OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Revised 10-1-78

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

RECEIVED
JUL 21 1982
O. C. D.
ARTESIA, OFFICE

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test: [X] Initial [ ] Annual [ ] Special — Test Date: 5-29-82

Company: Yates Petroleum Corporation ✓ — Connection: Transwestern Pipeline Company — Unit: LG-569

Pool: Pecos Slope Abo — Formation: Abo — Farm or Lease Name: Skink SK State

Completion Date: 3-11-82 — Total Depth: 4450' — Plug Back TD: 4445' — Elevation: 3694' GR — Well No.: 1

Csg. Size: 4-1/2" — Wt.: 9.5# — d: 4.052 — Set At: 4450' — Perforations: From 4031 To 4241 — Unit: A — Sec.: 32 — Twp.: 7S — Rge.: 26E

Tbg. Size: 2-3/8" — Wt.: 4.7# — d: 1.995 — Set At: 4105' — Perforations: From - To - — County: Chaves

Type Well – Single – Bradenhead – G.C. or G.O. Multiple: Single — Packer Set At: - — State: New Mexico

Producing Thru: tubing — Reservoir Temp. °F: 94° @ 4102' — Mean Annual Temp. °F: 62 — Baro. Press. – P_a: 13.2 — Prover: - — Meter Run: 2" — Taps: Flanged

L	H	Gg	% CO_2	% N_2	% H_2S
4450	4450	.652	.37	5.57	-

FLOW DATA

NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h_w	Temp. °F	TUBING DATA Press. p.s.i.g.	TUBING DATA Temp. °F	CASING DATA Press. p.s.i.g.	CASING DATA Temp. °F	Duration of Flow
SI							940				days
1.	2.067	x	.500	730	36.4	62	877	75			24 hrs
2.	2.067	x	.500	720	39.7	62	848	75			24 hrs
3.	2.067	x	.500	710	61.5	62	840	75			24 hrs
4.	2.067	x	.500	710	81.7	62	810	75			24 hrs
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	1.189	164.5	743.2	.9981	1.288	1.054	265
2	1.189	170.7	733.2	.9981	1.288	1.054	275
3	1.189	210.8	723.2	.9981	1.288	1.055	340
4	1.189	243.1	723.2	.9981	1.288	1.055	392
5.							

Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl

A.P.I. Gravity of Liquid Hydrocarbons _____ Deg

Specific Gravity Separator Gas .652 XXXXXXXXX

Specific Gravity Flowing Fluid XXXXX

Critical Pressure 659 P.S.I.A. 659 P.S.I.

Critical Temperature 358 R 358

NO.	P_t	Temp. °R	T_r	Z
1	.88	522	1.45	.901
2.	.89	522	1.45	.900
3.	.91	522	1.45	.898
4.	.91	522	1.45	.894
5				

P_c 940 P_c^2 908.5

NO	P_t^2	P_w	R_w^2	$P_c^2 - P_w^2$
1	792.2		793.2	115.3
2	742.4		743.5	165.0
3	728.6		730.3	178.2
4	677.7		679.9	228.6
5				

(1) $\frac{P_c^2}{P_c^2 - R_w^2} =$ _____ (2) $\left[\frac{P_c^2}{P_c^2 - R_w^2}\right]^n =$ _____

$AOF = Q \left[\frac{P_c^2}{P_c^2 - R_w^2}\right]^n =$ 866 mcf

Absolute Open Flow 866 mcf Mcfd @ 15.025 — Angle of Slope θ _____ — Slope, n .575

Remarks:

Approved By Division	Conducted By:	Calculated By:	Checked By:
	David Weaver	Brent Mulliniks	

C-122D
Adopted 9-1-65

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)

COMPANY [illegible] LEASE [illegible] WELL NO. 1 DATE 7-20-82

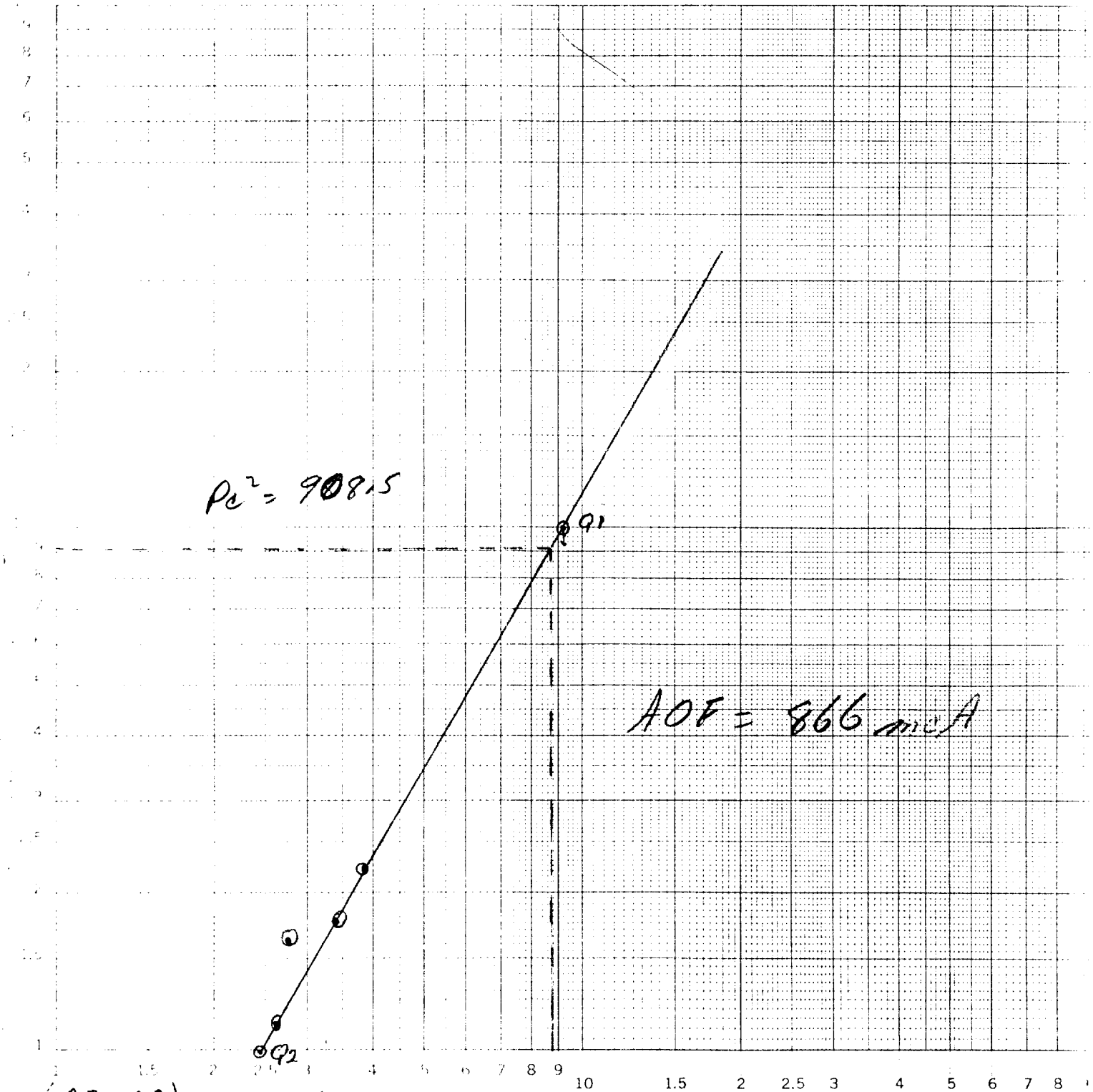
LOCATION: Unit A Section 32 Township 7s Range 26E

L 4450 H 4950 L/H 1,00 G .652 % CO_2 .37 % N_2 .557 % H_2S —

d 1.995 F_r .01823 GH 2901 P_{cr} 659 (TABLE IX & X) T_{cr} 358 (TABLE IX & X)

LINE	Rate 1		Rate 2		Rate 3		Rate 4			
1 Q_m	.265		.275		.340		.392			
2 T_w (W.H. °R)	522		522		522		522			
3 T_s (B.H. °R)	535		535		535		535			
4 $T = \frac{(T_w + T_s)}{2}$	528		528		528		528			
5 T_r Z	.858		.862		.863		.869			
6 TZ	453,4		455,5		456,0		459			
7 GH/TZ	6.398		6.368		6.361		6.317			
8 e^s (Table XIV)	1.271		1.270		1.269		1.267			
9 $1-e^{-s}$ (Table XIV)	.213		.213		.212		.211			
10 P_t	870.2		861.2		853.2		823.2			
11 $P_t^2/1000$	722.2		742.6		728.6		677.7			
12 F_r (Table XV)	.01823		.01823		.01823		.01823			
13 $F_c = F_r$ TZ	8.266		8.305		8.315		8.372			
14 $F_c Q_m$	2.141		2.284		2.827		3.282			
15 L/H $(F_c Q_m)^2$	4.799		5.216		7.992		10.771			
16 F_w=L/H$(F_cQ_m)^2(1-e^{-s})$	1.022		1.111		1.694		2.273			
17 $P_w^2 = P_t^2 + F_w$	[illegible]		743.5		730.3		679.9			
18 $P_s^2 = e^s P_w^2$	1009.1		944.2		926.7		861.5			
19 P_s	1004.1		971.7		962.7		928.2			
20 $P = (\frac{P_t + P_s}{2})$	944.1		916.7		908.1		875.7			
21 $P_r = (P/P_{cr})$	1.44		1.39		1.39		1.33			
22 $T_r = (T/T_{cr})$	1.48		1.48		1.48		1.48			
23 Z (Table XII)	.858		.862		[illegible]		[illegible]			

Yates Ref.
SKINK #1



$(P_c^2 - P_w^2)_1 = 1,000$

$(P_c^2 - P_w^2)_2 = 100$

$Q_1 = 920$

$Q_2 = 245$

$\log Q_1 = 2.96379$

$\log Q_2 = 2.38917$

$n = .57962$ $n = .575$