

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test: ☒ Initial ☐ Annual ☐ Special				Test Date: 4/6/83		1980 FN	
Company: Cliffs Drilling Company				Connection: New Well		1980 FE	
Pool: Wildcat				Formation: Strawn		Unit:	
Completion Date: 3/28/83		Total Depth: 18535		Plug Back TD: 15065		Elevation: 3140	
Farm or Lease Name: Starman Federal				Well No.: 1			
Coq. Size: 7.750	Wt. 46.1	d 6.435	Set At 16460	Perforations: From 14092 To 15050		Unit Sec. Twp. Rge. 28 26S 35E	
Thq. Size: 3.500	Wt. 15.8	d 2.062	Set At 14000	Perforations: From To			
Type Well - Single - Brdenhead - G.G. or G.O. Multiple: Single				Packer Set At: 14000		County: Lea	
Producing Thru Tubing		Reservoir Temp. °F: 200 # 14571		Mean Annual Temp. °F: 60.0		Baro. Press. - P _a : 13.2	
State: New Mexico							
L 14571	H 14571	G _g 0.691	% CO ₂ 0.33	% N ₂ 1.43	% H ₂ S 0	Prover 0	Meter Run 4.0 Taps Flange

FLOW DATA							TUBING DATA		CASING DATA		Duration of Flow
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	
SI							7515	60 ⁰			76.0
1.	4.03 x 1.250			510	6.0	100 ⁰	6978	60 ⁰		1.25/64	1.0
2.	4.03 x 1.250			510	13.7	100 ⁰	6487	60 ⁰		2.5/64	1.0
3.	4.03 x 1.250			519	20.0	96 ⁰	5902	60 ⁰		4/64	1.0
4.	4.03 x 1.250			525	30.5	60 ⁰	4800	60 ⁰		5/64	1.0
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 Compress. Factor, F _{pv}	Rate of Flow Q, Mcd
1	7.47	56.03	523.2	0.9636	1.2030	1.0457	507
2	7.47	84.82	523.2	0.9636	1.2030	1.0457	768
3	7.47	103.17	532.2	0.9671	1.2030	1.0478	939
4	7.47	128.12	538.2	1.0000	1.2030	1.0624	1223
5.							

NO.	R _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	0.78	560	1.46	0.914	12738	56.0	0.691	XXXXXX	667	383
2	0.78	560	1.46	0.914				XXXXXX		
3	0.80	556	1.45	0.911						
4	0.81	520	1.36	0.886						
5										

NO.	P _c	P _w	P _w ²	P _c ² - P _w ²
1	48877	7007	49096	7578
2	42253	6524	42568	14106
3	34990	5940	35279	21394
4	23167	4843	23458	33216
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.7062$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.3744$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1681$

ROBERT G. WONISH
MANAGER-PRODUCTION

Absolute Open Flow: 1681 Mcd @ 15.025		Angle of Slope: 59.2	Slope, n: 0.595
Remarks:			
Approved By Division:	Conducted By: Don Bennett	Calculated By: Bennett & Cathey	

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STARMAN FEDERAL UNIT #1

RECORD OF SURVEY

MEASURED DEPTH FEET	DEGREE	MEASURED DEPTH	DEGREE
150	1/2	9675	1-1/4
237	1/4	10231	1-3/4
358	1/4	10482	1
598	1/2	11034	1
779	1/4	11595	1-1/4
1093	1/2	12342	3/4
1280	3/4	13758	1-1/4
1550	1	15210	1-1/4
1850	1	15621	2
2155	1	15829	1-1/4
2495	3/4	16825	1-3/4
2810	1-1/2	17079	1-3/4
2935	1-1/2	17621	2
3060	1-1/4	18123	2-1/4
3150	1-1/2	18535	2
3365	1-1/2		
3445	1-1/2		
3655	1-3/4		
3745	1-1/2		
3850	1-1/2		
3967	1-1/2		
4212	1/2		
4373	1/4		
4653	1/4		
5796	1		
6090	3/4		
6429	1		
6742	1-1/4		
7021	1		
7518	1		
8716	1-1/4		

I, Robert G. Wonish, certify that the above is a true and correct report of surveys performed during the drilling of the Starman Federal Unit #1 Well, Lea County, New Mexico.

By Robert G. Wonish
Robert G. Wonish

STATE OF Texas X
Xss
COUNTY OF Harris X

Before me, the undersigned authority, on this day personally appeared Robert G. Wonish known to me to be the person whose name is subscribed to the above instrument, who being duly sworn states that he is authorized to make this report and has knowledge of the facts stated herein and that said report is true and correct.

Subscribed and sworn to before me this 18th day of May, 1983.

Christine R. Deland

My commission expires 7-11-84 Notary Public in and for Texas.

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