

ADDITIONAL ONE FOOT BACK PRESSURE FOR GAS WELL

SP
File
C122

RECEIVED

☒ Initial ☐ Annual ☐ Special						Test Date 8-3-79		AUG 13 1979	
Company MESA PETROLEUM CORP.				Connection AIR				O.C.C.	
Well UNDESIGNATED Diamond Maiden				Formation ATOKA				ARTESIA, OFFICE	
Completion Date 7-29-79		Total Length 8860		Flow Line To 8776 8774		Elevation 3592		Name or Lease Name WELLS FEDERAL	
Casing Size 4 1/2	ID 11.6	Set At 8860	Perforations From 8493 To 8573		Well No. # 1				
Tub. Size 2 3/8	ID 4.7	Set At 8454	Perforations From To		Unit Sec. Twp. Rge. EF 11 16 S 27E				
Type Well - Single - Protobend - G.G. or G.O. Multiple SINGLE				Fracker Set At 8438		County EDDY			
Producing Thru TGB.		Reservoir Temp. °F 158 @ 8454		Mean Annual Temp. °F 60°		Bur. Press. - P _g 13.2		State NEW MEXICO	
L 8454	H 8454	Gg .705	% CO ₂ .14	% N ₂ 1.24	% H ₂ S 	Prover 	Meter Run 4	Type FLG.	

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
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
51							2237				72 HRS.
1.	4	X 1.750		682	10.0	95	2130	77			1 HR.
2.	4	X 1.750		700	21.5	100	2090	77			1 HR.
3.	4	X 1.750		710	41.0	94	2020	78			1 HR.
4.	4	X 1.750		716	78.5	82	1875	76			1 HR.
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compens. Factor, F _{spv}	Rate of Flow Q, Mcfd
1	14.93	83.38	695.2	.9680	1.191	1.070	1536
2	14.93	123.83	713.2	.9636	1.191	1.070	2270
3	14.93	172.20	723.2	.9688	1.191	1.075	3189
4	14.93	239.25	729.2	.9795	1.191	1.084	4517
5.							

NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	A.P.I. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature
1	1.04	555	1.41	.873	159.889	56 @ 60 °	.705	.723	668	395
2	1.07	560	1.42	.873						
3	1.08	554	1.40	.865						
4	1.09	542	1.37	.851						
5										

NO.	P _t	P _w	P _t ²	P _w ²	P _t ² - P _w ²
1		2156.3	4649.6	413.8	
2		2133.5	4551.8	511.6	
3		2093.0	4380.6	682.8	
4		2015.0	4060.2	1003.2	
5					

(1) $\frac{P_t^2}{P_t^2 - P_w^2} = 5.047$

ADP = Q $\left[\frac{P_t^2}{P_t^2 - P_w^2} \right]^n = 22.798$

(2) $\left[\frac{P_t^2}{P_t^2 - P_w^2} \right]^n = 5.047$

Absolute Open Flow 22,798	Mcfd @ 14.7 PSIA	Angle of Slope 45°	Slope, n 1.000
----------------------------------	------------------	---------------------------	-----------------------

Remarks: **THE WELL PRODUCED 3 BBL. OF DISTILLATE AND 1.5 BBL. OF H₂O DURING THE TEST.**

Approved by Commissioner	Conducted By: JOHN R. DAVIS	Calculated By: LARRY C. DAVIS	Checked By:
--------------------------	---------------------------------------	---	-------------