

OIL CONSERVATION DIVISION

STATE OF NEW MEXICO

P. O. BOX 2088

Form C-122
Revised 10-1-78

ENERGY AND MINERALS DEPARTMENT

SANTA FE, NEW MEXICO 87501

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

RECEIVED

Type Test ☒ Initial FOUR POINT BACK PRESSURE ☐ Special		Test Date 6-26-81		1980 FNL 30190																																																																													
Company ALPINE PETROLEUM Corp.		Connection AIR		660 FEL O.C.D.																																																																													
Well WILDCAT		Formation ABO		Unit H ARTESIA, OFFICE																																																																													
Completion Date 5-29-81		Total Length 4,500		Plug Back TD 4450																																																																													
Elevation 4085KB		Farm or Lease Name FROEHLICH FEDERAL		Well No. 1																																																																													
Test Size 4.5	WT. 10.5	d 4,500	Set At 4,500	Perforations: From 4266 To 4396																																																																													
Test Size 2 3/8	WT. 4.7	d 1.995	Set At 4,202	Perforations: From OPEN To ENDED																																																																													
Type Well - Single - Brindenhed - G.G. or G.O. Multiple SINGLE				Packer Set At NONE																																																																													
Producing Thru TUBING				State NEW MEXICO																																																																													
Reservoir Temp. °F 98 @ 4,331		Mean Annual Temp. °F 60		Baro. Press. - P _g 13.2																																																																													
L 4331	H 4331	G _g .7659	% CO ₂ 12,271	% N ₂ 1.550	% H ₂ S 0																																																																												
Prover 2"		Meter Run		Taps																																																																													
<table border="1"> <thead> <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>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.</th> <th>Temp. °F</th> <th>Press. p.s.i.g.</th> <th>Temp. °F</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1149</td> <td></td> <td>1150</td> <td></td> <td>244 HRS</td> </tr> <tr> <td>2</td> <td></td> <td>3/32</td> <td>1030</td> <td></td> <td>60</td> <td>1060</td> <td>78</td> <td>1080</td> <td></td> <td>1 HR</td> </tr> <tr> <td>2</td> <td></td> <td>1/8</td> <td>948</td> <td></td> <td>59</td> <td>965</td> <td>78</td> <td>975</td> <td></td> <td>1 HR</td> </tr> <tr> <td>2</td> <td></td> <td>3/16</td> <td>730</td> <td></td> <td>56</td> <td>755</td> <td>74</td> <td>765</td> <td></td> <td>1 HR</td> </tr> <tr> <td>2</td> <td></td> <td>7/32</td> <td>535</td> <td></td> <td>57</td> <td>540</td> <td>73</td> <td>570</td> <td></td> <td>1 HR</td> </tr> </tbody> </table>						FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	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							1149		1150		244 HRS	2		3/32	1030		60	1060	78	1080		1 HR	2		1/8	948		59	965	78	975		1 HR	2		3/16	730		56	755	74	765		1 HR	2		7/32	535		57	540	73	570		1 HR
FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow																																																																							
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																																																																								
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2		7/32	535		57	540	73	570		1 HR																																																																							
RATE OF FLOW CALCULATIONS																																																																																	
N.O.	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																																																																										
	.1446	.00	1043.2	1.00	1.1426	1.1208	193.																																																																										
	.2716	.00	961.2	1.001	1.1426	1.1139	333.																																																																										
	.6237	.00	743.2	1.0039	1.1426	1.0872	578.																																																																										
	.8608	.00	548.2	1.001	1.1426	1.0618	573.																																																																										
N.O.	P _g	Temp. °F	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.																																																																												
	1.46	520	1.35	.796	A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.																																																																												
	1.34	519	1.34	.806	Specific Gravity Separator Gas .766 XXXXXXXXXX																																																																												
	1.04	516	1.34	.846	Specific Gravity Flowing Fluid XXXXXX																																																																												
	.76	519	1.34	.887	Critical Pressure 717 P.S.I.A. _____ P.S.I.A.																																																																												
					Critical Temperature 386 R _____ R																																																																												
1250.2 1563																																																																																	
N.O.	P _w	P _w ²	P _w ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.7063$																																																																													
1	1164.2	1355.4	208	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.4843$																																																																													
2	1053.2	1109.2	454																																																																														
3	804.2	646.7	916																																																																														
4	588.2	346	1217	AOT = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 857.9$																																																																													
5																																																																																	
Absolute Open Flow 857.9 Mcfd @ 15.025				Angle of Slope 53.5		Slope, n .7391																																																																											
Remarks: BOTTOM HOLE PRESSURE TAKEN WITH AMERADA PRESSURE ELEMENT																																																																																	
Approved By Division		Conducted By: DON BENNETT		Calculated By: WOHLFORD & JENKINS		Checked By:																																																																											