

OIL CONSERVATION DIVISION

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENTP. O. BOX 2088
SANTA FE, NEW MEXICO 87501Form C-122
Revised 10-1-78

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 9/14/82																																																																																															
Company HNG Oil Company				Connection Llano Inc.																																																																																															
Pool Undesignated				Formation Wolfcamp																																																																																															
Completion Date 7/25/82		Total Depth 12800		Plug Back TD 11013'																																																																																															
				Elevation 3659.4' GR																																																																																															
Csg. Size 4 1/2"		Wt. 13.5		Set At 12800																																																																																															
Perforations: From 10858' To 10992'				Well No. 1																																																																																															
Trq. Size 2 3/8"		Wt. 4.7		Set At 10700																																																																																															
Perforations: Open Ended				Unit J																																																																																															
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single		Packer Set At 10700		County Lea																																																																																															
Producing Thru Tubing		Reservoir Temp. °F 126 @ 7950'		Mean Annual Temp. °F 60																																																																																															
				Baro. Press. - P _a 13.2																																																																																															
L 10925'		H -		G _g 0.6906																																																																																															
				% CO ₂ 0.530																																																																																															
				% N ₂ 1.964																																																																																															
				% H ₂ S -																																																																																															
				Prover -																																																																																															
				Meter Run 2.900																																																																																															
				Taps F																																																																																															
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="6">FLOW DATA</th> <th colspan="2">TUBING DATA</th> <th colspan="2">CASING DATA</th> <th rowspan="2">Duration of Flow</th> </tr> <tr> <th>NO.</th> <th>Prover Line Size</th> <th>X</th> <th>Orifice Size</th> <th>Press. p.s.i.g.</th> <th>Diff. h_w</th> <th>Temp. °F</th> <th>Press. p.s.i.g. DWT</th> <th>Temp. °F</th> <th>Press. p.s.i.g.</th> <th>Temp. °F</th> </tr> <tr> <td>SI</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1942</td> <td>87</td> <td colspan="2">PACKER</td> <td>72.0 hrs</td> </tr> <tr> <td>1.</td> <td>2.900</td> <td></td> <td>1.500</td> <td>480</td> <td>1.5</td> <td>58</td> <td>1630</td> <td>75</td> <td></td> <td></td> <td>1.0 hr</td> </tr> <tr> <td>2.</td> <td>2.900</td> <td></td> <td>1.500</td> <td>480</td> <td>4.0</td> <td>59</td> <td>1405</td> <td>75</td> <td></td> <td></td> <td>1.0 hr</td> </tr> <tr> <td>3.</td> <td>2.900</td> <td></td> <td>1.500</td> <td>480</td> <td>7.0</td> <td>60</td> <td>1210</td> <td>78</td> <td></td> <td></td> <td>1.0 hr</td> </tr> <tr> <td>4.</td> <td>2.900</td> <td></td> <td>1.500</td> <td>480</td> <td>17.0</td> <td>56</td> <td>1050</td> <td>81</td> <td></td> <td></td> <td>1.0 hr</td> </tr> <tr> <td>5.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>						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. DWT	Temp. °F	Press. p.s.i.g.	Temp. °F	SI							1942	87	PACKER		72.0 hrs	1.	2.900		1.500	480	1.5	58	1630	75			1.0 hr	2.	2.900		1.500	480	4.0	59	1405	75			1.0 hr	3.	2.900		1.500	480	7.0	60	1210	78			1.0 hr	4.	2.900		1.500	480	17.0	56	1050	81			1.0 hr	5.											
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RATE OF FLOW CALCULATIONS																																																																																																			
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcf/d																																																																																												
1	11.23	27.20	493.2	1.002	1.203	1.057	389.19																																																																																												
2	11.23	44.42	493.2	1.001	1.203	1.057	634.94																																																																																												
3	11.23	58.76	493.2	1.000	1.203	1.057	839.08																																																																																												
4	11.23	91.57	493.2	1.004	1.203	1.059	1315.31																																																																																												
5																																																																																																			
NO.	R _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio <u>29.431</u> Mcf/bbl. A.P.I. Gravity of Liquid Hydrocarbons <u>52.2</u> Deg. Specific Gravity Separator Gas <u>0.6906</u> X X X X X X X X Specific Gravity Flowing Fluid <u>X X X X X</u> Critical Pressure <u>670</u> P.S.I.A. <u>-</u> P.S.I.A. Critical Temperature <u>381</u> °R <u>-</u> °R																																																																																														
1	0.74	518	1.36	0.895																																																																																															
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4	0.74	516	1.35	0.892																																																																																															
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P_c <u>2803.2</u> P_c^2 <u>7857.9</u>					$(1) \frac{P_c^2}{P_c^2 - P_w^2} = 12.77$ $(2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 11.016$																																																																																														
NO.	P _w ²	P _w *	P _w ²	P _c ² - P _w ²	$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 4287$																																																																																														
1		2691.2	7242.6	615.3																																																																																															
2		2619.2	6860.2	997.7																																																																																															
3		2580.2	6657.4	1200.5																																																																																															
4		2378.2	5655.8	2202.1																																																																																															
5																																																																																																			
Absolute Open Flow <u>4287</u> Mcf/d @ 15.025					Angle of Slope @ <u>46° 43'</u>			Slope, n <u>0.942</u>																																																																																											
Remarks: * BOTTOM HOLE PRESSURE @ (-7268) 10925' USED FOR PRESSURE CALCULATIONS WELL PRODUCED 4.5 BBLs CONDENSATE IN 4.0 hours = 27.0 BC/D																																																																																																			
Approved By Division				Conducted By: JARREL WELL TESTING INC.				Calculated By: Joe A. Coleman																																																																																											
								Checked By: PE #2208 Joe A. Coleman																																																																																											