

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

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

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Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 9/26/75		OCT 14 1975	
Company Roger C. Hanks				Connection None				O. C. C.	
Pool Boyd <i>Morrow</i>				Formation Morrow				Unit ARTESIA, OFFICE	
Completion Date 9-26-75		Total Depth 9095		Plug Back TD 9085		Elevation 3569 ft.		Farm or Lease Name TRUDY Co M	
Csg. Size 4 1/2	Wt. 	d 	Set At 9094	Perforations: From 9018- To 9028		Well No. #1			
Tbg. Size 2 3/8	Wt. 4.7	d 	Set At 8967	Perforations: From To		Unit J	Sec. 7	Twp. 19S	Rge. 25E
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single						Packer Set At 		County Eddy	
Producing Thru Tubing		Reservoir Temp. °F 155 @ 9023		Mean Annual Temp. °F 74		Baro. Press. - P _a 14.4		State New Mexico	
L 9023	H 9023	G _g .598	% CO ₂ 	% N ₂ 	% H ₂ S 	Prover 2"	Meter Run 	Taps 	

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	*						2320				
1.	2 x 1/8			300		13	2258				1 hr
2.	2 x 1/8			620		18	2185				1 hr.
3.	2 x 1/8			1040		32	2052				1 hr.
4.	2 x 1/8			1770		72	1770				1 hr.
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	.2785		313	1.049	1.293	1.038	123
2	.2785		633	1.043	1.293	1.076	256
3	.2785		1053	1.028	1.293	1.115	435
4	.2785		1783	.9887	1.293	1.127	715
5							

NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
1.	.47	473	1.34	.929	A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
2.	.94	478	1.35	.864	Specific Gravity Separator Gas .598 XXXXXXXXX
3.	1.57	492	1.39	.804	Specific Gravity Flowing Fluid XXXXX
4.	2.65	532	1.50	.789	Critical Pressure 672 P.S.I.A. _____ P.S.I.A.
5.					Critical Temperature 354 R _____ R

P _c 2333 P _c ² 5443				
NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²
1			5158	285
2			4833	610
3			4269	1174
4			3191	2252
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = \frac{5443}{5443 - 5158} = \frac{5443}{285}$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = \left[\frac{5443}{285} \right]^n$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = \frac{1400}{\left[\frac{5443}{285} \right]^n}$

Absolute Open Flow 1,400 Mcfd @ 15.025	Angle of Slope θ 48.5	Slope, n .885
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Remarks: * SI time prior to test was 24 hrs.

Approved By Commission:	Conducted By: J.W. Chisum	Calculated By:	Checked By:
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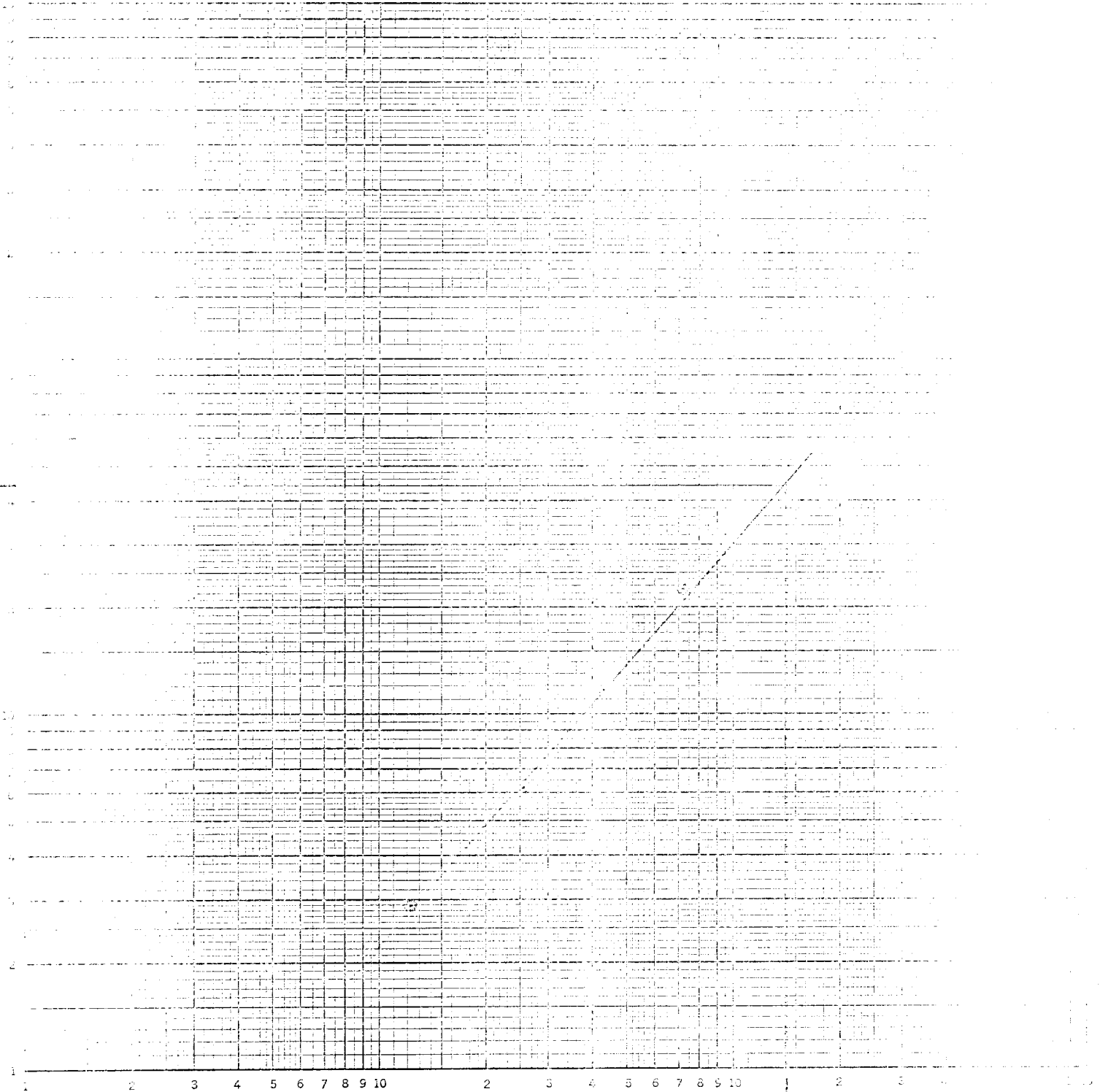
THOMAS D. MCGLOTHLIN INC.

OPERATOR Roger C. KRS
LEASE: Trudy
WELL NO.: #1
DATE: 9-26-75

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O. C. C.
ARTESIA, OFFICE



$Q \rightarrow \text{MCF/200}$

ADP-1,400
B-48.5
n-50.5

WORK SHEET FOR CALCULATING EQUIVALENT STATIC WELLHEAD PRESSURE

NAME Roger C. Hanks WELL NO. 1 STREET Boyd COUNTY Eddy DATE 9-26-75

2 G_{st} .598 P_{cr} 672 T_{cr} 354 FLOW STRING 2-7/8
 G_{mH} 9023 G_{mH} 5396 L/H 1.000 I.D. 2.441

NOTE

ITEM	UNIT	1ST.	2ND	3RD.	4TH.					
1	$Q_{mH}^{1/2} \cdot L$	.123	.256	.435	.715					
2	L	520	520	520	520					
3	f_a	615	615	615	615					
4	F_c	568	568	568	568					
5	Z_e	.816	.816	.818	.826					
6	$T_e Z_e$	463.5	463.5	464.6	469.2					
7	$G_{mH}/T_e Z_e$	11.642	11.642	11.613	11.501					
8	e^s	1.547	1.547	1.546	1.539					
9	$(1-e^{-s})$	.354	.354	.353	.350					
10	$P_{cr} \text{ or } P_c$	2271	2198	2065	1783					
11	$P_c^2 \text{ or } P_c^2 (\text{thous.})$	5157.4	4831.2	4264.2	3179.0					
12	F_c	9.600	9.600	9.600	9.600					
13	$F_1 = F_c T_e Z_e / 540$	8.238	8.238	8.260	8.340					
14	$F_1 Q_m$	1.01	2.11	3.59	5.96					
15	$Y = (F_1 Q_m)^2 L/H$	1.03	4.45	12.91	35.58					
16	$R^2 = Y(1-e^{-s})$	.36	1.57	4.55	12.45					
17	$P_w^2 = P_c^2 + R^2$	5157.8	4832.8	4268.7	3191.4					
18	$P_w^2 = e^s P_c^2$ (thous.)	7979.1	7476.3	6603.8	4911.6					
19	$P_a \text{ or } P_f$	2824.7	2734.3	2569.8	2216.2					
20	P_e	2547.9	2466.1	2317.4	1999.6					
21	P_f	3.79	3.67	3.44	2.98					
22	T_e	1.60	1.60	1.60	1.60					
23	Z_e	.816	.816	.818	.826					

O.C.C.
ARTERIAL OFFICE

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FIELD DATA SHEET										
Type Test:		☐ Initial		☐ Annual		☐ Special		Test Date		Lease No. or Serial No.
Company		Connection		Reservoir		Location		Unit		Allottee
Completion Date		Total Depth		Plug Back TD		Elevation		Form or Lease Name		
Csg. Size		Wt.		d		Set At		Perforations: From To		Well No.
Tbg. Size		Wt.		d		Set At		Perforations: From To		Sec. Twp - Blk Rge - Sur
Type Completion (Describe)		Packer Set At		County or Parish		State				
Producing Thru		Reservoir Temp. F		Mean Annual Temp. F		Baro. Press. - P _a				
L		H		G _g		% CO ₂		% N ₂		% H ₂ S
Prover		Meter Run		Taps						
DATE	ELAP. TIME	WELLHEAD WORKING PRESSURE			METER OR PROVER				REMARKS	
Time of Reading	Hrs.	Tbg. Psig	Csg. Psig	Temp. F	Pressure Psig	Diff.	Temp. F	Orifice	(Include liquid production data: Type - API Gravity - Amount)	
9:10		2320						1/8	.3499	
9:25		2260								
9:55		2255			300		13			
10:40		2185			620		18	1/8		
11:25		2052			1040		32			
12:10		1970			1770		72	1/8		
							72			
									598	

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B.E.C.
ARTESIA, OFFICE

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OCT 6 1975

~~O. C. C.~~
~~ARTESIA, OFFICE~~

THURMOND-McGLOTHLIN, INC.

Analytical Laboratory

BOX 1698

PHONE 806/665.5792 OR 665.5700

PAMPA, TEXAS 79065

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FRACTIONAL ANALYSIS RESULTS SUMMARY

PERCENTAGE COMPOSITION

		Mol %	GPM	Liquid Volume %
Helium		0.01		
Carbon Dioxide		0.04		
Nitrogen		0.23		
Oxygen		0.00		
Methane	C1	94.26	15.926	
Ethane	C2	3.64	0.967	
Propane	C3	0.88	0.240	
Iso-Butane	C4	0.23	0.074	
N-Butane	nC4	0.24	0.075	
Iso-Pentane	iC5	0.19	0.069	
N-Pentane	nC5	0.06	0.021	
Hexanes	C6	0.22	0.097	

SAMPLE IDENTIFICATION

Date of Run SEPT 29, 1975

Company ROGER C HANKS

Plant or Lease TRUDY #1

Sample of _____

Pressure 500 PSIG

Temperature 72 F Atmos _____

TM 819

Gas () Liquid () Oil ()

Secured By TM 9-26-75 Date _____

Analysis Performed for _____

Results of Analysis to:

ROGER C HANKS

MIDLAND TEXAS

GASOLINE CONTENT

GPM

Based on Analysis

Pentanes and Heavier 0.187

Butanes and Heavier 0.336

C3 & HEAVIER 0.576

HEATING VALUE

B T U

Calorimeter _____

Calculated 1057 WATER SAT.; 14.696 PSIA & 60 F

SPECIFIC GRAVITY

Measured 0.598

Calculated 0.600

REMARKS _____

Analysis By: J CHISUM