

NEW 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 2/23/76	
Company PETROLEUM DEVELOPMENT CORP.				Connection none		
Pool Wildcat				Formation Morrow		Unit
Completion Date 2/23/76		Total Depth 13,007		Plug Back TD 12,946		Elevation 3684 KB
Farm or Lease Name McKay-Shell Federal						Well No. 1
Csg. Size 5 1/2"	Wt. 17#	d 4.892"	Set At 13,007	Perforations: From 12,603 to 12,900		
Tbg. Size 2-3/8"	Wt. 4.7#	d 1.995"	Set At	Perforations: From See "Remarks"		Unit Sec. Twp. Rge. K 3 19S 32E
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer set at 12,545		County Lea
Producing Thru Tubing		Reservoir Temp. °F 163 @ 13,007		Mean Annual Temp. °F 60°		Baro. Press. - P _a 13.2
State New Mexico						
L 12,760	H 12,760	Gg 0.660	% CO ₂ 0.35	% N ₂ 0.40	% H ₂ S ----	Prover ----
Meter Run 4"		Taps Flange				

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							3930	57°	2350	choke	24 hr.
1.	4"		1"	490	8	100	2800	55°	2350	4/64	1 hr.
2.	4"		1"	493	11.5	86	2600	58°	2350	6/64	1 hr.
3.	4"		1"	500	23	96	2200	60°	2350	7/64	1 hr.
4.	4"		1"	500	27	78	1890	60°	2350	8/64	1 hr.
5.	4"		1"	500	51	96	1490	60°	2350	10/64	1 hr.

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 Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	4.753	63.45	503.2	0.9636	1.231	1.042	373
2	4.753	76.30	506.2	0.9759	1.231	1.047	456
3	4.753	108.64	513.2	0.9671	1.231	1.044	642
4	4.753	117.71	513.2	0.9831	1.231	1.050	711
5	4.753	161.78	513.2	0.9671	1.231	1.044	956

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1	0.75	560	1.48	0.921	12,084	
2	0.76	546	1.44	0.913	53.1 @ 60°	
3	0.77	556	1.47	0.918	A.P.I. Gravity of Liquid Hydrocarbons	Deg.
4	0.77	538	1.42	0.907	Specific Gravity Separator Gas	XXXXXXX
5	0.77	556	1.47	0.918	Specific Gravity Flowing Fluid	XXXXX
					Critical Pressure	670 P.S.I.A.
					Critical Temperature	378 °R

NO.	P _r ²	P _w ²	P _w ²	P _r ² - P _w ²	(1) $\frac{P_r^2}{P_r^2 - P_w^2} = 1.3111$	(2) $\left[\frac{P_r^2}{P_r^2 - P_w^2} \right]^n = 1.3111$
1	7.91	4345.2	18.88	13.19		
2	6.83	4177.2	17.45	14.62		
3	4.90	3718.2	13.83	18.24		
4	3.62	3365.2	11.32	20.75		
5	2.26	2759.2	7.61	24.46		

Absolute Open Flow		1253	Mcf/d @ 15.025	Angle of Slope @	45°	Slope, n	1
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Remarks: BHP by Amarada gauge at 12,550' PERFORATIONS: 12,603-05, 12,616-21, 12,664-65, 12,669-70, 12,687-94, 12,714-15, 12,726-28, 12,741-46, 12,755-59, 12,896-900.	
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Approved By Commission:	Conducted By: C. W. Sanders	Calculated By: J. C. Johnson	Checked By:
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OIL CONSERVATION COMM.
LONDON, N. H.