

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-63

RECEIVED

d/sf

Type Test 4 POINT ☒ Initial ☐ Annual ☐ Special				Test Date 9-13-82 SEP 29 1982			
Company READ & STEVENS Inc.				Connection AIR NEW WELL			
Pool WILDCAT Haystack Cisco				Formation CISCO			
Completion Date 9-10-82		Total Depth 5900 6357		Plug Hole 1 5760 5750		Elevation 3907	
Well Size 4.5		Wt. 10.5		d 4.052		Sol At 5760	
Perforations: From 5722 To 5726		Well No. 2					
Fig. Size 2.375		Wt. 4.7		d 1.995		Sol At 5567	
Perforations: From OPEN To ENDED		Unit M		Sec. 20		Twp. 6S	
Type Well - Single - Freedomhead - G.O. or Q.O. Multiple SINGLE		Packer Sol At 5567		County CHAVES		State NEW MEXICO	
Producing thru TUBING		Reservoir Temp. °F 132 5724		Mean Annual Temp. °F 60.0°		Baro. Press. - P _g 13.2	
L 5724.		H 5724.		Q _g 0.661		% CO ₂ 0.15	
				% N ₂ 5.25		% H ₂ S 0	
				Prover 0		Meter Run 4.0	
						Tape FLANGE	

FLOW DATA						TUBING DATA		B.H.P. DATA		Duration of Flow
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. In. H ₂ O	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	
SI									2174.	
1.	4.03 X	2.00		450	3.0	100	.00	.00	2143.	13/64
2.	4.03 X	2.00		450	16.0	93	.00	.00	2071	15/64
3.	4.03 X	2.00		450	36.0	74	.00	.00	1934	19/64
4.	4.03 X	2.00		555	43.0	81	.00	.00	1771	29/64
5.										

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{sp}	Rate of Flow Q, Mcfd
1	19.81	37.28	463.2	0.9636	1.2302	1.0332	905.
2	19.81	86.09	463.2	0.9697	1.2302	1.0349	2106.
3	19.81	129.13	463.2	0.9868	1.2302	1.0401	3231.
4	19.81	156.31	568.2	0.9804	1.2302	1.0466	3909.
5							

NO.	P ₁	Temp. °R	Q	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	.70	560.	1.54	0.937	0	0	0.661	XXXXXX	661	363
2	.70	553.	1.52	0.934						
3	.70	534.	1.47	0.924						
4	.86	541.	1.49	0.913						
5										

NO.	P ₁ ²	P _w ²	R _u ²	P _g ² - R _u ²
1		1834.	3364	97.
2		1774.	3147	314.
3		1659.	2753	707.
4		1523.	2321	1140.
5				

(1) $\frac{P_g^2}{P_g^2 - R_u^2} = 3.0363$

AOF = Q $\left[\frac{P_g^2}{P_g^2 - R_u^2} \right]^n = 7542.$

(2) $\left[\frac{P_g^2}{P_g^2 - R_u^2} \right]^n = 1.9294$

Post #10-2
10-8-82
Comp & BK

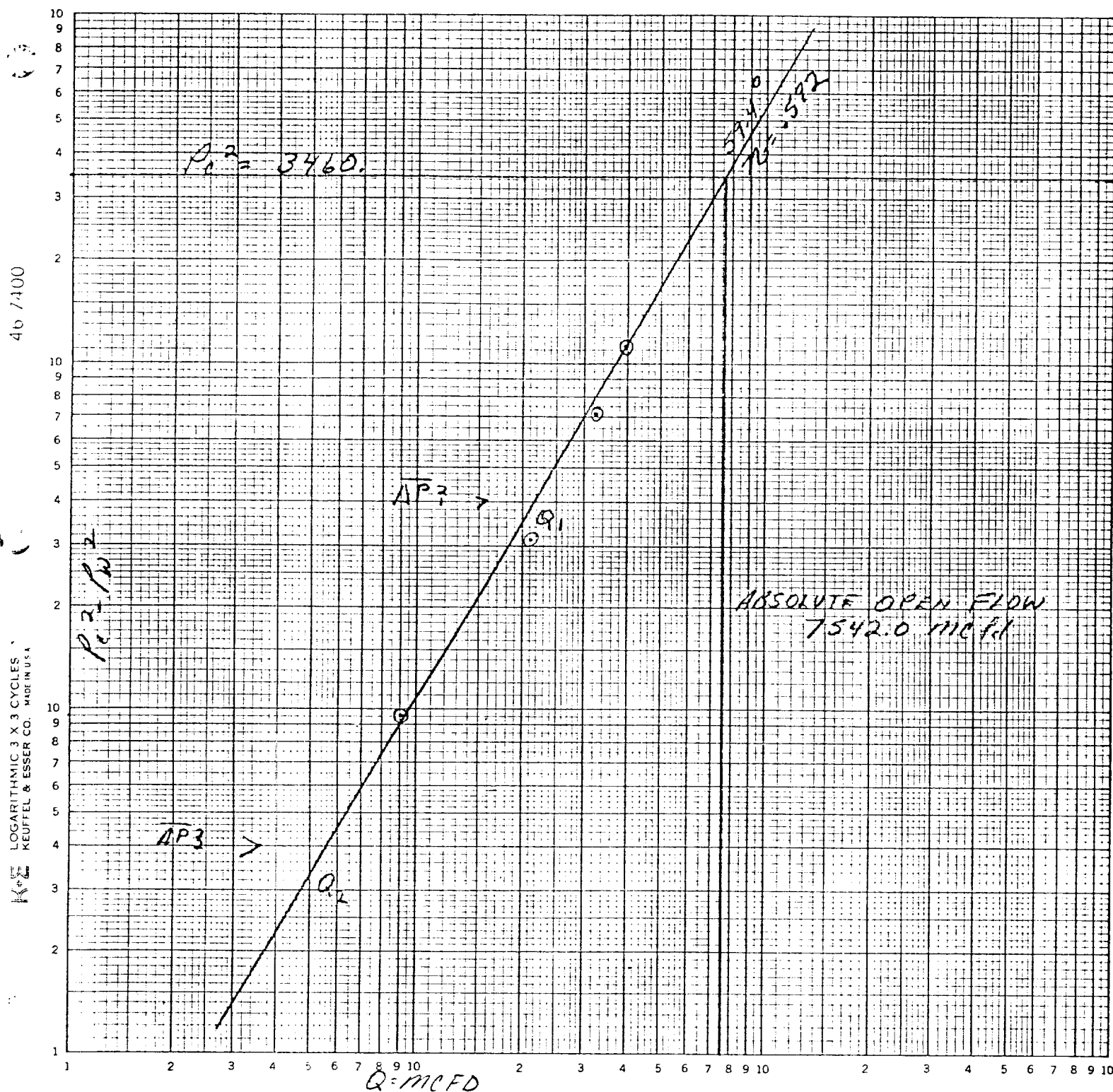
Absolute Open Flow	7542.	Mcfd @ 15.025	Angle of Slope	59.4	Slope, n	0.592
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Remarks: BOTTOM HOLE PRESSURE MEASURED WITH AMERADA PRESSURE ELEMENTS.

Approved By Commission	Conducted By: DON BENNETT	Calculated By: BENNETT - CATHEY	Checked By:
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2
UNIT 11, S 20, T 6S, R 27E
CHAVES COUNTY

9-13-82



$$\Delta P_3, P_0^2 - P_w^2 = 400$$

$$\Delta P_2, P_0^2 - P_w^2 = 40$$

$$Q_1 = 2,188.8 \text{ MCFD}$$

$$Q_2 = 560.0 \text{ MCFD}$$

$$\log Q_1 = 3.3402$$

$$\log Q_2 = 2.7482$$

$$n = .5920$$

75) 748—3354 / Artesia, New Mexico 8 0

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY READ & STEVENS WELL NAME WEST HAYSTACK FEDERAL WELL NO. 2
DATE OF TEST 9-13-82 FORMATION CISCO PAGE 1 OF 1
COMPANY MAN DARREL LOUDER

CHART READINGS AND CALCULATIONS FOR BUILDUP OR DRAWDOWN TEST

ELEMENT NUMBER	RPG3 #21121N	RANGE	5,000 LBS
CLOCK NUMBER	B 3443	RANGE	12 HOURS
TIME WELL SHUT IN	1738 HOURS 9-10-82		
TIME CLOCK STARTED	1624 HOURS 9-13-82		
DEAD WEIGHT ELEMENT ON SURFACE	1846 PSIA SHUT IN		LBS.
TIME ELEMENT REACHED BOTTOM	1730 HOURS 9-13-82		
DEAD WEIGHT ELEMENT ON BOTTOM	1846 PSIA SHUT IN		LBS.
ELEMENT SET AT	5,560		FEET.
TEMPERATURE	5,560	FT.	132 °F.
DEAD WEIGHT AT THE END OF	71	HOURS	52 MINUTES.

[illegible]

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SUBSURFACE PRESSURE MEASUREMENTS

COMPANY READ & STEVENS WELL NAME WEST HAYSTACK FEDERAL WELL NO. 2
DATE OF TEST 9-10-82 - 9-13-82 FORMATION CISCO PAGE 1 OF 1
COMPANY MAN DARREL LOUDER

CHART READINGS AND CALCULATIONS FOR BUILDUP OR DRAWDOWN TEST

ELEMENT NUMBER	RPG3 #21121N	RANGE	5,000 LBS.
CLOCK NUMBER	27191	RANGE	72 HOURS
TIME WELL SHUT IN	1738 HOURS 9-10-82		
TIME CLOCK STARTED	1637 HOURS 9-10-82		
DEAD WEIGHT ELEMENT ON SURFACE	1811 PSIA SHUT IN		LBS.
TIME ELEMENT REACHED BOTTOM			
DEAD WEIGHT ELEMENT ON BOTTOM	893 PSIA SHUT IN		LBS.
ELEMENT SET AT	5,560		FEET.
TEMPERATURE	5,560	FT. 132	°F.
DEAD WEIGHT AT THE END OF	71 HOURS	52	MINUTES.

[illegible]