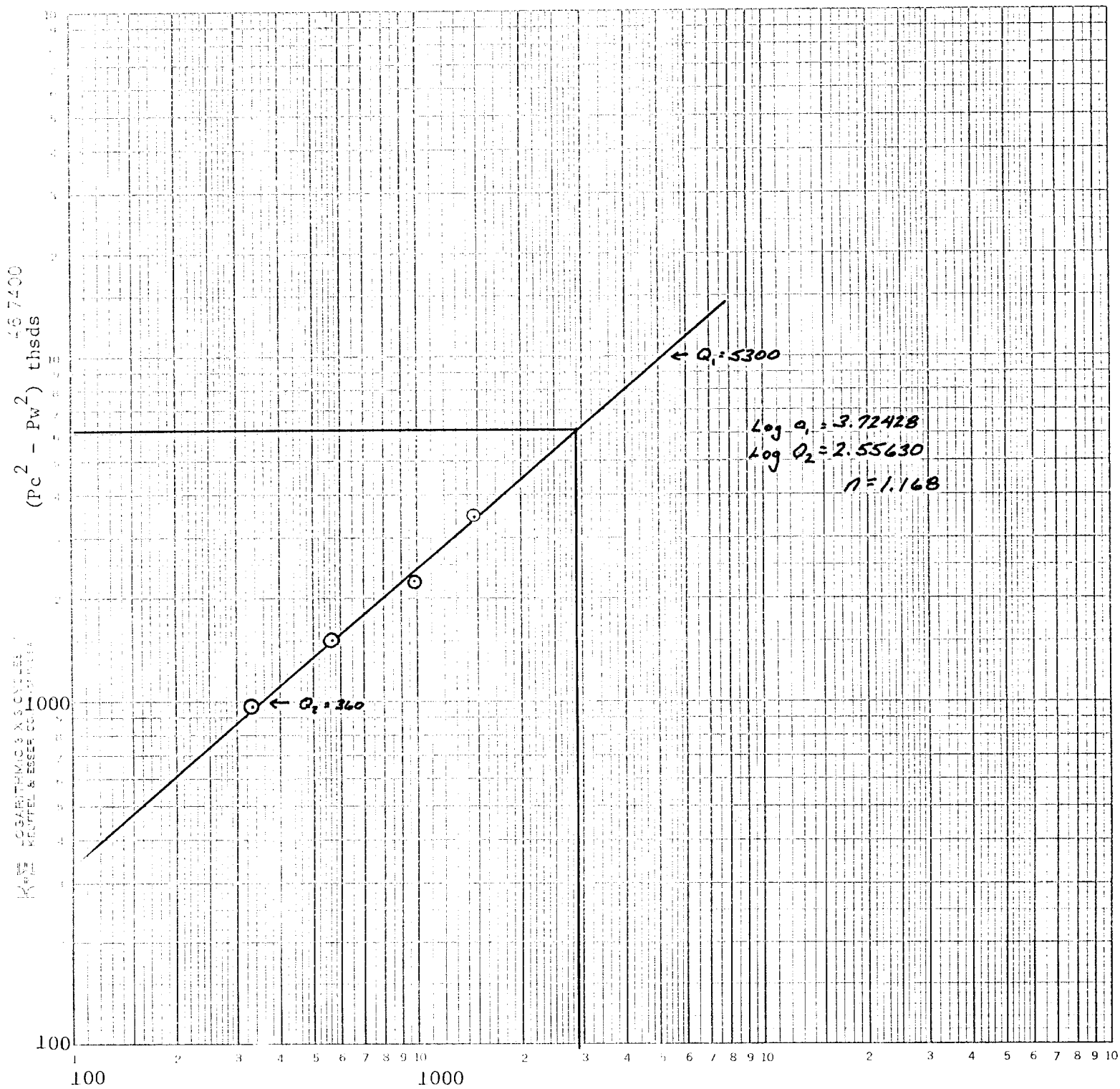


MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL RECEIVED

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 03/15/91			
Company Mewbourne Oil Company				Connection Transwestern		MAY 5 7 46 AM '91	
Pool Undesignated North Illinois Camp Morrow				Formation Morrow		Unit AREA 10	
Completion Date 03/05/91		Total Depth 10,120'		Plug Back TD 10,075'		O.G.D. ARTESIA OFFICE	
Casing Size 4 1/2" 5 1/2"		Wt. 11.6#		Set At 10,120'		Perforations: From 9936' To 9967'	
Tbg. Size 2 7/8"		Wt. 6.5		Set At 9,805'		Perforations: From Open To End	
Type Well - Single - Brdenhead - G.G. or G.O. Multiple Single Gas				Packer Set At 9805'		Farm or Lease Name Chalk Bluff Federal	
Producing Thru Tbg.		Reservoir Temp. °F 148 @ 10,120		Mean Annual Temp. °F 72		Baro. Press. - P _a 13.2	
L 9949		H 9949		Cg .660		Prover 3.068	
				% CO ₂ .43		% N ₂ .42	
				% H ₂ S ---		Meter Run 3.068	
						Taps Flg.	
FLOW DATA				TUBING DATA		CASING DATA	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.
SI	S.I.						
1.	3 X 1.125			426.8	4	51	2175
2.	3 X 1.125			446.8	11	51	2070
3.	3 X 1.125			446.8	32	51	1900
4.	3 X 1.125			426.8	72	45	1605
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	6.217	41.952	440	1.009	1.225	1.048	337
2	6.217	71.134	460	1.009	1.225	1.051	574
3	6.217	121.326	460	1.009	1.225	1.051	980
4	6.217	177.989	440	1.015	1.225	1.051	1446
5							
NO.	P _f	Temp. °R	T _f	Z	Gas Liquid Hydrocarbon Ratio _____ Dry Gas _____ Mcf/bbl.		
1	.65	511	1.37	.910	A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.		
2	.68	511	1.37	.906	Specific Gravity Separator Gas .660 X X X X X X X X		
3	.68	511	1.37	.906	Specific Gravity Flowing Fluid X X X X X		
4	.65	505	1.35	.905	Critical Pressure 673 P.S.I.A. _____ P.S.I.A. _____		
5					Critical Temperature 374 R _____ R _____		
P _c 2472 P _c ² 6110.7				(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.784$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.967$			
NO.	P _f ²	P _w	P _w ²	P _c ² - P _w ²	AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.844$		
1		2264	5125	985.7			
2		2147	4609	1501.7			
3		1966	3865	2245.7			
4		1639	2686	3424.7			
5							
Absolute Open Flow 2,844 Mcfd @ 15.025				Angle of Slope 41°		Slope, n 1.168	
Remarks: Well made 0 bbl. fluid during test							
Approved By Division		Conducted By: Greg Milner		Calculated By: Greg Milner		Checked By: Bill Pierce	



Q MCF/D

AOF = 2.9 MMCF/D



Laboratory Services

1331 Tasker Drive
Hobbs, New Mexico 88240

Telephone: (505) 397-3713

FOR: Mewbourne Oil Co.
Attention: Mr, Greg Milner
P. O. Box 5270
Hobbs, New Mexico 88241

SAMPLE Chalk Bluff
IDENTIFICATION: Federal #1
COMPANY: Mewbourne Oil Co.
LEASE:
PLANT:

SAMPLE DATA:	DATE SAMPLED:	03-15-91	GAS (XX)	LIQUID ()
	ANALYSIS DATE:	03-18-91	SAMPLED BY:	Gregory Milner
	PRESSURE - PSIG	460.00	ANALYSIS BY:	Rolland Perry
	SAMPLE TEMP. °F	51.00		
	ATMOS. TEMP. °F			

REMARKS:

COMPONENT ANALYSIS

COMPONENT		MOL PERCENT	GPM	
Oxygen	(O2)			
Hydrogen Sulfide	(H2S)			
Nitrogen	(N2)	0.42		
Carbon Dioxide	(CO2)	0.43		
Methane	(C1)	87.54		
Ethane	(C2)	7.07	1.886	
Propane	(C3)	2.38	0.654	
I-Butane	(IC4)	0.31	0.100	
N-Butane	(NC4)	0.54	0.169	
I-Pentane	(IC5)	0.20	0.071	
N-Pentane	(NC5)	0.14	0.052	
Hexane	(C6)	0.97	0.399	
Heptanes Plus	(C7+)	0.00	0.000	
		100.00	3.331	
BTU/CU.FT. - DRY		1156	MOLECULAR WT	19.0972
AT 14.650 DRY		1153		
AT 14.650 WET		1133	26# GASOLINE -	0.578
AT 15.025 DRY		1182		
AT 15.025 WET		1162		
SPECIFIC GRAVITY -				
CALCULATED		0.660		
MEASURED		0.000		

WORK SHEET FOR CALCULATION OF WELLHEAD PRESSURES (P_c or P_f)

Form C-122F
Adopted 9-1-65

FROM KNOWN BOTTOM HOLE PRESSURE (P_f or P_s)

COMPANY Newbours Oil LEASE Chalk Bluff Fed. WELL NO. 1 DATE 3-18-91

LOCATION: Unit 9949 Section 1 Township 18S Range 27E
L/H 9949 H 9949 L/H 1.000 G .660 % CO₂ .43 % N₂ .42 % H₂S ---

GH 6566 P_{CT} 673 T_{CT} 374

TABLE IX & X

LINE	1	2	3	4	5	6	7	8
1	T_w (W.H. °R)	532						
2	T_s (B.H. °R)	608						
3	$T = \frac{T_w + T_s}{2}$	570						
4	Z (Est.)	.790						
5	TZ	456.0						
6	GH/TZ	14.399						
7	e^S (Table XIV)	1.716						
8	P_f or P_s	3249						
9	P_f^2 or P_s^2	10556						
10	$P_c^2 = P_f^2 / e^S$ or P_s^2 / e^S	6151.7						
11	P_c or P_s	2480.3						
12	$P = \frac{P_w + P_s}{2}$ or $\frac{P_c + P_f}{2}$	2864.6						
13	$P_r = (P / P_{cr})$	4.26						
14	$T_r = (T / T_{cr})$	1.52						
15	Z (Table XI)	.790						

One copy to be filed in District Office (Work copy acceptable)

WORK SHEET FOR CALCULATION OF WELLHEAD PRESSURES (P_w or P_s)

Form C-122F
Adopted 9-1-65

FROM KNOWN BOTTOM HOLE PRESSURE (P_b or P_s)

COMPANY Newbourne LEASE Chalk Bluff Fed. WELL NO. 1 DATE 3-18-91

LOCATION: Unit 9949 Section 1 Township 18S Range 27E
L 9949 H 9949 L/H 1.00 G 660 % CO₂ .43 % N₂ .42 % H₂S —

GH 6566 P_{cr} 673 T_{cr} 374
TABLE IX & X TABLE IX & X

LINE	1	2	3	4	5	6	7	8
1	T _w (W.H. °R)	532	532	532	532	532	532	532
2	T _s (B.H. °R)	608	608	608	608	608	608	608
3	T _r = ($\frac{T_w + T_s}{2}$)	570	570	570	570	570	570	570
4	Z (Est.)	.835	.783	.783	.781	.780	.780	.792
5	TZ	476.0	446.5	446.5	445.1	444.8	444.6	451.7
6	GH/TZ	13.796	14.704	14.712	14.753	14.761	14.768	14.537
7	e ^s (Table XIV)	1.678	1.736	1.736	1.739	1.739	1.740	1.725
8	P_w or P _s	2983	2983	2831	2831	2593	2152	2152
9	P_w or P _s ²	8898.3	8898.3	8014.6	8014.6	6723.6	4631.1	4631.1
10	P_w = P ₁ ² /e ^s or P _w ² = P _s ² /e ^s	5304.3	5126.6	4416.2	4609.0	3867.2	2661.7	2684.9
11	P_w or P _w	2303.1	2264.2	2148.5	2146.9	1966.5	1631.5	1638.6
12	P _r = ($\frac{P_w + P_s}{2}$) or ($\frac{P_c + P_f}{2}$)	2643.1	2623.6	2489.8	2488.9	2279.8	1891.7	1895.3
13	P _r = (P/P _{cr})	3.93	3.90	3.70	3.70	3.39	2.81	2.82
14	T _r = (T/T _{cr})	1.52	1.52	1.52	1.52	1.52	1.52	1.52
15	Z (Table XI)	.783	.783	.781	.781	.780	.792	.792

COMPANY: PRO WIRELINE
CLIENT: MEWBOURNE OIL
GAUGE NUMBER: 12235
WELL NAME: CHALK BLUFF
WELL NUMBER: 1
TEST NUMBER: 1
LOCATION:
TEST OPERATOR: BURRELL
COMMENTS: 4 POINT FLOW TEST RAN
AFTER 72 HOUR BUILD UP

POSITION	GAUGE SERIAL NUMBER
1	
2	
3	
4	

PAGE START DATE: 3/15/91

GAUGE S/N: 12235

DATA FILE: 3

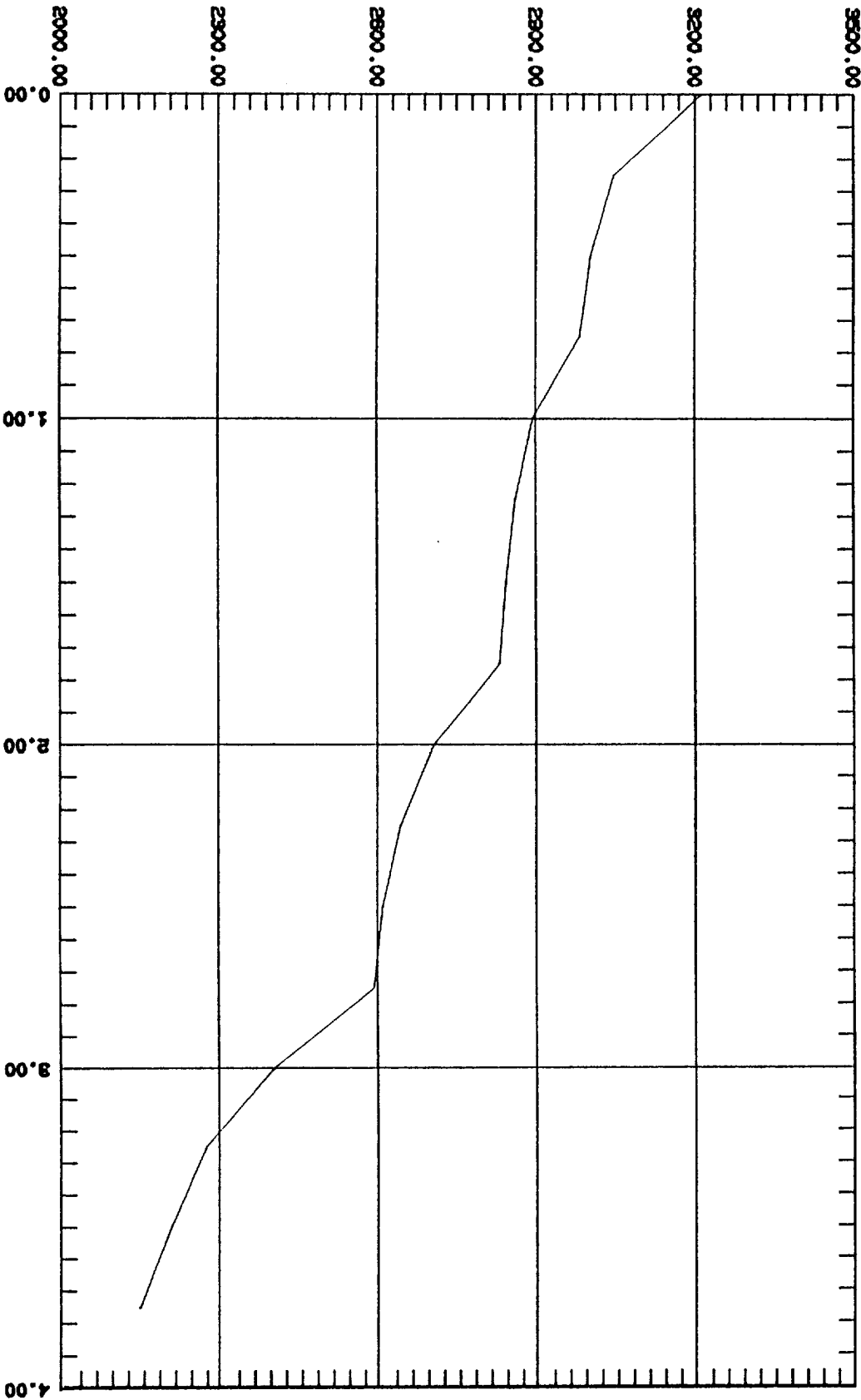
REAL TIME	DELTA TIME HRS	PRESSURE PSIA	TEMPERATURE 'F	COMMENTS
9:45: 0	0.0000	3213.00		START RATE 1
10: 0: 0	0.2500	3046.00		
10:15: 0	0.5000	3003.00		
10:30: 0	0.7500	2983.00		START RATE 2
10:45: 0	1.0000	2894.00		
11: 0: 0	1.2500	2861.00		
11:15: 0	1.5000	2843.00		
11:30: 0	1.7500	2831.00		START RATE 3
11:45: 0	2.0000	2707.00		
12: 0: 0	2.2500	2643.00		
12:15: 0	2.5000	2610.00		
12:30: 0	2.7500	2593.00		START RATE 4
12:45: 0	3.0000	2405.00		
13: 0: 0	3.2500	2276.00		
13:15: 0	3.5000	2210.00		
13:30: 0	3.7500	2152.00		END OF TEST

Plot starting date: 3/15/91
time: 9:45: 0
Gauge S/N

Company: PRO WIRELINE
Client: MEMBOURNE OIL
Well name: CHALK BLUFF
Well #: 1
Test #: 1

Location:
Operator: BURRELL
Comments: 4 POINT FLOW TEST RAN
AFTER 72 HOUR BUILD UP

PRESSURE - PSIA



DELTA TIME - HRS