NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

JAN 11 1980
O. C. D.
ARTESIA, OFFICE

RECEIVED
DEC 29 1979

Type Test: [X] Initial [ ] Annual [ ] Special	Test Date: 12-21-79		
Company: MESA PETROLEUM Co.	Connection: ATR		Unit:
Pool: ~~VANDERCRIFF~~ Diamond Mound Atoka	Formation: Atoka		
Completion Date: 11-29-~~80~~ 79	Total Depth: 8794'	Plug Back T.D.: ~~8666'~~ 8667	Elevation: 3574. GL
Farm or Lease Name: COOK FED. COM.			
Csg. Size: 4½	Wt.: 11.6/10.5	d:	Set At: 8793
Perforations: From 8570 To 8580	Well No.: # 1		
Tbg. Size: 2 3/8	Wt.: 4.7	d:	Set At: 8492
Perforations: From To	Unit: H	Sec.: 10	Twp.: 16
Rge.: 27			
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: SINGLE	Packer Set At: 8465'	County: EDDY	
Producing Thru: TBG...	Reservoir Temp. °F: 125° PERFS.	Mean Annual Temp. °F: 60	Baro. Press. – P_a: 13.2
State: NEW MEXICO			
L: 8492	H: 8492	Gg: .850	% CO_2: 14.002
% N_2: .805	% H_2S:	Prover:	Meter Run: 4
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.	Temp. °F	Press. p.s.i.g.	Temp. °F	Duration of Flow
SI					2320				72 HR.
1.	4 X 1.000	355	2.0	80	1820	70			1 HR.
2.	4 X 1.000	363	3.0	89	1485	70			1 HR.
3.	4 X 1.000	353	3.5	95	1290	68			1 HR.
4.	4 X 1.000	315	5.0	87	318	68			45 MIN.
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	4.753	27.14	368.2	.9813	1.085	1.046	144
2	4.753	33.59	376.2	.9732	1.085	1.044	176
3	4.753	35.80	366.2	.9680	1.085	1.041	186
4	4.753	40.51	328.2	.9750	1.085	1.038	171
5							

NO.	P_t	Temp. °R	T_r	Z
1.	.51	540	1.29	.914
2.	.52	549	1.32	.917
3.	.51	555	1.33	.922
4.	.45	547	1.31	.928
5				

Gas Liquid Hydrocarbon Ratio: dry Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons: Deg.
Specific Gravity Separator Gas: .850 XXXXXXXXX
Specific Gravity Flowing Fluid: XXXXX
Critical Pressure: 725 P.S.I.A. P.S.I.A.
Critical Temperature: 417 R R

P_c 2333.2 P_c^2 5443.8

NO	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1		1833.3	3361.1	2082.7
2		1498.5	2245.4	3198.4
3		1303.5	1699.2	3744.6
4		333.6	111.3	5332.5
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.702$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.305$

Posted to B.O.P. 1-18-80 SE

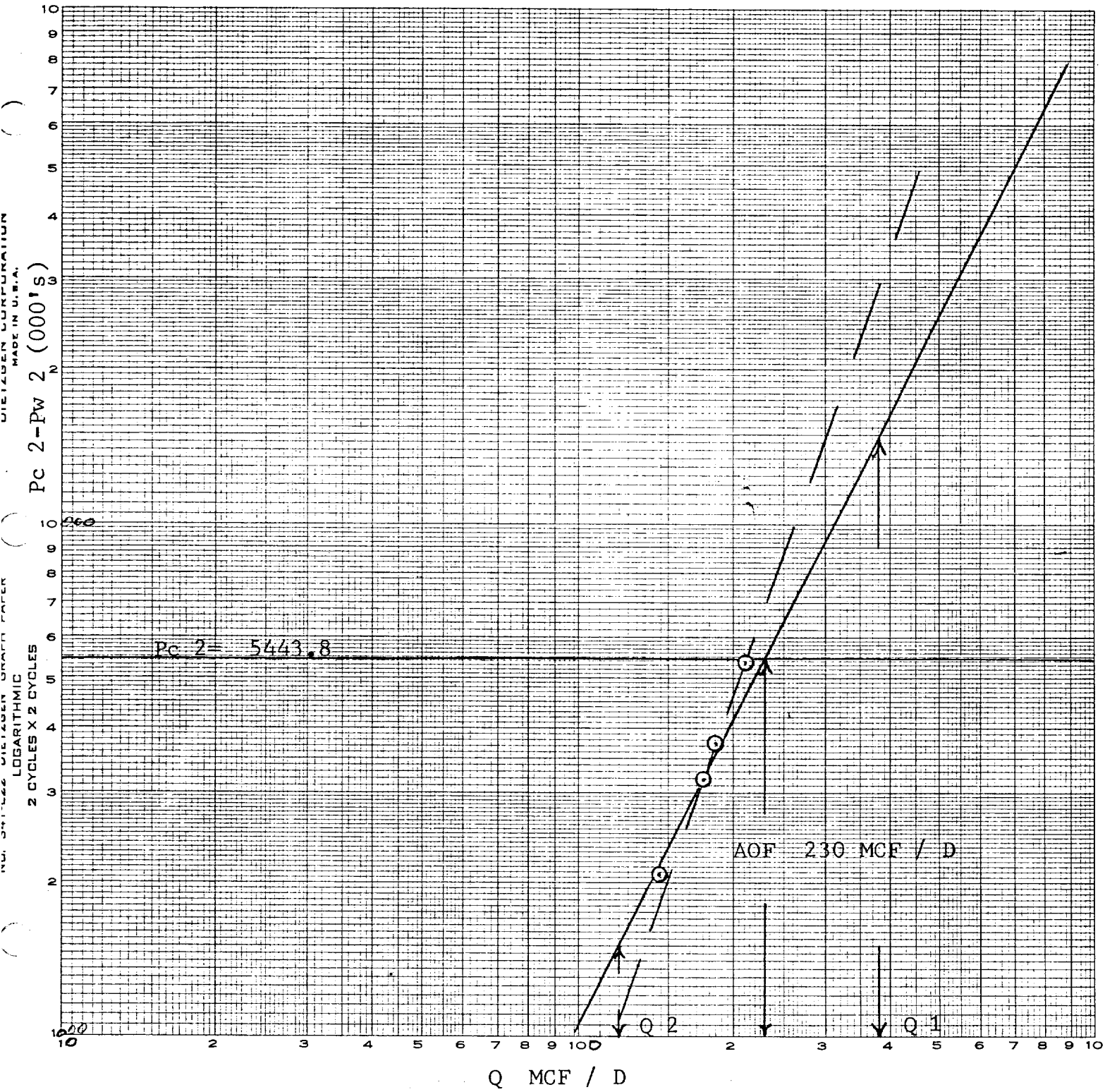
AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = .230$

Absolute Open Flow: 230 Mcfd @ 15.025 Angle of Slope θ: 63.5 Slope, n: .500

Remarks:

Approved By Commission:	Conducted By:	Calculated By:	Checked By:
	JOHN DAVIS	LARRY DAVIS	

COMPANY : MESA PETROLEUM
LEASE : COOK FED. M.
WELL NO. : # 1
UNIT : 10/16/27
COUNTY : EDDY
STATE : NEW MEXICO
DATE : DECEMBER 21, 1979



Q 1= 380; LOG OF Q 1= 2.579784
Q 2= 120; LOG OF Q 2= 2.079181
N = .500

NEW-TEX LAB
P. O. BOX 1161
HOBBS, N.M. 88240

No. 2005
Run No.
Date of Run 12-26-79
Date Secured 12-21-79

CERTIFICATE OF ANALYSIS

A Sample of Mesa Petroleum Co. Cook Federal Comm #1
Secured from Davis Services
At Box 2033 Secured by
Hobbs, NM 88240 Time Date
Sampling conditions Press
Temp.

FRACTIONAL ANALYSIS

Percentage Composition

	MOL %	LIQ. %	G.P.M.
Carbon Dioxide	14.002		
Air			
Nitrogen	.805		
Oxygen			
Hydrogen sulfide			
Hydrogen			
Methane	67.048		
Ethane	9.248		2.466
Propane	5.337		1.470
Butanes			
Iso-Butane	.784		.256
N-Butane	1.440		.453
Pentanes			
Iso-Pentane	.439		.160
N-Pentane	.418		.151
Hexanes	.214		.088
Heptanes	.265		.113
Octanes			
TOTAL	100.000		5.157

Calc. Sp. Gr.— 0.8499
Calc. A.P.I.—
Calc. Vapor Press.— PSIA
Sp. Gr.
Mol. Wt. 24.65

LIQUID CONTENT (GAL./MCF)

Propane Calc. G.P.M.	1.470
Butanes Calc. G.P.M.	.709
Pentanes Plus. G.P.M.	.512
Ethane Calc. G.P.M.	2.466
___ RVP Gasoline G.P.M.	

B.T.U./Cu. Ft. @ 14.696 P.S.I.A.

Dry Basis	1105
Wet Basis	1086

Sulfur Analysis by Titration Gr./100 Cu. Ft.

Hydrogen Sulfide	
Mercaptans	
Sulfides	
Residual Sulfur	
Total Sulfur	

Run by Deane Simpson Checked by Approved by Deane Simpson

Additional Data and Remarks

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)

Form C-122D
Adopted 9-1-65

COMPANY MESA PETROLEUM LEASE COOK FED. COM. WELL NO. #1 DATE 12-21-79

LOCATION: Unit _____ Section 10 Township 16 Range 27

L 8492 H 8492 L/H 1.000 G .850 % CO_2 14.002 % N_2 .805 % H_2S 0

d 1.995 F_r .018231 GH 7218 P_{cr} 725 (TABLE IX & X) T_{cr} 417 (TABLE IX & X)

LINE	1 st	2 nd	1 st	2 nd	1st	2 nd	1 st	2 nd		
	1 st		2 nd		3 rd		4 th			
1 Q_m	.144	.144	.176	.176	.186	.186	.211	.211		
2 T_w (W.H. °R)	534	534	534	534	534	534	534	534		
3 T_s (B.H. °R)	585	585	585	585	585	585	585	585		
4 $T = (\frac{T_w + T_s}{2})$	559.5	559.5	559.5	559.5	559.5	559.5	559.5	559.5		
5 Z (Est.)	.686	.669	.725	.690	.755	.717	.932	.922		
6 TZ	383.8	374.3	405.6	386.1	422.4	401.2	521.5	515.9		
7 GH/TZ	18.806	19.284	17.794	18.697	17.087	17.993	13.842	13.992		
8 e^s (Table XIV)	2.024	2.061	1.949	2.016	1.898	1.963	1.680	1.690		
9 $1-e^{-s}$ (Table XIV)	.506	.515	.487	.504	.473	.491	.405	.408		
10 P_t	1833.2	1833.2	1498.2	1498.2	1303.2	1303.2	331.2	331.2		
11 $P_t^2/1000$	3360.6	3360.6	2244.6	2244.6	1698.3	1698.3	109.7	109.7		
12 F_r (Table XV)	.018231	.018231	.018231	.018231	.018231	.018231	.018231	.018231		
13 $F_c = F_r$ TZ	6.9974	6.8240	7.3952	7.0382	7.7012	7.3136	9.5066	9.4046		
14 $F_c Q_m$	1.008	.983	1.302	1.239	1.432	1.360	2.006	1.984		
15 $L/H (F_c Q_m)^2$	1.015	.966	1.694	1.534	2.052	1.850	4.024	3.938		
16 $F_w = L/H (F_c Q_m)^2 (1-e^{-s})$	.514	.497	.825	.773	.971	.908	1.629	1.608		
17 $P_w^2 = P_t^2 + F_w$	3361.1	3361.1	2245.4	2245.4	1699.2	1699.2	111.3	111.3		
18 $P_s^2 = e^s P_w^2$	6803.9	6926.9	4376.2	4526.7	3225.2	3336.5	187.1	188.1		
19 P_s	2608.4	2631.9	2091.9	2127.6	1795.9	1826.6	432.5	433.7		
20 $P = (\frac{P_t + P_s}{2})$	2220.8	2232.6	1795.1	1812.9	1549.5	1564.9	381.9	382.4		
21 $P_r = (P/P_{cr})$	3.06	3.08	2.48	2.50	2.14	2.16	.53	.53		
22 $T_r = (T/T_{cr})$	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34		
23 Z (Table XI)	.669	.668	.690	.688	.717	.715	.922	.922		

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