

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 10/12/96			
Company WILLIAMS PRODUCTION COMPANY					Connection								
Pool BASIN					Formation DAKOTA					Unit ROSA			
Completion Date 09/24/96		Total Depth 8096'		Plug Back TD 8074'		Elevation 6327'		Farm or Lease Name ROSA					
Casing Size		Weight d		Set At		Perforations: From To		Well No. #159					
Tubing Size 1-1/2"		Weight 2.9#		d		Set at 7945'		Perforations: From 7880' To 8021' [8042' - 8055' below CIBP]		Unit O	Sec 19	Twp 31N	Rng 5W
Type Well - Single - Bradenhead - GG or GO Multiple					Packer Set At 6050'			County RIO ARRIBA					
Producing Thru TUBING		Reservoir Temp. °F		Mean Annual Temp. °F		Barometer Pressure - P _a		State NEW MEXICO					
L	H	Gq .6	%CO ₂	%N ₂	%H ₂ S	Prover 3/4"	Meter Run 2	Taps					

FLOW DATA					TUBING DATA		CASING DATA		
NO.	Prover X Line	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"				1035		1037		
1					137	46°	997		0.5 HR
2					138	47°	978		1.0 HR
3					141	49°	967		1.5 HR
4					141	49°	961		2.0 HR
5					140	49°	926		3.0 HR

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor	Gravity Factor	Super Compress.	Rate of Flow
1	9.604		56	9924	1.29	1.008	694
2							
3							
4							
5							

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

P _c 1539		P _c ² 2368521		
NO.	P _i ¹	P _w	P _w ²	P _c ² - P _w ²
1		56	3136	2365385
2				
3				
4				
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = \frac{1.0013}{1.0013 - 1.0010} = 1.0010$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 695$

(2) $\frac{P_c^2}{P_c^2 - P_w^2} = \frac{1.0013}{1.0013 - 1.0010} = 1.0010$

Absolute Open Flow 695 Mcfd @ 15.025		Angle of Slope ° _____		Slope, n .75	
Remarks:					
Approved By Commission:		Conducted By: CHIK CHARLEY		Calculated By: SUSAN GRIGUHN	
Checked By:					

WELLBORE DIAGRAM

ROSA UNIT #159

MY/DK

Location: 790' FSL, 1850' FEL
SW/4 SE/4 Section 19, T31N, R5W
Rio Arriba Co., NM

Elevation = 6327' GR
KB = 14'

TOPS	DEPTH
OJO ALAMO	2464'
KIRTLAND	2578'
FRUITLAND	2894'
PICTURED CLIFFS	3200'
LEWIS	3494'
CLIFF HOUSE	5398'
MENEFEE	5440'
POINT LOOKOUT	5649'
MANCOS	5771'
GALLUP	6426'
GREENHORN	7700'
GRANEROS	7752'
DAKOTA	7862'

STIMULATION

Cliff House/Menefee: 5413' - 5638'

82,000# of 20/40 sand in 1683 BBL's of slick water.

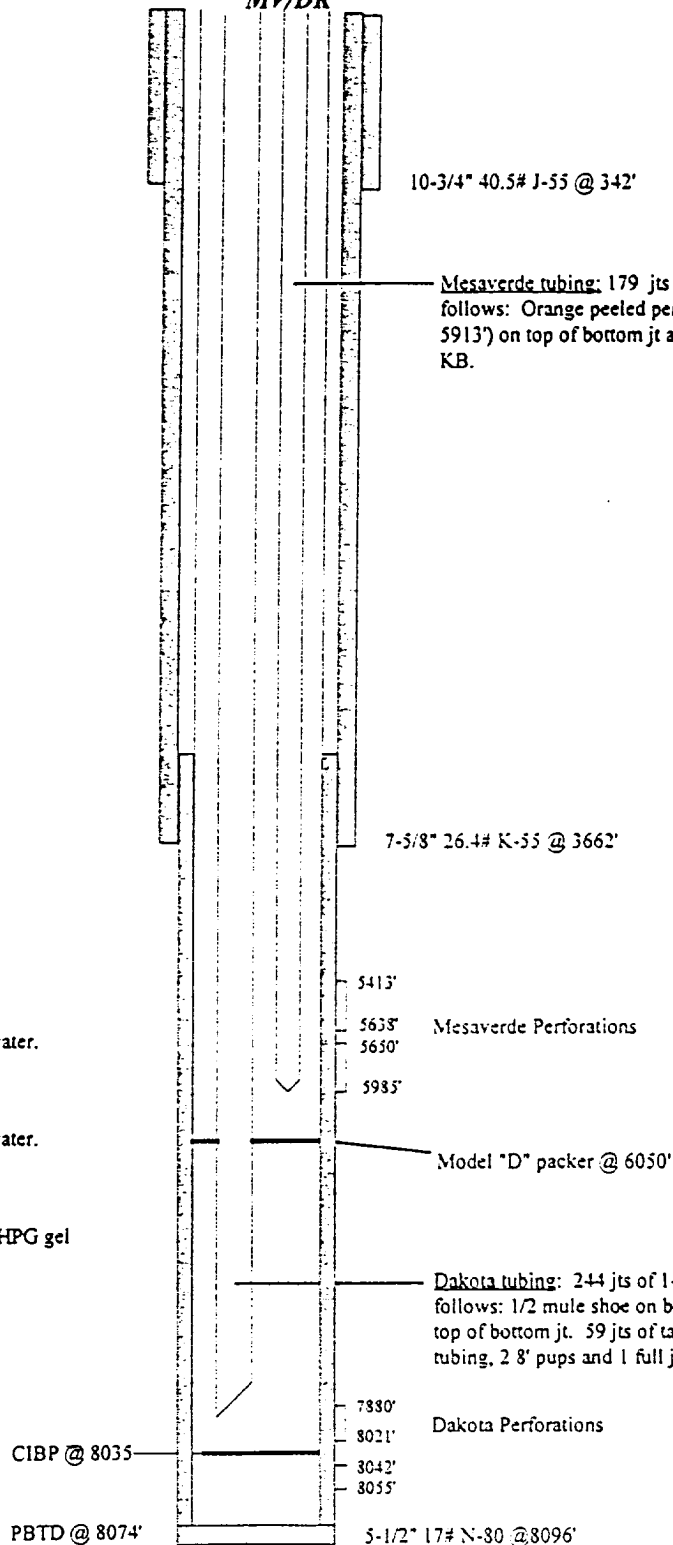
Point Lookout: 5650 - 5985'

82,220# of 20/40 sand in 1890 BBL's of slick water.

Dakota: 7880' - 8021'

90,300# of 20/40 sand in 505 BBL's of 35# CMHPG gel

X-Linked w/ Zirconium in a 60 quality foam.



HOLE SIZE	CASING	CEMENT	VOLUME	TOP OF CMT
14-3/4"	10-3/4" 40.5#	285 sx	336 cu.ft.	SURFACE
9-7/8"	7-5/8" 26.4#	805 sx	1548 cu.ft.	SURFACE
6-3/4"	5-1/2" 17#	440 sx	614 cu.ft.	2950' (CBL)