NEW MEXICO OIL CONSERVATION COMMISSION

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type of Test: ☒ Initial ☐ Annual ☐ Special | Test Date: 5-13-78 | Retest Date: 2-22-79

Company: Petroleum Developement Corp.	Connection: Air		
Pool: North Luck	Formation: Morrow		Unit: G
Completion Date: 5-13-78	Total Depth: 13093	Plug Back TD: 13075	Elevation: 3661 GL
Farm or Lease Name: Sun McKay Federal			
Csg. Size: 5½ / Wt. / d / Set At: 13093	Perforations: From 12778 To 13052	Well No.: 2	
Tbg. Size: 2 3/8 / Wt. / d / Set At: 12720	Perforations: From To	Unit: G / Sec.: 10 / Twp.: 19 / Rge.: 32	
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: Single	Packer Set At: 12720	County: Lea	
Producing Thru: Tbg.	Reservoir Temp. °F: 201 @ 12720	Mean Annual Temp. °F	Baro. Press. – P_a: 13.2
State: New Mexico			

L	H	Gg	% CO_2	% N_2	% H_2S	Prover	Meter Run	Taps
12720	12720	.662					4"	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	
SI						3700				72 hrs
1.	4	x 1.000	280	13.5	105	2700				1 hr.
2.	4	x 1.000	280	20.0	95	2294				1 hr.
3.	4	x 1.000	280	38.0	74	1870				1 hr.
4.	4	x 1.000	280	60.0	64	1345				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	4.753	62.91	293.2	.9594	1.229	1.024	361
2	4.753	76.58	293.2	.9580	1.229	1.025	444
3	4.753	105.55	293.2	.9868	1.229	1.029	626
4	4.753	132.63	293.2	.9962	1.229	1.030	795
5							

NO.	P_t	Temp. °R	T_r	Z
1	.44	565	1.49	.954
2	.44	555	1.47	.951
3	.44	534	1.41	.945
4	.44	524	1.39	.942
5				

Gas Liquid Hydrocarbon Ratio: 37.100 Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons: 56 @ 60° Deg.
Specific Gravity Separator Gas: .662 XXXXXXXXX
Specific Gravity Flowing Fluid: XXXXX .740
Critical Pressure: 670 P.S.I.A. 667 P.S.I.A.
Critical Temperature: 378 R 405 R

P_c 3713.2 P_c^2 13787.9

NO	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1		2716.8	7381.0	6406.9
2		2312.3	5346.7	8441.2
3		1889.9	3571.7	10216.2
4		1368.1	1871.7	11916.2
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.157$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.157$

$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = .920$

Absolute Open Flow: 920 Mcfd @ 15.025 | Angle of Slope θ: 45° | Slope, n: 1.000

Remarks:

Orig. Signed by: Les Clements
Approved By Commission: Oil & Gas Insp.

Conducted By: Petroleum Devel. Corp.

Calculated By: Rick Pagan

Checked By:

RECEIVED FEB