

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

Form C-122
Revised 8-1-65

RECEIVED

OCT 6 1975

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 9-17-75																																																																																																	
Company Yates Petroleum Corporation				Connection None		O.C.C. ARTESIA, OFFICE																																																																																															
Pool North Barton Flats				Formation Morrow		Unit																																																																																															
Completion Date 9-14-75		Total Depth 11480'		Plug Back TD 11378'		Elevation 3300 KB																																																																																															
Farm or Lease Name Stonevall ET State Com				Well No. 1																																																																																																	
Csg. Size 5 1/2	Wt. 17	d 4.892	Set At 11378	Perforations: From 11250 To 11258																																																																																																	
Tbg. Size 2 7/8	Wt. 6.50	d 2.441	Set At 11248	Perforations: From To 11171																																																																																																	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 11162		County Eddy																																																																																															
Producing Thru Tubing		Reservoir Temp. °F 99 @ 11200		Mean Annual Temp. °F 60°F		Baro. Press. - P _a 13.2																																																																																															
State New Mexico																																																																																																					
L .11254	H -	G _g 0.610	% CO ₂ 0.86	% N ₂ 0.22	% H ₂ S 0.00	Prover X	Meter Run 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>3501</td> <td></td> <td colspan="2">Packer</td> <td></td> </tr> <tr> <td>1.</td> <td>4</td> <td>14/64</td> <td>2.50</td> <td>415</td> <td>7</td> <td>74</td> <td>3390</td> <td>80</td> <td></td> <td></td> <td>1.0</td> </tr> <tr> <td>2.</td> <td>4</td> <td>18/64</td> <td>2.50</td> <td>405</td> <td>17</td> <td>60</td> <td>3385</td> <td>82</td> <td></td> <td></td> <td>1.0</td> </tr> <tr> <td>3.</td> <td>4</td> <td>24/64</td> <td>2.50</td> <td>420</td> <td>46</td> <td>58</td> <td>3235</td> <td>84</td> <td></td> <td></td> <td>1.0</td> </tr> <tr> <td>4.</td> <td>4</td> <td>35/64</td> <td>2.50</td> <td>710</td> <td>66</td> <td>58</td> <td>2835</td> <td>85</td> <td></td> <td></td> <td>1.0</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							3501		Packer			1.	4	14/64	2.50	415	7	74	3390	80			1.0	2.	4	18/64	2.50	405	17	60	3385	82			1.0	3.	4	24/64	2.50	420	46	58	3235	84			1.0	4.	4	35/64	2.50	710	66	58	2835	85			1.0	5.											
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							3501		Packer																																																																																												
1.	4	14/64	2.50	415	7	74	3390	80			1.0																																																																																										
2.	4	18/64	2.50	405	17	60	3385	82			1.0																																																																																										
3.	4	24/64	2.50	420	46	58	3235	84			1.0																																																																																										
4.	4	35/64	2.50	710	66	58	2835	85			1.0																																																																																										
5.																																																																																																					
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, Mcfd																																																																																														
1	32.64	55.43	428.2	0.9868	1.280	1.035	2365.2																																																																																														
2	32.64	84.36	418.2	1.0000	1.280	1.039	3662.0																																																																																														
3	32.64	141.15	433.2	1.002	1.280	1.041	6151.2																																																																																														
4	32.64	218.47	723.2	1.002	1.280	1.068	9767.8																																																																																														
5																																																																																																					
NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio 101.603 Mcf/bbl.																																																																																																
					A.P.I. Gravity of Liquid Hydrocarbons 69.8 Deg.																																																																																																
1	0.63	534	1.48	0.933	Specific Gravity Separator Gas 0.610 XXXXXXXXX																																																																																																
2	0.62	520	1.44	0.927	Specific Gravity Flowing Fluid XXXXX																																																																																																
3	0.64	518	1.43	0.923	Critical Pressure 676 P.S.I.A.																																																																																																
4	1.07	518	1.43	0.876	Critical Temperature 361 R																																																																																																
5																																																																																																					
P_c 4698.2 P_c^2 22073.1					$(1) \frac{P_c^2}{P_c^2 - P_w^2} = \frac{22073.1}{22073.1 - 21998.0} = \mathbf{293.92}$																																																																																																
NO	P_t^2	P_w^2	$P_w^2 - P_t^2$	$P_c^2 - P_w^2$	$(2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = \frac{293.92^2}{22073.1 - 21998.0} = \mathbf{58.0}$																																																																																																
1	4690.2	21998.0	75.1	75.1	$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = \mathbf{137182}$																																																																																																
2	4683.2	21932.4	140.7	140.7																																																																																																	
3	4668.2	21792.1	281.0	281.0																																																																																																	
4	4640.2	21531.5	541.6	541.6																																																																																																	
5																																																																																																					
Absolute Open Flow 137182 Mcfd @ 15.025					Angle of Slope θ 54° 27'		Slope, n 0.715																																																																																														
Remarks: * BHP @ (-7954) 11254' used for pressure calculations																																																																																																					
Approved By Commission:		Conducted By: Coleman Petr. Engr. Co.		Calculated By: Joe A. Coleman		Checked By: Joe A. Coleman																																																																																															