

NEW MEXICO OIL CONSERVATION COMMISSION MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122

Type Test ☒ Initial ☐ Annual ☐ Special										Test Date Sept 5, 1996	
Company Williams Production Company					Connection						
Pool Basin					Formation Dakota					Unit Rosa	
Completion Date 8-18-96		Total Depth 8275'		Plug Back TD 8251'		Elevation 6490'		Farm or Lease Name Rosa Unit			
Casing Size		Weight d		Set At		Perforations: From To		Well No. 30			
Tubing Size 1-1/2"		Weight 2.9#		Set at 8182'		Perforations: From 8065' To 8223'		Unit Sec Twp Rng O 12 31N 6W			
Type Well - Single - Bradenhead - GG or GO Multiple					Packer Set At 6250'			County Rio Arriba			
Producing Thru Tubing		Reservoir Temp. °F		Mean Annual Temp. °F		Barometer Pressure - P_a		State New Mexico			
L	H	Gq .6	%CO₂		%N₂		%H₂S		Prover 3/4"	Meter Run	Taps

FLOW DATA					TUBING DATA		CASING DATA		
NO.	Prover Line	X Orifice Size	Pressure p.s.i.q.	Temperature °F	Pressure p.s.i.q.	Temperature °F	Pressure p.s.i.q.	Temperature °F	Duration of
SI		2" X 3/4"			2389				0
1.					331	53°			0.5 hr
2.					292	56°			1.0 hr
3.					286	58°			1.5 hrs
4.					276	60°			2.0 hrs
5.					257	65°			3.0 hrs

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h} P_m$	Pressure P _m	Flow Temp. Factor	Gravity Factor	Super Compress.	Rate of Flow
1.	9.604		269	.9952	1.29	1.030	3416
2.							
3.							
4.							

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

P _c 2401 P _r 5764801				
NO.	P _i ¹	P _w	P _w ²	P _c ² - P _w ²
1.		269	72361	5692440
2.				
3.				
4.				

(1) $\frac{P_c^2}{P_c^2 - P_{w2}} = 1.0127$

(2) $\frac{[P_c^2 - P_w^2]}{[P_c^2 - P_w^2]} = 1.0095$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^{\frac{1}{2}} = 3449$

Absolute Open Flow 3449 Mcfd @ 15.025 Angle of Slope e _____ Slope, n .75

Remarks:			
Approved By Commission:		Conducted By: C. Charley	
Calculated By: Susan Griguhn		Checked By:	

WELLBORE DIAGRAM

ROSA UNIT #30
MV/DK

Location: 890' FSL, 920' FEL
SW/4 SE/4 Section 12, T31N, R6W
Rio Arriba Co., NM

Elevation = 6490' GR
KB = 14'

TOPS	DEPTH
OJO ALAMO	2567'
KIRTLAND	2702'
FRUITLAND	3107'
PICTURED CLIFFS	3337'
LEWIS	3637'
CLIFF HOUSE	5542'
MENEFEE	5592'
POINT LOOKOUT	5807'
MANCOS	5962'
GALLUP	6587'
GREENHORN	7857'
GRANEROS	7917'
DAKOTA	8027'

STIMULATION

Cliff House/Menefee: 5573' - 5796'

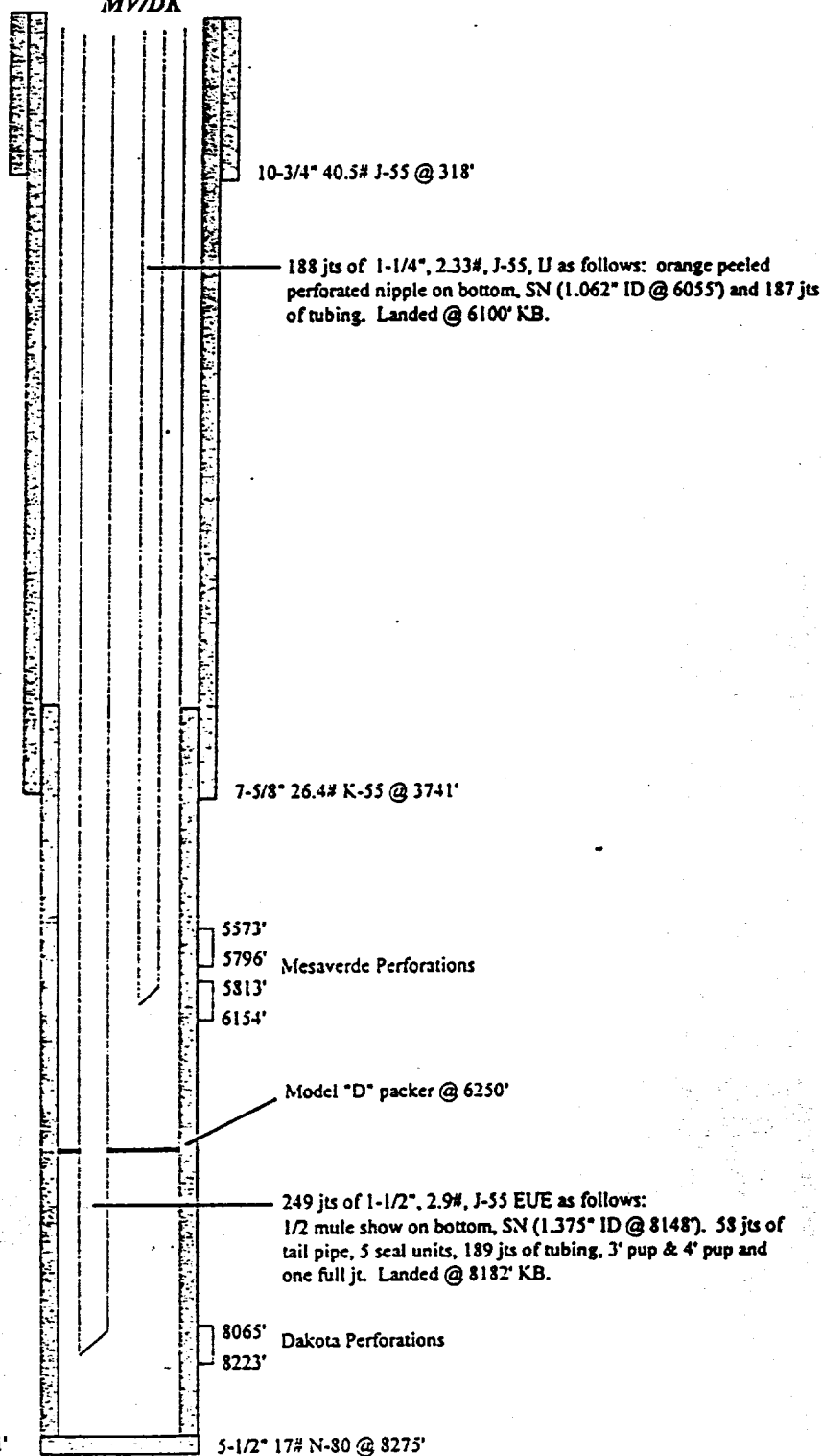
80,000# of 20/40 sand in 1766 BBL's of slick water

Point Lookout: 5813' - 6154'

80,000# of 20/40 sand in 1951 BBL's of slick water

Dakota: 8065' - 8223'

147,000# of 20/40 Ottawa and 10,000# of super DC resin coated sand in 1196 of 60 qual foam with 30# CMCHPG X-linked with Zirconium



HOLE SIZE	CASING	CEMENT	VOLUME	TOP OF CMT
14-3/4"	10-3/4" 40.5#	220 sx	260 cu.ft.	SURFACE
9-7/8"	7-5/8" 26.4#	840 sx	1544 cu.ft.	SURFACE
6-3/4"	5-1/2" 17#	440 sx	612 cu.ft.	3200' (CBL)