NE MEXICO OIL CONSERVATION COMMISSION

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

Type Test: ☐ Initial ☐ Annual ☒ Special			Test Date: 3-24-80	
Company: ARCO Oil & Gas Company	Connection: El Paso Natural Gas Company			
Pool: Langley Ellenburger Gas	Formation: Ellenburger			Unit:
Completion Date: 4-7-78	Total Depth: 15671	Plug Back TD: 15590	Elevation: 3515.6 GL	Farm or Lease Name: Langley Deep
Csg. Size: 7 / Wt.: 32 / d: 6.094 / Set At: 15670	Perforations: From 15329 To 15531			Well No.: 1
Tbg. Size: 2.375 / Wt.: 4.7 / d: 1.945 / Set At: 15320	Perforations: From Open To Ended			Unit: C / Sec.: 28 / Twp.: 22S / Rge.: 36E
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: Dual		Packer Set At: 15230		County: Lea
Producing Thru: Tbg.	Reservoir Temp. °F: 204 @ 15486	Mean Annual Temp. °F: 60	Baro. Press. – P_a: 13.2	State: New Mexico
L: 15302 / H: 15302	Gg: 0.702	% CO_2: 0.16	% N_2: 1.76	% H_2S: 0.08 / Prover: – / Meter Run: 6" / 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					1663		Pkr.		86 Hrs.
1.	6"x2"	50	2.89	76	1612	66			2 Hrs.
2.	6"x2"	51	7.56	77	1542	68			2 Hrs.
3.	6"x2"	51	20.7	80	1508	69			2 Hrs.
4.	6"x2"	55	50.41	64	1460	69			2 Hrs.
5.	6"x2"	58	88.36	50	1370	69			2 Hrs.

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	19.16	13.51	63.2	0.9850	1.194	–	304
2	19.16	22.03	64.2	0.9840	1.194	–	496
3	19.16	36.45	64.2	0.9813	1.194	–	818
4	19.16	59.06	69.2	0.9962	1.194	–	1346
5	19.16	79.32	71.2	1.010	1.194	–	1833

NO.	P_r	Temp. °R	T_r	Z
1	0.09	536	1.39	Nil.
2.	0.10	537	1.39	–
3.	0.10	540	1.40	–
4.	0.10	524	1.36	–
5	0.11	510	1.32	–

Gas Liquid Hydrocarbon Ratio 48.455 Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons 57.7 Deg.
Specific Gravity Separator Gas 0.702 XXXXXXXXX
Specific Gravity Flowing Fluid XXXXX 0.761
Critical Pressure 669 P.S.I.A. 668 P.S.I.A.
Critical Temperature 385 R 404 R

P_c 2680.2 P_c^2 7183.5

NO	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1		2655.2	7050.1	133.4
2		2617.2	6849.7	333.8
3		2561.2	6559.7	623.8
4		2438.2	5944.8	1238.7
5		2329.2	5425.2	1758.3

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 4.0855$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 3.0315$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 5557$

Absolute Open Flow 5557 Mcfd @ 15.025 Angle of Slope θ 51.7 Slope, n 0.788

Remarks: BHP measured at mid point of perforations at 15430. Well produced 2.75 BW and 8.25 BO during test.

Approved By Commission:	Conducted By:	Calculated By:	Checked By:
	D. Cellars	J. Cogburn	L.C. Hudry