

SCORE EXAMINER CATANACH
Submit in duplicate to
appropriate district office
See Rule 401 & Rule 112

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-122
Revised 4-1-91

EXHIBIT NO. 2-D OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

NO. 10796 MULTIPONT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator Manzano Oil Company						Lease or Unit Name Neuhaus "14" Federal							
Type Test ☐ Initial ☐ Annual ☒ Special (Retest)						Test Date 8-3-93			Well No. 2				
Completion Date 7-14-93			Total Depth 11606			Plug Back TD 11566			Elevation 3662				
Csg. Size 5 1/2		Wt. 17#		d 4.892"		Set At 11606 KB		Perforations: From: 11362 To: 11440 (OA)			County Lea		
Tbg. Size 2 7/8		Wt. 6.5		d 2.441"		Set At 11243		Perforations: From: To:			Pool		
Type Well - Single - Bradenhead - G.G. or G.O. Multiple						Packer Set At 11243			Formation Wolfcamp				
Producing Thru Tubing			Reservoir Temp. °F 154 @ 11401			Mean Annual Temp. °F 60			Baro. Press. - P _a 13.2			Connection	
L 11243		H 11243		G _g .710		% CO ₂ 2.18		% N ₂ 1.26		% H ₂ S		Prover	
												Meter Run 4"	
												Taps Flange	
FLOW DATA						TUBING DATA			CASING DATA			Duration of Flow	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F			
SI							1424		Pkr				
1.	4.026 x 2.500			115.9	63.0	86.7	813	82	Pkr				1 hour
2.	4.026 x 2.500			124.1	68.6	85.5	755	85	Pkr				2 hours
3.	4.026 x 2.500			125.4	80.7	83.1	711	86	Pkr				1 hour
4.	4.026 x 2.500			128.4	80.7	78.6	688	83	Pkr				2 hours
5.													
RATE OF FLOW CALCULATIONS													
NO.	COEFFICIENT (24 HOUR)		Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{spv}	Rate of Flow Q, Mcfd						
1.							3270						
2.	Gas rates measured by Applied Automation electronic gas total flow						3636						
3.	meter. Meter station #95899 (Phillips).						3865						
4.							3989						
5.													
NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio 4.21 Mc/bbl.								
1.	.19	546.7	1.41	.974	A.P. I. Gravity of Liquid Hydrocarbons 53.6 @ 60°F Deg.								
2.	.20	545.5	1.40	.973	Specific Gravity Separator Gas 0.710 XXXXXXXXX								
3.	.21	543.1	1.40	.972	Specific Gravity Flowing Fluid XXXXXX								
4.	.21	538.6	1.38	.972	Critical Pressure 675 P.S.I.A. P.S.I.A.								
5.					Critical Temperature 389 R								
P ₁ 2055.2 P ₂ 4223.8													
NO.	P ₁ ²	P _w	P _w ²	P ₁ ² - P _w ²	1) $\frac{P_1^2}{P_1^2 - P_w^2} = \frac{14.727}{}$ (2) $\left[\frac{P_1^2}{P_1^2 - P_w^2} \right]^2 = \frac{8.834}{}$								
1.	682.6	2000.2	4000.8	223.0	AOF = Q $\left[\frac{P_1^2}{P_1^2 - P_w^2} \right]^2 = \frac{35.240}{}$								
2.	590.1	1993.2	3972.8	251.0									
3.	524.5	1989.2	3956.9	266.9									
4.	491.7	1984.2	3937.0	286.8									
5.													
Absolute Open Flow 35,240 Mcfd @ 15.025					Angle of Slope @ 51.0					Slope, n 0.810			
Remarks: Bottomhole pressures (P_r, P_s) were measured using Amerada RPG-3 Mechanical gauge													
Serial #50663. Pressures were measured at 11500' (KB) and adjusted to mid-perf depth at 11401' (KB).													
Approved By Division				Conducted By: Tefteller, Inc.				Calculated By: M. Kent Williams				Checked By:	

Operator: Manzano Oil Company
Lease : Neuhaus "14" Federal Well No. 2
Field : Wildcat
County : Lea
State : New Mexico
Date : August 3, 1993

