c/s1 F/e

Form C-122
Revised 9-1-65

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

RECEIVED
NOV 1 1982
O. C. D.
ARTESIA, OFFICE

Type Test: [XX] Initial [ ] Annual [ ] Special — Test Date: 10/3/82

Company: Yates Petroleum Corporation	Connection: Transwestern Pipeline	Unit:	
Pool: Pecos Slope - Abo Gas	Formation: Abo		
Completion Date: 5/30/82	Total Depth: 4175'	Plug Back TD: 4119'	Elevation: 3768' GL
Csg. Size: 4 1/2" / Wt.: 9.5# / d: 4.090 / Set At: 4165'	Perforations: From 3768 To 3962	Farm or Lease Name: Kilgore "SO"	
Tbg. Size: 2 3/8" / Wt.: 4.7# / d: 1.995 / Set At: 3730	Perforations: From To	Well No.: 2	
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: Single	Packer Set At: None	Unit: O / Sec.: 24 / Twp.: 6S / Rge.: 25E	
Producing Thru: Tubing	Reservoir Temp. °F: 104°@ 3730	Mean Annual Temp. °F: 62°	Baro. Press. – P_a: 13.2 psi
		County: Chaves	
		State: New Mexico	

L	H	Gg	% CO_2	% N_2	% H_2S	Prover	Meter Run	Taps
3730	3730	.632	0.04	3.75	0	--	2"	Flanged

NO.	FLOW DATA: Prover Line Size X Orifice Size	Press. p.s.i.g.	Diff. h_w	Temp. °F	TUBING DATA: Press. p.s.i.g.	Temp. °F	CASING DATA: Press. p.s.i.g.	Temp. °F	Duration of Flow
SI					1015				
1.	2.067 x 1.250	210	23.0	72°	922	62°			24 hr.
2.	2.067 x 1.250	220	26.9	72°	910	62°			24 hr.
3.	2.067 x 1.250	290	25.4	72°	890	62°			24 hr.
4.	2.067 x 1.250	280	35.0	72°	875	62°			24 hr.
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	8.120	71.7	223.2	.9887	1.258	1.019	738
2.	8.120	79.2	233.2	.9887	1.258	1.019	815
3.	8.120	87.8	303.2	.9887	1.258	1.025	909
4	8.120	101.3	293.2	.9887	1.258	1.024	1048
5.							

NO.	P_t	Temp. °R	T_r	Z
1.	.34	532	1.49	.964
2.	.35	532	1.49	.963
3.	.46	532	1.49	.952
4.	.44	532	1.49	.954
5.				

Gas Liquid Hydrocarbon Ratio: Dry Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons: -- Deg.
Specific Gravity Separator Gas: .632 — XXXXXXXXX
Specific Gravity Flowing Fluid: XXXXX — .632
Critical Pressure: 663 P.S.I.A. — 663 P.S.I.A.
Critical Temperature: 357 R — 357 R

P_c 1028.2 P_c^2 1057.2

NO	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1	874.6		881.5	175.4
2	852.3		860.7	196.5
3	815.8		826.3	230.9
4	788.9		802.8	254.4
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 4.156$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 3.730$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 3908$

Absolute Open Flow: 3908 Mcfd @ 15.025
Angle of Slope θ:
Slope, n: .924

Remarks:

Approved By Commission:	Conducted By: David Weaver	Calculated By: Andie Alderson	Checked By:

COMPANY Yates Petroleum Corp. LEASE Kilgore "30" WELL NO. 2 DATE 10/20/82

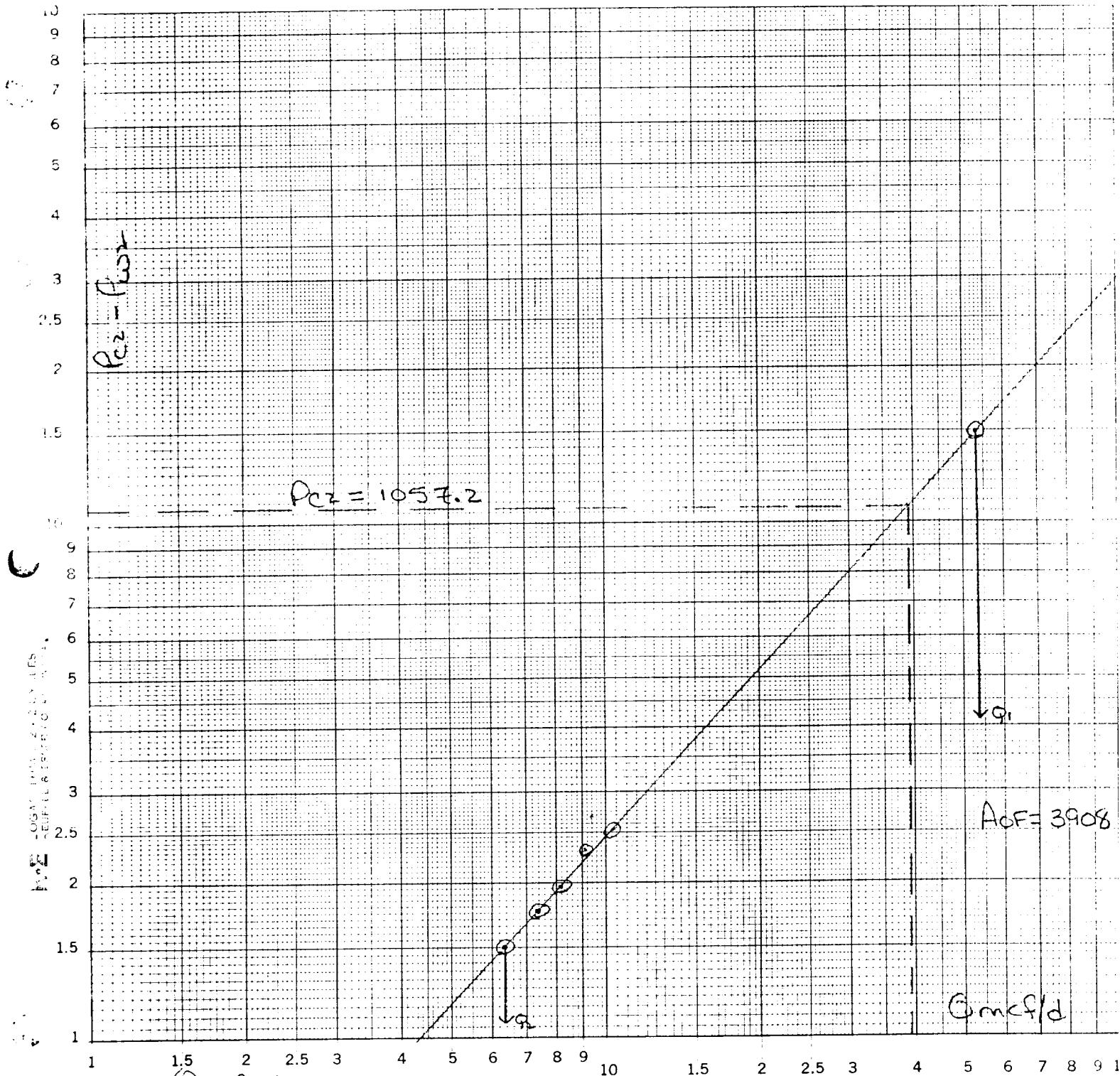
LOCATION: Unit O Section 24 Township 6S Range 25E

L 3730 H 3730 L/H 1 G .632 % CO_2 0.04 % N_2 3.75 % H_2S 0

d 1.995 F_r .01823 GH 2357 P_{cr} 663 (TABLE IX & X) T_{cr} 357 (TABLE IX & X)

	LINE	1ST		2ND		3RD		4TH			
	1 Q_m	.738		.815		.909		1.048			
	2 T_w (W.H. °R)	522		522		522		522			
	3 T_s (B.H. °R)	564		564		564		564			
61	4 $T = (\frac{T_w + T_s}{2})$	543		543		543		543			
	5 Z (Est.)	.867		.869		.871		.872			
9	6 TZ	470.78		471.867		472.95		473.5			
	7 GH/TZ	5.007		4.995		4.984		4.978			
	8 e^s (Table XIV)	1.207		1.206		1.206		1.205			
	9 $1-e^{-s}$ (Table XIV)	.171		.171		.171		.170			
9	10 P_t	935.2		923.2		903.2		888.2			
24	11 $P_t^2/1000$	874.6		852.3		815.8		788.9			
	12 F_r (Table XV)	.01823		.01823		.01823		.01823			
32	13 $F_c = F_r TZ$	8.582		8.602		8.622		8.632			
34	14 $F_c Q_m$	6.334		7.011		7.837		9.046			
35	15 $L/H (F_c Q_m)^2$	40.117		47.150		61.424		81.833			
37	16 $F_w = L/H(F_c Q_m)^2(1-e^{-s})$	6.860		8.405		10.503		13.912			
40	17 $P_w^2 = P_t^2 + F_w$	881.5		860.7		826.3		802.8			
42	18 $P_s^2 = e^s P_w^2$	1063.9		1038.0		996.5		967.4			
45	19 P_s	1031.5		1018.8		998.2		983.6			
49	20 $P = (\frac{P_t + P_s}{2})$	983.3		971.0		950.7		935.9			
	21 $P_r = (P/P_{cr})$	1.48		1.46		1.43		1.41			
	22 $T_r = (T/T_{cr})$	1.52		1.51		1.52		1.52			
	23 Z (Table XI)	.762		.764		.771		.77			

Yates Petroleum Corp
Kilgore "30" #2
Unit O 24-65-25E
Chaves County



$(P_{c2} - P_{w2})_1 = 1600$
$(P_{c2} - P_{w2})_2 = 150$
$Q_1 = 5350$
$Q_2 = 638$

$\text{Log } Q_1 = 3.72835$
$\text{Log } Q_2 = 2.80482$
$n = .92353 = .924$