

CSF
File

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL RECEIVED

Type Test 4 POINT ☒ Initial ☐ Annual ☐ Special		Test Date 2-12-88		FEB 25 '88	
Company MUSSELMAN, OWEN & KING OP.		Connection TO AIR			
Pool INDIAN BASIN <i>UPPER PENN GAS</i>		Formation UPPER PENN		Unit O. C. D.	
Completion Date 2-12-88		Total Depth 7563		Plug Back TD 7563	
Elevation 3905		Frame or Lease Name SMITH FEDERAL		Well No. 2	
Ceq. Size 5.500	Wt. 17#/15.5	Set At 7563	Perforations: From 7519 To 7537	Unit L	
Thq. Size 2.375	Wt. 4.7	Set At 7488	Perforations: From OPEN To ENDED	Sec. 1	Twp. 22S
Type Well - Single - Bradenhead - G.C. or G.O. Multiple SINGLE			Packer Set At 7488	County EDDY	
Producing Thru TUBING		Reservoir Temp. °F 147 • 7527	Mean Annual Temp. °F 60°	Baro. Press. - P _a 13.2	State NEW MEXICO
L 7527	H 7527	G _g 0.6234	% CO ₂ 0.575	% N ₂ 0.611	% H ₂ S 0
Prover 0			Meter Run 3.068	Taps FLNG.	

FLOW DATA						TUBING DATA		BHP 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	
SI							1270	72			72 HRS
1.	3.068	1.375	140	24.0	68	1220	70				60 MIN
2.	3.068	2.000	190	58.0	65	1100	68				60 MIN
3.	3.068	2.000	285	85.0	63	840	68				60 MIN
4.	3.068	2.250	380	56.0	60	740	65				60 MIN
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{sp}	Rate of Flow Q, Mcfd
1	9.25	60.64	153.2	0.9924	1.2665	1.0136	714
2	21.32	108.56	203.2	0.9952	1.2665	1.0185	2971
3	21.32	159.21	298.2	0.9971	1.2665	1.0277	4405
4	28.78	148.39	393.2	1.0000	1.2665	1.0370	5609
5							

NO.	P _r	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	Mcf/bbl. Deq.
1	0.23	528	1.45	0.973	114.2	64.2	0.623	XXXXXX	673	363	714
2	0.30	525	1.45	0.964				XXXXXX			2971
3	0.44	523	1.44	0.947							4405
4	0.58	520	1.43	0.930							5609
5											

NO.	P _i	P _w	P _w ²	P _i ² - P _w ²	(1) $\frac{P_i^2}{P_i^2 - P_w^2} = 5.2174$	(2) $\left[\frac{P_i^2}{P_i^2 - P_w^2} \right]^n = 5.2174$
1	1518.3		1530.4	116.2		
2	1239.2		1448.9	197.7		
3	727.9		1201.3	445.3		
4	567.3		1331.0	315.6		
5						

AOR = Q $\left[\frac{P_i^2}{P_i^2 - P_w^2} \right]^n = 29264.19$

Part ID-2
3-11-88
comp & BK

Absolute Open Flow	29264	Mcf/d @ 15.025	Angle of Slope α	45°	Slope, n	1.000
Remarks: CALCULATED USING C-122 D						
Approved By Division						
Conducted By:		Calculated By:		Checked By:		