c/SF, File

NEW MEXICO OIL CONSERVATION COMMISSION

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

RECEIVED
JAN 21 1983
O. C. D.
ARTESIA, OFFICE

Type Test: ☐ Initial ☐ Annual ☐ Special — Test Date: 12/23/82

Company: Samedan Oil Corp.	Connection: Air		Unit
Pool: Pecos Slope Abo	Formation: Abo		
Completion Date: 12/7/82 12-24-82	Total Depth: 4650	Plug Back T.D.: 4600	Elevation: 3699.4
Csg. Size: 4 1/2 / Wt.: 9.5 / d: / Set At: 4650	Perforations: From 4198 To 4216		Farm or Lease Name: State 16
Tbg. Size: 2 1/16 / Wt.: 3.25 / d: / Set At: 4500	Perforations: From To		Well No.: 4
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: Dual	Packer Set At: 4500		Unit: P / Sec.: 16 / Twp.: 7s / Rge.: 26E
Producing Thru: Csg.	Reservoir Temp. °F: 116 @ 4207	Mean Annual Temp. °F: 60	Baro. Press. – P_a: 13.2
			County: Chaves
			State: N.M.

L	H	Gg	% CO_2	% N_2	% H_2S	Prover	Meter Run	Taps
4207	4207	.6692	2.85	5.061			4	Flg.

FLOW DATA / TUBING DATA / CASING DATA

NO.	Prover Line Size X Orifice Size	Press. p.s.i.g.	Diff. h_w	Temp. °F	Tubing Press. p.s.i.g.	Tubing Temp. °F	Casing Press. p.s.i.g.	Casing Temp. °F	Duration of Flow
SI					978				
1.	4 x 1.250	265	8.0	97	935				1 hr.
2.	4 x 1.250	250	17.0	100	900				1 hr.
3.	4 x 1.250	250	42.0	100	815				1 hr.
4.	4 x 1.250	270	95.0	90	610				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 Fg	Super Compress. Factor, Fpv	Rate of Flow Q, Mcfd
1	7.469	47.18	278.2	.9662	1.223	1.020	425
2	7.469	66.89	263.2	.9636	1.223	1.019	600
3	7.469	105.14	263.2	.9636	1.223	1.019	943
4	7.469	164.02	283.2	.9723	1.223	1.021	1487
5							

NO.	P_t	Temp. °R	T_r	Z
1.	.41	557	1.53	.961
2.	.39	560	1.54	.964
3.	.39	560	1.54	.964
4.	.42	550	1.52	.959
5.				

Gas Liquid Hydrocarbon Ratio: dry Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons: Deg.
Specific Gravity Separator Gas: .6692 XXXXXXXXX
Specific Gravity Flowing Fluid: XXXXX
Critical Pressure: 672 P.S.I.A. P.S.I.A.
Critical Temperature: 363 R R

P_c 991.2 P_c^2 982.5

NO	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1		948.4	899.5	83.0
2		913.7	834.8	147.7
3		829.5	688.0	294.5
4		627.5	393.8	588.7
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.699$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.399$

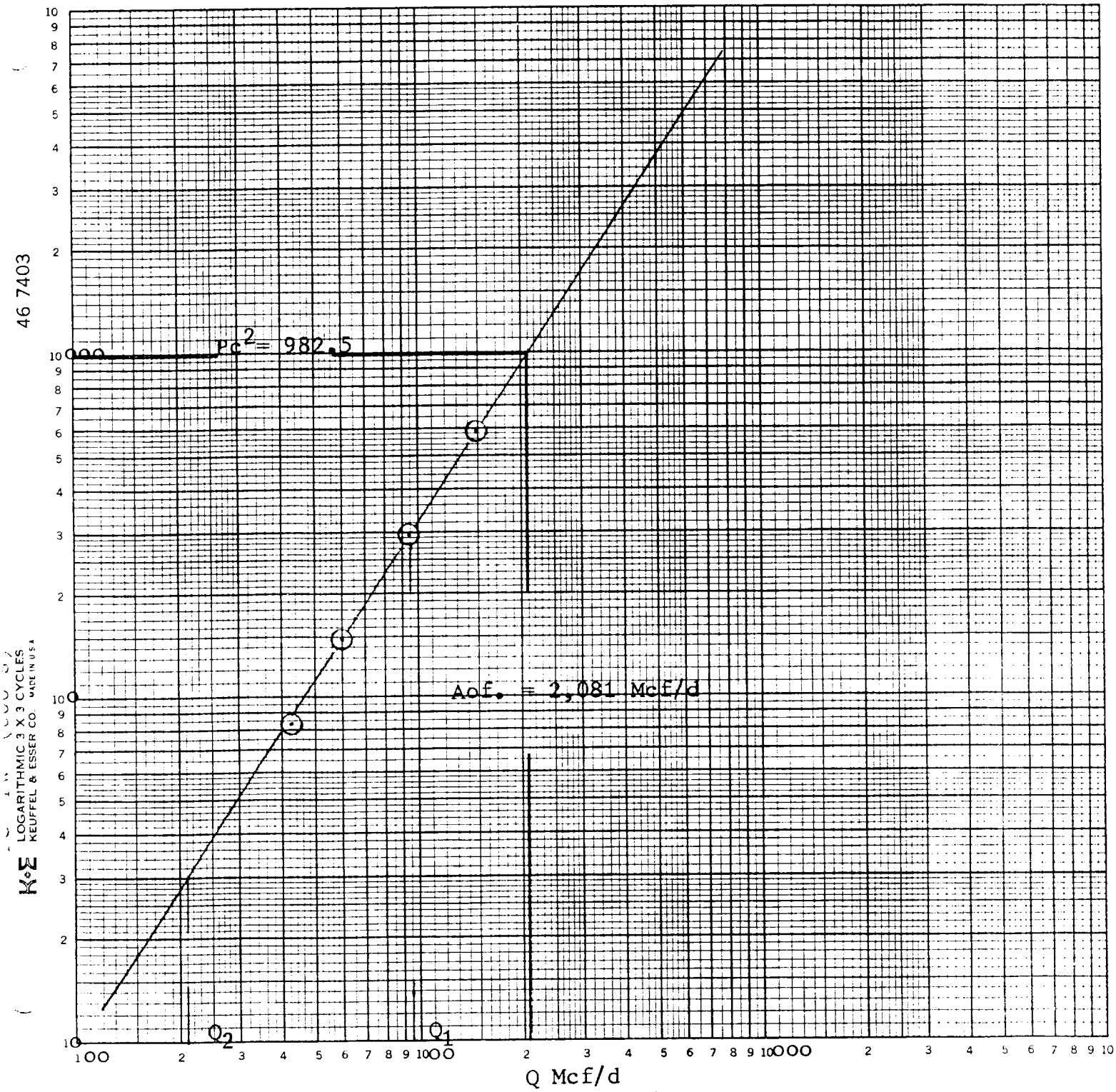
AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 2.081$

Absolute Open Flow: 2,081 Mcfd @ 15.025 — Angle of Slope θ: 56.75 — Slope, n: .656

Remarks:

Approved By Commission:	Conducted By:	Calculated By:	Checked By:
	Davis Services, Inc.	Rick Pagan	

COMPANY: SAMEDAN OIL CORP.
LEASE : STATE 16
WELL NO.: 4
LOC. : SEC. 16 TWP. 7s RGE. 26e
DATE : 12/23/82



Q_1 Log 950 = 2.977724
Q_2 Log 210 = 2.322219
n = .6555
θ = 56.75

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)

Form C-122D
Adopted 9-1-65

COMPANY Samedan Oil Corp. LEASE State 16 WELL NO. 4 DATE 12/23/82

LOCATION: Unit P Section 16 Township 7s Range 26 E

L 4207 H 4207 L/H 1.000 G .6692 % CO_2 2.85 % N_2 5.061 % H_2S

d Annulus F_r .0071790 GH 2815 P_{cr} 672 (TABLE IX & X) T_{cr} 363 (TABLE IX & X)

	1st Rate		2nd Rate		3rd RAte		4th Rate			
LINE	1st	2nd	1st	2nd	1st	2nd	1st	2nd		
1 Q_m	.425	.425	.600	.600	.943	.943	1.487	1.487		
2 T_w (W.H. °R)	534	534	534	534	534	534	534	534		
3 T_s (B.H. °R)	576	576	576	576	576	576	576	576		
4 $T = (\frac{T_w + T_s}{2})$	555	555	555	555	555	555	555	555		
5 Z (Est.)	.867	.860	.871	.865	.882	.876	.908	.903		
6 TZ	481.2	477.3	483.4	480.1	489.5	486.2	503.9	501.2		
7 GH/TZ	5.850	5.898	5.823	5.864	5.751	5.790	5.586	5.617		
8 e^s (Table XIV)	1.245	1.248	1.244	1.246	1.241	1.243	1.233	1.234		
9 $1-e^{-s}$ (Table XIV)	.197	.198	196	.197	.194	.195	.189	.190		
10 P_t	948.2	948.2	913.2	913.2	828.2	828.2	623.2	623.2		
11 $P_t^2/1000$	899.1	899.1	833.9	833.9	685.9	685.9	388.4	388.4		
12 F_r (Table XV)	.0071790	.0071790	.0071790	.0071790	.0071790	.0071790	.0071790	.0071790		
13 $F_c = F_r$ TZ	3.454	3.427	3.470	3.466	3.514	3.490	3.618	3.598		
14 $F_c Q_m$	1.468	1.456	2.082	2.068	3.314	3.291	5.380	5.350		
15 $L/H (F_c Q_m)^2$	2.155	2.121	4.336	4.276	10.982	10.833	28.941	28.623		
16 $F_w = L/H(F_c Q_m)^2(1-e^{-s})$	.425	.421	.851	.844	2.130	2.114	5.469	5.436		
17 $P_w^2 = P_t^2 + F_w$	899.5	899.5	834.8	834.8	688.0	688.0	393.8	393.8		
18 $P_s^2 = e^s P_w^2$	1120.2	1122.2	1038.5	1040.1	853.6	854.9	485.6	486.1		
19 P_s	1058.4	1059.3	1019.1	1019.8	923.9	924.6	696.9	697.2		
20 $P = (\frac{P_t + P_s}{2})$	1003.3	1003.8	966.1	966.5	876.1	876.4	660.0	660.2		
21 $P_r = (P/P_{cr})$	1.49	1.49	1.44	1.44	1.30	1.30	.98	.98		
22 $T_r = (T/T_{cr})$	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53		
23 Z (Table XI)	.860	.860	.865	.865	.876	.876	.903	.903		

NEW-TEX LAB

PHONE 505/393-3561 • P. O. BOX 1161 • 611 W. SNYDER • HOBBS, NEW MEXICO 88240

ANALYSIS CERTIFICATE

CLIENT:	DAVIS SERVICES INC	ANALYSIS NUMBER:	8912
ADDRESS:	P O BOX 2033	DATE OF RUN:	12/28/92
CITY, STATE:	HOBBS NM 88240	DATE SECURED:	12/23/92

SAMPLE IDENT: SAMEDAN OIL - STATE 16 #1
SAMPLING PRESS: SAMPLING TEMP:

********** GAS ANALYSIS **********

	MOLE PERCENT	GAL/ MCF
NITROGEN	5.061	
CARBON DIOXIDE	2.850	
METHANE	84.190	
ETHANE	4.603	1.225
PROPANE	1.711	0.470
ISO-BUTANE	0.306	0.100
NORMAL BUTANE	0.596	0.187
ISO-PENTANE	0.189	0.069
NORMAL PENTANE	0.212	0.077
HEXANES	0.127	0.052
HEPTANES PLUS	0.155	0.071
TOTAL	100.000	2.254

PROPANE GPM: 0.47 BUTANES GPM: 0.29
ETHANE GPM: 1.23 PENTANES PLUS GPM: 0.27

SPECIFIC GRAV (CALC): 0.6892
REAL HEIGHT: 19.42

REAL/CUBIC FT	PRESSURE (PSIA)	WET	DR
	14.696	1017	1233
	14.650	1014	1231
	14.730	1019	1237
	14.735	1020	1237

APPROVED BY: