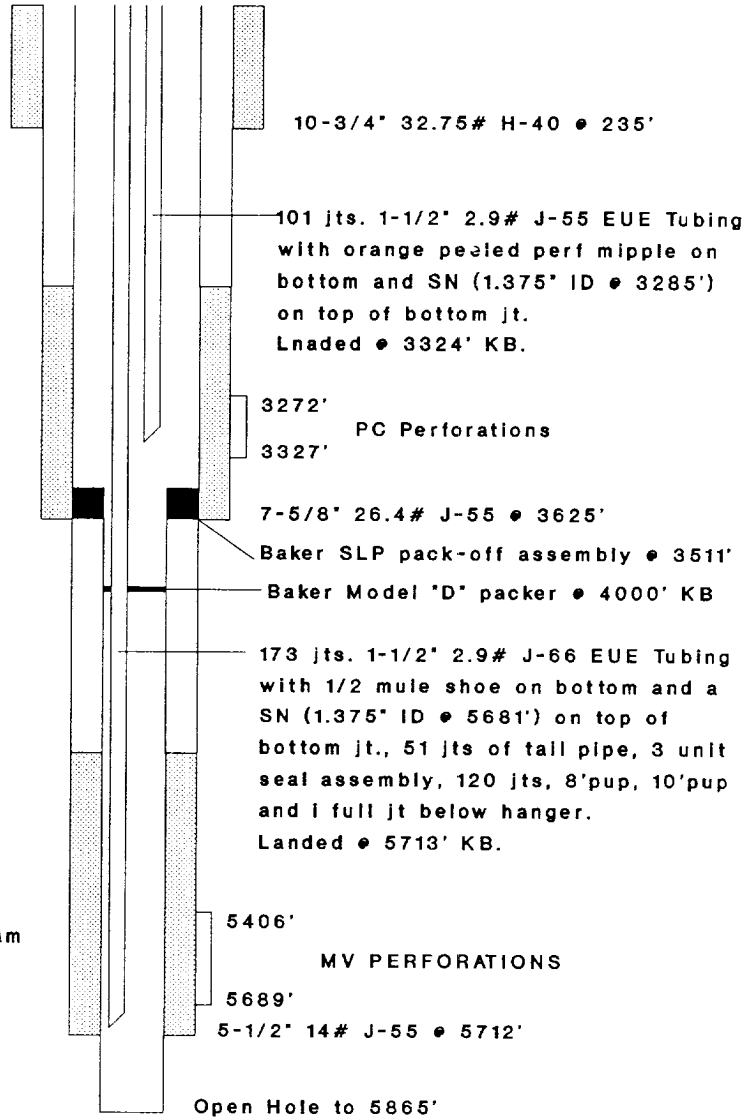
STIMULATION:

MV:

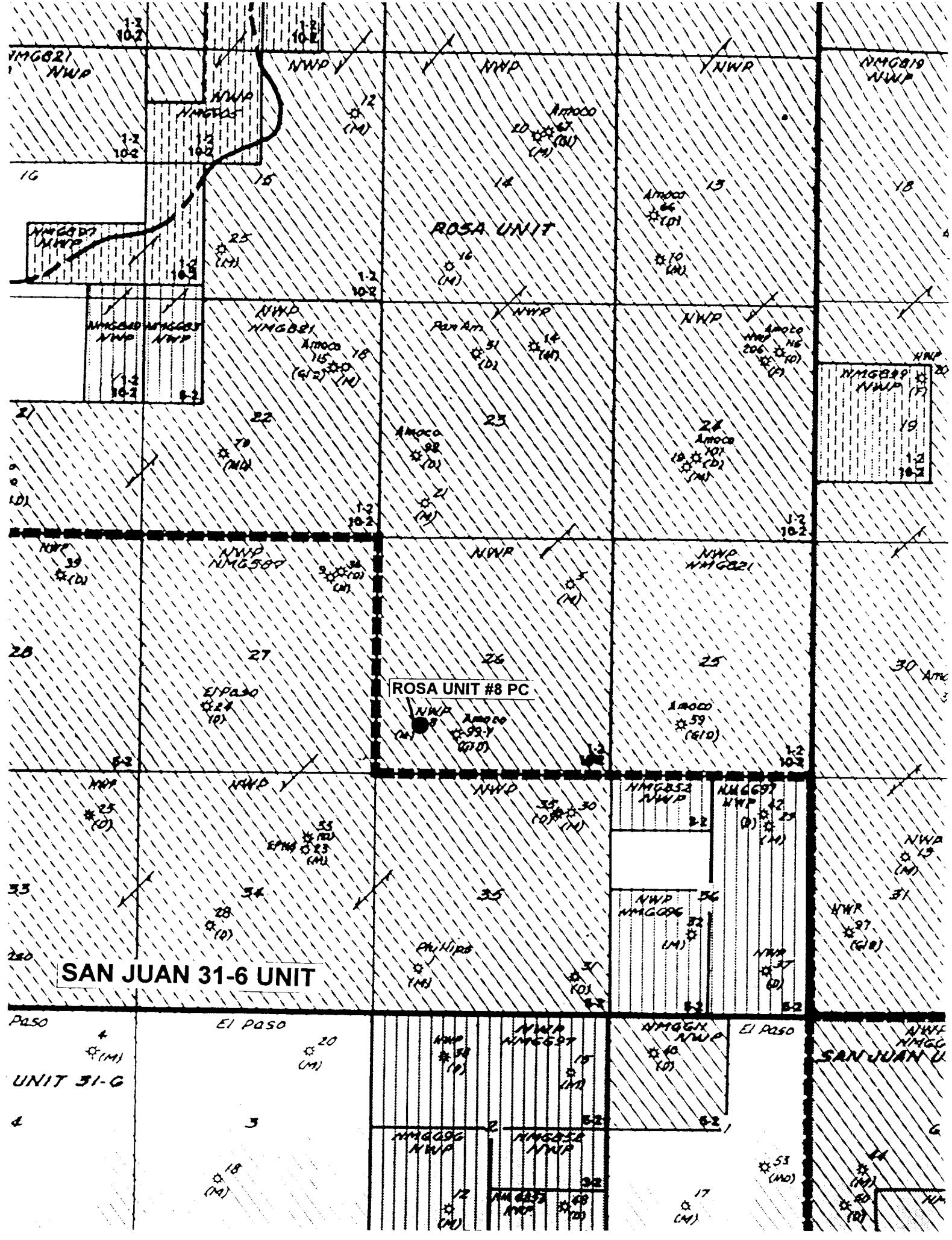
- 5712'- 5865'
20,000# of sand in 20,000# gals oil,
- 5406'- 5889'
18,000# of sand in 18,000 gals oil.

PC:

3272'to 3327'
98,300# 20/40, 18,396 gals of 30#
Borate X-Link gel in a 70 quality foam



HOLE SIZE	CASING	CEMENT	VOLUME	TOP OF CMT
13-3/4"	10-3/4" 32.75#	102 SX	158 CU.FT.	SURFACE
9-7/8"	7-5/8" 26.4#	200 SX	347 CU.FT.	2050'(CBL)
6-3/4"	5-1/2" 14#	100 SX	136 CU.FT.	4626'(calc)



**OFFSET OPERATORS
ROSA UNIT #8
M-26-31N-6W**

1. LEASE: ROSA UNIT

Operator; Northwest Pipeline Corp, MS-2M3, P.O. Box 58900, Salt Lake City, UT, 84158-0900

2. LEASE: SAN JUAN 31-6 UNIT

Operator: Phillips Petroleum Company, P.O. Box 1967, Houston, TX, 77251-1967

ROSA UNIT # 8 PC

3300

3400

3272

3287

3294

3307

3311

3327

This form is not to
be used for reporting
packer leakage tests
in Southeast New Mexico

NORTHWEST NEW MEXICO PACKER-LEAKAGE TEST

Operator NORTHWEST PIPELINE CORPORATION Lease ROSA UNIT Well No. 8
Location
of Well: Unit L Sec. 26 Twp. 31N Rge. 6W County RIO ARRIBA

	NAME OF RESERVOIR OR POOL	TYPE OF PROD (Flow or Art. Lift)	METHOD OF PROD. (Flow or Art. Lift)	PROD. MEDIUM (Tbg. or Csg.)
Upper Completion	PICTURED CILFFS	GAS	FLOW	TUBING
Lower Completion	MESA VERDE	GAS	FLOW	TUBING

PRE-FLOW SHUT-IN PRESSURE DATA

Upper Completion	Hour, date shut-in 1430 HOURS, 8-15-94	Length of time shut-in 68 HOURS	SI press. psig SITP = 1345, SICP = 1345	Stabilized? (Yes or No) YES
Lower Completion	Hour, date shut-in 1300 HOURS, 8-6-94	Length of time shut-in 260 HOURS	SI press. psig SITP = 442	Stabilized? (Yes or No) YES

FLOW TEST NO. 1

Commenced at (hour, date)* 8-17-94 1030 MST					Zone producing (Upper or Lower) MV LOWER	
TIME (hour, date)	LAPSED TIME SINCE*	PRESSURE			PROD. ZONE TEMP.	REMARKS
		PC Upper Completion		MV Lower Completion		
1000, 8-17-94	23.5 HOURS	TBG	CSG	TBG	64°	ST = 8.9, Diff = 1.0 Q = 17 MCF/D
		1367	1367	383		
1000, 8-19-94	24 HOURS	1379	1379	368	67°	ST = 8.8, Diff = 4.0 Q = 48 MCF/D

REMARKS: OP = .375" SP = 500 Range = 100

I hereby certify that the information herein contained is true and complete to the best of my knowledge.

Approved _____ 19____
New Mexico Oil Conservation Division

Operator NORTHWEST PIPELINE CORPORATION

By _____
Title _____

By Mark McCallister
Title Senior Engineer
Date 8-22-94

NEW MEXICO OIL CONSERVATION COMMISSION

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122

Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special										Test Date 08/21/94	
Company NORTHWEST PIPELINE CORPORATION					Connection WILLIAMS FIELD SERVICES						
Pool BLANCO					Formation PICTURED CLIFFS					Unit ROSA	
Completion Date 07/25/94			Total Depth		Plug Back TD			Elevation		Farm or Lease Name ROSA UNIT	
Casing Size			Weight d		Set At		Perforations: From To			Well No. #8	
Tubing Size			Weight d		Set at		Perforations: From To			Unit Sec Twp Rng M 26 31N 06W	
Type Well - Single - Bradenhead - GG or GO Multiple					Packer Set At					County RIO ARriba	
Producing Thru TUBING			Reservoir Temp. °F		Mean Annual Temp. °F			Barometer Pressure - P _a		State NEW MEXICO	
L		H		Gg		%CO ₂		%N ₂		%H ₂ S	
										Prover Meter Run 2"	
										Taps	

FLOW DATA					TUBING DATA		CASING DATA		
NO.	Prover Line Size	X Orifice Size	Pressure p.s.i.g.	Temperature °F	Pressure p.s.i.g.	Temperature °F	Pressure p.s.i.g.	Temperature °F	Duration of Flow
SI	2" X 3/4"				1397	55	1397		0 HRS
1.					308	62	1121		0.5 HRS
2.					270	72	1011		1.0 HRS
3.					246	77	956		1.5 HRS
4.					232	71	894		2.0 HRS
5.					198	82	791		3.0 HRS

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_p}$	Pressure P _t	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1.	9.604		210	.9795	1.270	1.019	2556
2.							
3.							
4.							
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl. A.P.I. Gravity of Liquid Hydrocarbons _____ Deg. Specific Gravity Separator GAS 0.62 _____ Specific Gravity Flowing Fluid xxxxxx _____ Critical Pressure _____ p.s.i.a. _____ p.s.i.a. Critical Temperature _____ R _____ R	
1.						
2.						
3.						
4.						
5.						

NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = \frac{1.481}{1.3963}$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.3963$ AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3569$
1.		803	644,809	1,340,472	
2.					
3.					
4.					

Absolute Open Flow 3569 Mcfd @ 15.025		Angle of Slope ° _____		Slope, n .85	
Remarks:					
Approved By Commission:		Conducted By: C. CHARLEY		Calculated By: STERGIE KATIRGIS	
				Checked By:	