

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

Form C-122
Revised 9-1-65

RECEIVED

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 7-2-78		SEP 11 1978	
Company Yates Petroleum Corporation						Connection Transwestern Pipeline Co.			
Pool Eagle Creek Strawn				Formation Strawn		Unit O.C.C. ARTESIA, OFFICE			
Completion Date 6-22-78		Total Depth 8865'		Plug Back TD 8312		Elevation 3397' KB		Farm or Lease Name Armstrong "CT" Con	
Csg. Size 4 1/2"	Wt. 11.6	d 4.000	Set At 8825'	Perforations: From 8122 To 8156'			Well No. 1		
Tbg. Size 2-3/8"	Wt. 4.7	d 1.995	Set At 8091'	Perforations: From To			Unit L	Sec. 5	Twp. 18S
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single						Packer Set At 8091'		County Eddy	
Producing Thru Tubing		Reservoir Temp. °F 136 @ 8100		Mean Annual Temp. °F 62		Baro. Press. - P _a 13.2		State New Mexico	
L 8132	H 8132	Gg 0.669	% CO ₂ 0.49	% N ₂ 0.66	% H ₂ S Nil	Prover	Meter Run 2"	Taps Flange	

FLOW DATA						TUBING DATA		CASING DATA		Duration	
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	of Flow
SI							2386	82			
1.	2.067 x 0.625			170	18	70	2151	82			1 hour
2.				170	32	70	2052	83			1 hour
3.				170	61	70	1872	83			1 hour
4.				170	92	70	1724	84			1 hour
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor Fg	Super Compress. Factor, Fpv	Rate of Flow Q, Mcfd
1	1.860	57.425	183.2	.9905	1.235	1.0159	133
2	1.860	76.566	183.2	.9905	1.235	1.0159	177
3	1.860	105.71	183.2	.9905	1.235	1.0159	244
4	1.860	129.82	183.2	.9905	1.235	1.0159	300
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	255.3	Mcf/bbl.
1.	.273	530	1.454	.969	A.P.I. Gravity of Liquid Hydrocarbons	56.5	Deg.
2.	.273	530	1.454	.969	Specific Gravity Separator Gas	.656	XXXXXXX
3.	.273	530	1.454	.969	Specific Gravity Flowing Fluid	XXXXX	.669
4.	.273	530	1.454	.969	Critical Pressure	671	P.S.I.A.
5.					Critical Temperature	374	R

P _c 3032	P _c ² 9194	(1) $\frac{P_c^2}{P_c^2 - R_w^2} = 2.0867$	(2) $\left[\frac{P_c^2}{P_c^2 - R_w^2} \right]^n = 1.8882$
NO.	P _r ²	P _w	P _r ² - P _w ²
1			7460
2			6794
3			5656
4			4788
5			

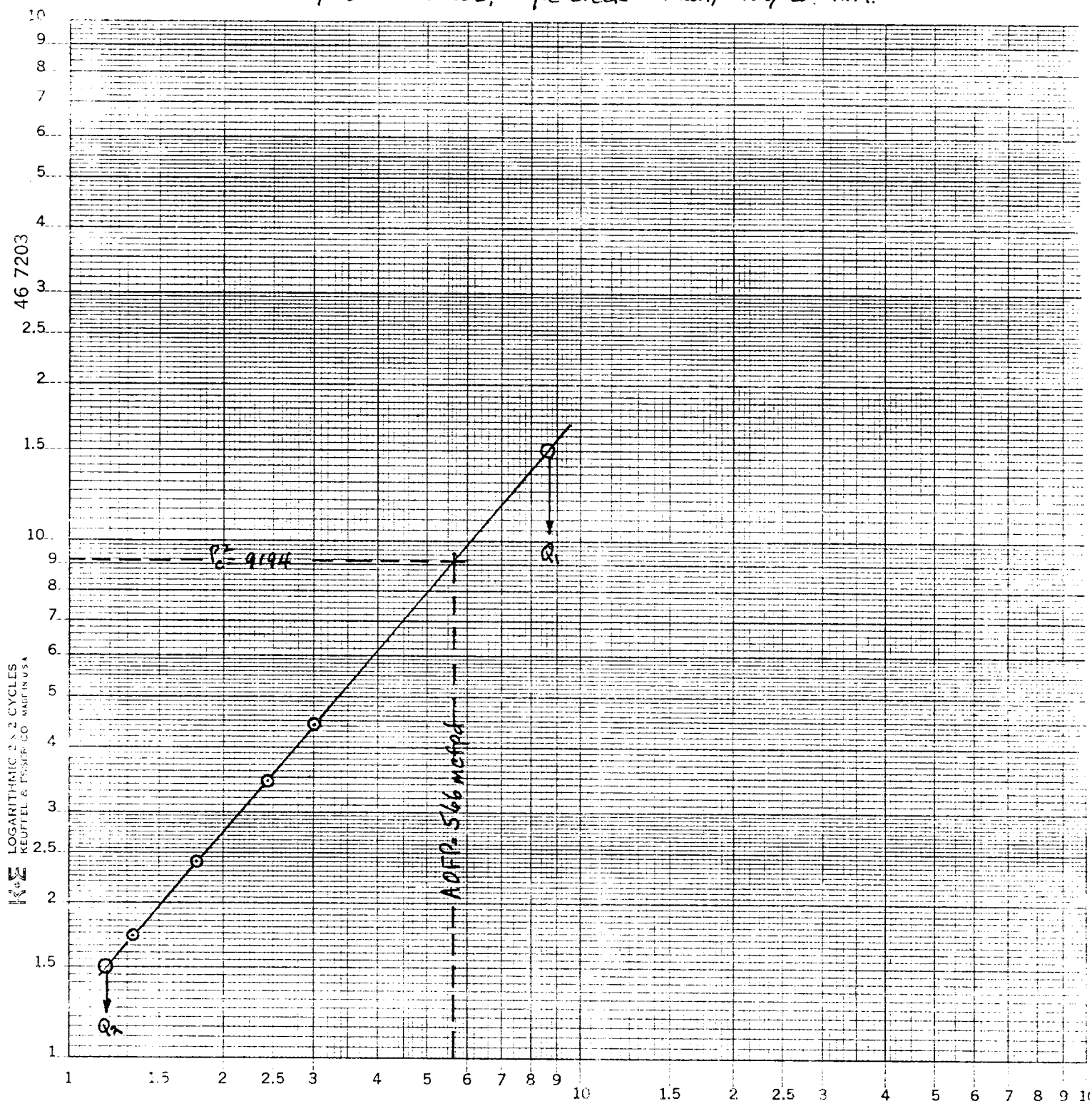
AOF = Q $\left[\frac{P_c^2}{P_c^2 - R_w^2} \right]^n = 566$ MCFPD

Absolute Open Flow	566	Mcf/d @ 15.025	Angle of Slope @	49° 10"	Slope, n	0.8641
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Remarks: Static pressures by Bennett Wireline, DWT by Hal Elless.
Calculations worksheet attached.

Approved By Commission:	Conducted By: Hal Elless	Calculated By: Eddie M. Mahfood	Checked By:
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YPC - Armstrong CT Com No. 1
 Unit L, Sec 5-18s-25E, Eagle Creek Strawn, Eddy Co. N.M.



$$Q_1 = 863 \text{ mcfpd} \quad \log Q_1 = 2.9360$$

$$Q_2 = 118 \text{ mcfpd} \quad \log Q_2 = 2.0719$$

$$n = 0.8641$$

YOC

LEASE Armstrong et al

WELL NO. 1

DATE 7-2-77

LOCATION: Unit

L

Section

5

Township

18S

Range

26 E

8132

H

8132

LNH

1000

G 669

% CO₂

0.49

% N₂

0.66

% H₂S

N.1

44- 48/16 = 768
3/ 8034 (398) = 321743
3132 324423

d 2.0127

3.0017351

GH 5440.3

P_{cr}

671

T_{cr}

329

NE	1	2	3	4	5	1	2	3	4
Q _m	51	1	2	3	4	5	1	2	3
T _w (W.H. °R)	542	542	543	543	544	544	544	544	544
T _s (B.H. °R)	596	595	594	594	593	593	593	593	593
T ₁ (W + T _s)	569	568.5	568.5	568.5	568.5	568.5	568.5	568.5	568.5
Z (Est.)	.770	.771	.773	.773	.780	.771	.771	.771	.771
TZ	439.75	438.31	439.48	443.43	443.43	443.43	443.43	443.43	443.43
GH/TZ	12.423	12.412	12.380	12.269	12.269	12.412	12.412	12.412	12.412
e ^s (Table XIV)	1.5993	1.5939	1.5927	1.5908	1.5842	1.5927	1.5927	1.5856	1.5856
1-e ^s (Table XIV)		0.3925	0.3721	0.3714	0.3688	0.3721	0.3721	0.3693	0.3693
P ₁	2399.2	2164.2	2065.2	1885.2	1737.2	2164.2	2164.2	1737.2	1737.2
P ₁ 2/1000	5756.2	4683.76	4265.05	3553.98	3017.86	4683.76	4683.76	3017.86	3017.86
F ₁ (Table XI) $\frac{2.0375}{12}$		.46605	.46545	.46424	.46008	.46545	.46545	.46096	.46096
F _c = F ₁ TZ		7.5954	7.6051	7.6249	7.6494	7.6051	7.6051	7.6792	7.6792
F _c C		1.0102	1.3461	1.8605	2.308	1.0115	1.0115	2.3038	2.3038
L/H (F _c Q _m) ²		1.0205	1.812	3.4614	5.328	1.023	1.023	5.307	5.307
F _w = L/H (F _c Q _m) ² (1-e ^s)		0.38	0.67	1.29	1.96	0.38	0.38	1.96	1.96
P _w ² = P ₁ ² + F _w		4684.14	4265.72	3555.27	3019.82	4684.14	4684.14	3019.82	3019.82
P _s ² = e ^s P _w ²		9194.2	7465.1	6794.0	5655.7	4984.0	7465.1	4984.2	4984.2
P _s	3032.2	2732.2	2606.5	2378.2	2187.2	2731.4	2731.4	2188.2	2188.2
P = (P ₁ + P _s)	2715.7	2448.2	2335.9	2131.7	1962.2	2447.3	2447.3	1962.7	1962.7
P _r = (P/P _{cr})	4.047	3.649	3.481	3.177	2.924	3.648	3.648	2.925	2.925
T _r = (T/T _{cr})	1.501	1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500
Z (Table XI)	.777	0.771	0.771	0.773	0.7785	0.771	0.771	0.7785	0.7785