

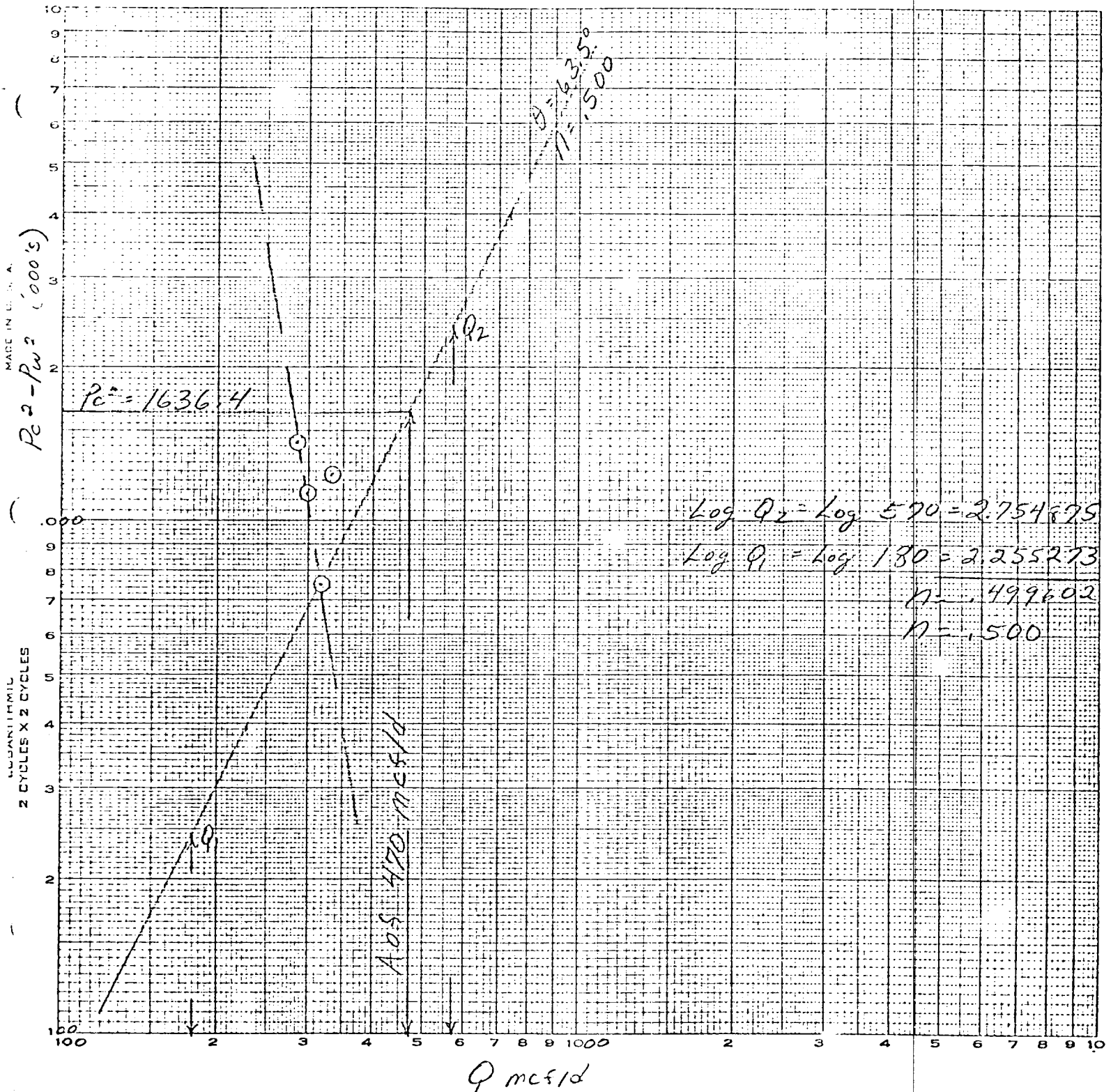
MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELLS

122 file
Form C-122
Revised 9-1-65

MAR 28 1977

Type Test ☒ Initial ☐ Annual ☐ D.C.C. ☐ Special						Test Date 2/18/77		Spud Date: 1-26-77																																																																																															
Company C.E. LaRue and Muncy, JR.						Contract PRGIA. OFFICE		None																																																																																															
Field Sams Ranch - Grayburg						Formation Grayburg - 22		Unit A																																																																																															
Completion Date 2/1/77		Total Depth 1782		Play back TD		Elevation 3586 ft.		Form or Lease Name Hanlad																																																																																															
Csg. Size 5 1/2	Wt. 15.5	d	Set At 1756	Perforations: OH From 1756 To 87		Well No. 1																																																																																																	
Tbg. Size 2 3/8	Wt.	d	Set At 1780	Perforations: From open To hole		Unit A		Soc. 5	Twp. 14																																																																																														
Type Well - Single - Bradenhead - G.C. or G.O. Multiple Single						Packer Set At		County Chaves																																																																																															
Producing Thru Tbg.		Reservoir Temp. °F 9		Mean Annual Temp. °F		Baro. Press. - P ₀		State New Mexico																																																																																															
L	H	Gg	% CO ₂	% N ₂	% H ₂ S	Prover 6" Positive Choke		Meter Run	Taps																																																																																														
<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.</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>1266</td> <td></td> <td>1266</td> <td></td> <td>72 hrs.</td> </tr> <tr> <td>1.</td> <td>6 x</td> <td>8/64</td> <td></td> <td>915</td> <td></td> <td>69</td> <td>915</td> <td></td> <td>927</td> <td></td> <td>1 hr.</td> </tr> <tr> <td>2.</td> <td>6 x</td> <td>9/64</td> <td></td> <td>690</td> <td></td> <td>70</td> <td>690</td> <td></td> <td>696</td> <td></td> <td>1 hr.</td> </tr> <tr> <td>3.</td> <td>6 x</td> <td>10/64</td> <td></td> <td>620</td> <td></td> <td>70</td> <td>620</td> <td></td> <td>627</td> <td></td> <td>1 hr.</td> </tr> <tr> <td>4.</td> <td>6 x</td> <td>11/64</td> <td></td> <td>442</td> <td></td> <td>70</td> <td>442</td> <td></td> <td>450</td> <td></td> <td>1 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.	Temp. °F	Press. p.s.i.g.	Temp. °F	SI							1266		1266		72 hrs.	1.	6 x	8/64		915		69	915		927		1 hr.	2.	6 x	9/64		690		70	690		696		1 hr.	3.	6 x	10/64		620		70	620		627		1 hr.	4.	6 x	11/64		442		70	442		450		1 hr.	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.	Temp. °F	Press. p.s.i.g.		Temp. °F																																																																																												
SI							1266		1266		72 hrs.																																																																																												
1.	6 x	8/64		915		69	915		927		1 hr.																																																																																												
2.	6 x	9/64		690		70	690		696		1 hr.																																																																																												
3.	6 x	10/64		620		70	620		627		1 hr.																																																																																												
4.	6 x	11/64		442		70	442		450		1 hr.																																																																																												
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 _{sp}	Rate of Flow Q, Mcfd																																																																																																
1	.2618		928.2	.9915	1.174	1.128	319																																																																																																
2	.3346		703.2	.9905	1.174	1.093	299																																																																																																
3	.4173		633.2	.9905	1.174	1.083	333																																																																																																
4	.5090		455.2	.9905	1.174	1.058	285																																																																																																
5																																																																																																							
NO.	P _t	Temp. °R	T _t	Z	Gas Liquid Hydrocarbon Ratio		Mcft/hbl.																																																																																																
1	1.39	529	1.32	.786	A.P.I. Gravity of Liquid Hydrocarbons		Deg.																																																																																																
2	1.05	530	1.32	.837	Specific Gravity Separator Gas .726		X X X X X X X X																																																																																																
3	.95	530	1.32	.852	Specific Gravity Flowing Fluid X X X X X																																																																																																		
4	.68	530	1.32	.893	Critical Pressure 668 P.S.I.A.		P.S.I.A.																																																																																																
5					Critical Temperature 401 R		R																																																																																																
$P_c = 1279.2$ $P_c^2 = 1636.4$																																																																																																							
NO.	P _t	P _w	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.175$		(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.475$																																																																																																
1		940.2	884.0	752.4																																																																																																			
2		709.2	503.0	1133.4																																																																																																			
3		640.2	409.9	1226.5																																																																																																			
4		463.2	214.6	1421.8																																																																																																			
5																																																																																																							
Absolute Open Flow <u>470</u> Mcft @ 15.025 Angle of Slope @ <u>63.5</u> Slope, n <u>.500</u>																																																																																																							
Remarks: Due to irregularity of point alignment, a slope of .500 was drawn through the first rate of flow.																																																																																																							
Approved By Commission: Conducted By: Calculated By: Checked By:																																																																																																							

LaRUE AND MUNCY
 Hanlad No. 1
 A-15-14-28
 Chaves County, New Mexico
 February 18, 1977



HYDROCARBON ANALYSIS
Form 15.4B (Rev. 12-65)

LABORATORY

TYPE ANALYSIS	Pod	Mass Spec.	Chromatograph	Other	Analysis No.
					39414
Sample From					
Hanlad Well No. 1 Unit					
Owner	Larve & Muncy			State	County
				NM	Chaves
Location or Field	Sam's Ranch		Formation	Depth	From To
			Grayburg		

Date Secured	Secured by	Department
2-18-77	Swartz	
Date Run	Run by	Checked by
2-21-77	Hicks	
Source Press.	Bomb Press.	Source Temp.
		Atmos. Temp.

BTU @ 14.696	Actual	Calculated, Dry	SP. GR. @ 14.696 & 60° F	Actual	Calculated
		890.1			.726
Hydrogen Sulphide as grs. H ₂ S/100 SCF	.07	Mercaptan as grs. Sulfur/100 SCF	.00	Total	.07
VAPOR PRESS. @ 100° F	Actual, Field	Calculated			

COMPONENT	MOLE %	GPM	LIQ. VOL. %
Helium HE ₂			
Hydrogen Sulphide H ₂ S			
Carbon Dioxide CO ₂			
Nitrogen N ₂	23.58		
Methane C ₁	66.78		
Ethane C ₂	5.75		
Propane C ₃	2.47	.679	
Iso Butane IC ₄	.30	.098	
Normal Butane C ₄	.71	.224	
Iso Pentane IC ₅	.17	.062	
Normal Pentane C ₅	.17	.062	
Hexane C ₆	.06	.025	
Heptane C ₇	.01	.005	
	100.00	1.155	

DISTRIBUTION

ENGLER	
IBP	% @ 96
5	% @ 140
10	% @ 275
20	End Point
30	Recovery
40	Residue
50	Loss
60	
70	
80	
90	

REMARKS

Sec. 15, Twp 14, Rge 28

JWC CLW
RTW JWB
HH ES
TD Res. Engr. - Test Sec.
AJD File