

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

Form C-122  
 Revised 9-1-65

Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special						Test Date 1-25-74	
Company Lone Star Industries, Inc.				Connection None			
Well (blank)				Formation (blank)		Unit (blank)	
Completion Date (blank)		Total Depth (blank)		Plug Back TD (blank)		Elevation (blank)	
Form or Lease Name Schalk '63'							
Log. Size	Wt.	d	Set At	Perforations: From                      To		Well No. 1	
Log. Size	Wt.	d	Set At	Perforations: From                      To		Unit    Sec.    Twp.    Rys.	
Type Well - Single - Branched - G.G. or G.O. Multiple						Packer Set At	
Producing Time						County Rio Arriba	
Reservoir Temp. °F 184		Mean Annual Temp. °F 60		Baro. Press. - P <sub>a</sub> 12.0		State New Mexico	
L	H	Gg	% CO <sub>2</sub>	% N <sub>2</sub>	% H <sub>2</sub> S	Prover	Meter run    Taps
		.590					

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h <sub>w</sub>	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.		Temp. °F
1	2.0		3/32	1775		42	2550	42	2605	42	
2	2.0		7/32	1167		48	1775	48	2492	48	1 Hr
3	2.0		1/4	1000		67	1167	67	2110	67	1 Hr
4	2.0		5/16	725		74	1000	74	1815	74	1 Hr
5						80	725	80	1495	80	1 Hr

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P <sub>m</sub>	Flow Temp. Factor F <sub>t</sub>	Gravity Factor F <sub>g</sub>	Super Compress. Factor, F <sub>pv</sub>	Rate of Flow Q, Mscf
1	.1410		1787	1.012	1.250	1.156	368
2	.8393		1179	.9933	1.250	1.094	1344
3	1.087		1012	.9868	1.250	1.078	1463
4	1.672		737	.9813	1.250	1.054	1593

NO.	P <sub>r</sub>	Temp. °R	T <sub>r</sub>	Z	Gas Liquid Hydrocarbon Ratio	None Produced	Mcf/bbl.
1	2.66	508	1.44	.748	A.P.I. Gravity of Liquid Hydrocarbons		Deg.
2	1.75	527	1.49	.835	Specific Gravity Separator Gas	.590	XXXXXXXXXX
3	1.51	534	1.51	.861	Specific Gravity Flowing Fluid	XXXXXX	
4	1.08	540	1.53	.901	Critical Pressure	672	P.S.I.A.
5					Critical Temperature	354	R

NO.	P <sub>r</sub> <sup>2</sup>	P <sub>w</sub> <sup>2</sup>	P <sub>r</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup>
1	2504	6270	579
2	2062	4252	2597
3	1772	3140	3709
4	1442	2079	4770

$$(1) \frac{P_c^2}{P_c^2 - P_w^2} = \frac{6849}{3709}$$

$$(2) \left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.58050$$

$$AOF = Q \left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2312$$

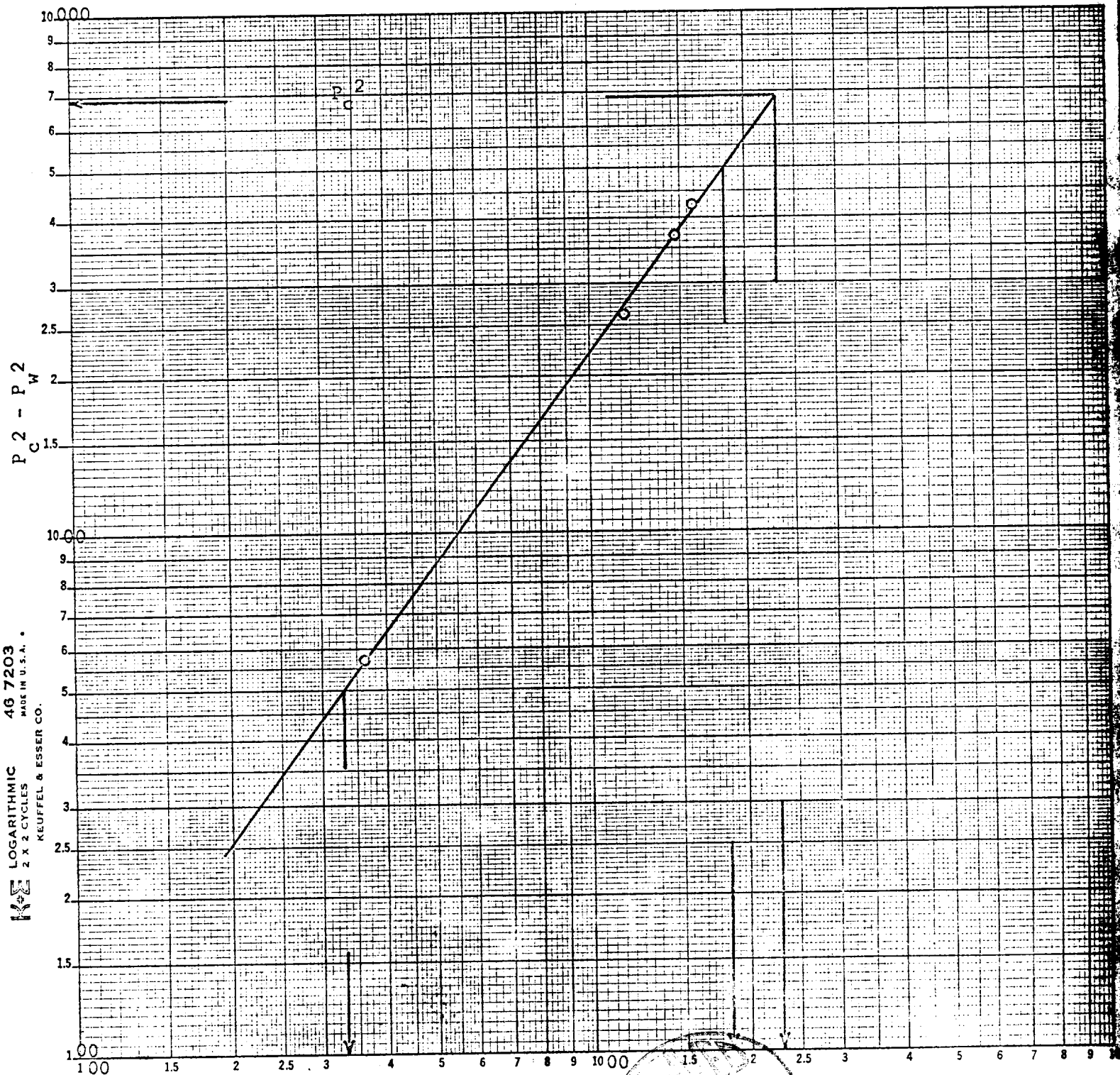
Absolute Open Flow	2312	Mcf @ 15.025	Angle of Slope @	53° 16'	Slope, n	.746
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Approved by Commission	Conducted by: Don Douglas & Joe Roberson	Calculated by: H L Hagler	Checked by:
WEST TEXAS CONSULTING SERVICE, INC.			



OPERATOR Lone Star Industries, Inc.  
 LEASE Schalk '63'  
 WELL NO. 1  
 FIELD Wildcat  
 COUNTY Rio Arriba, New Mexico  
 DATE January 25, 1974



$Q$  in Mcf/Day  
 $\theta = 53^\circ 16'$   
 $n = .746$

$Q_1 = 1840$  Log  $Q_1 = 3.26432$   
 $Q_2 = 330$  Log  $Q_2 = 2.51851$   
 $.74631$

Absolute Open Flow = 2312 Mcf/Day

THOMAS S. SCHALK  
618 FIRST WICHITA NATIONAL BANK BLDG.  
WICHITA FALLS, TEXAS 76301

August 23, 1973

Summary of Completion 58-1

Perf. 8052 to 8100, left gun in hole, wire line parted.

8018 to 8034, 7988-7998, 7972-76 2 holes per foot.  
Frac 350 sx at 3800, broke 2550 with sand concentration  
going from 1/2 to 3/4. Rate 32 B/min used total of  
45,000 gal water. Shut in pressure 2700.

Set drillable bridge plug at 7960

Perforated 7940 to 7954, 7898 to 7904, 7857 to 7876  
2 holes per foot

Tried to frac this zone but could only get away with  
84 sx and 16,800 gal water. Broke at 3250 treating  
pressure 3800. Rate 25 B/min decreasing to 10 B/min.  
Well trying to sand up at end of treatment. Sanded  
off at 4000#.

Flowed well back right away, went in hole, drilled  
bridge plug. Well trying to unload while running  
tubing, after drilling bridge plug got increase in  
gas but also got big increase in water. Cleaned out  
to bottom, swabbed well to recover frac water. Well  
flowing by heads, some evidence of sand.

After several days of swabbing laid gas line from 62-4  
to 58-1 to use booster to help well flow. Well still  
would not kick off. Pulled tubing, cleaned out sand  
to T. D. Ran tubing back in hole, still would not flow.  
Pulled tubing ran retrievable bridge plug and packer,  
Halliburton to test perms to try to determine where  
water is coming from.

1. Set bridge plug at 8110, below all perforations  
set packer at 8140, isolating lowermost perforations.  
Annulus would not stay full during swabbing, and  
could not swab well down and well would not flow.
2. Set bridge plug at 8040 and pkr at 7960, no com-  
munication behind pipe, annulus stays full. Swabbed  
well down trying to flow, still making too much wtr.
3. Bridge plug at 8005 and pkr at 7960, no communication.  
Well flowing by heads.
4. Bridge plug at 7960, packer at 7840. Well flowing  
by heads better show #3 but still too much water.

All perforated zones have not been tried together with  
water.

