

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

RECEIVED

Type Test ☐ Initial ☒ <i>60 days after conn.</i> Annual ☐ Special		Test Date 9-21-71		SEP 29 1971	
Company Shenandoah Oil Corp.		Connection Transwestern Pipeline Co.		O. C. C. ARTESIA, OFFICE	
Fluid Haystack Cisco Gas		Formation Cisco		Unit -	
Completion Date 9-25-70		Total Depth 6535'		Plug Back TD 6103'	
		Elevation 4181' GL		Name or Lease Name Shenandoah Federal Federal I	
Csg. Size 4 1/2	Wt. 9.5	d 4.090	Set At 6168'	Perforations: From 5846' To 5977'	
Thq. Size 2 3/8	Wt. 4.7	d 1.995	Set At 5706'	Perforations: From Open To Ended	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single			Packer Set At 5706'		Well No. 1
Producing Thru Tubing		Reservoir Temp. °F 136° 5700'		Mean Annual Temp. °F 60	
		Baro. Press. - P _a 13.2		State New Mexico	
L 5912'	H -	G _g 0.650	% CO ₂ 0.21	% N ₂ 4.16	% H ₂ S 0.00
Prover X			Meter Run F		

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							1861		PACKER		60.0
1.	4 14/64	1.375	910	32	82	1831	64	-	-	-	4.0
2.	4 15/64	1.375	700	50	86	1822	76	-	-	-	4.0
3.	4 16/64	1.375	700	76	81	1810	72	-	-	-	4.0
4.	4 17/64	1.375	920	90	76	1799	64	-	-	-	4.0
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. Factor F _{pv}	Rate of Flow Q, Mcfd
1	9.071	171.88	923.2	0.9795	1.240	1.071	2028.0
2	9.071	188.84	713.2	0.9759	1.240	1.060	2197.3
3	9.071	232.82	713.2	0.9804	1.240	1.076	2713.7
4	9.071	289.81	933.2	0.9850	1.240	1.076	3455.0
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
1	1.39	542	1.51	0.872	49.214	65.7	0.650	XXXXXX	665	360
2	1.07	546	1.52	0.890						
3	1.07	541	1.50	0.895						
4	1.40	536	1.49	0.864						
5										

P ₂ 2249.2 P _c 5058.9		(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 53.82$		(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 18.4$	
NO.	P ₁ ²	P _w ²	P _w ² *	P _c ²	P _c ² - P _w ²
1	-	2236.2	5000.6	58.3	
2	-	2233.2	4987.2	71.7	
3	-	2228.2	4964.9	94.0	
4	-	2219.2	4924.8	134.1	
5					

Absolute Open Flow 50000 Mcfd @ 15.025		Angle of Slope 53° 51'		Slope, n 0.731	
Remarks: BHP @ (-1731') 5912' used for pressure calculations					
Approved By Commission:		Conducted By: COLEMAN PET.ENG.CO		Calculated By: JOE A. COLEMAN	
				Checked By: JOE A. COLEMAN	