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File

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial FOUR POINT ☐ Annual ☐ Special		Test Date 11-16-81		SEP 23 1982							
Company READ & STEVENS ✓		Connection TO AIR		660 FSL O.C.D. 1980 FSL ARTESIA OFFICE							
Pool HAYSTACK		Formation MISSOURI - CISCO		Unit 0							
Completion Date 11-10-81		Total Depth 5810		Plug Back TD 5810							
Elevation 3702		Farm or Lease Name WEST HAYSTACK FED.		Well No. 1							
Csg. Size 4.500		Wt. 10.50		d 4.052							
Set At 5800		Perforations: From 5684 To 5704		Unit O							
Tub. Size 2.375		Wt. 4.70		d 1.995							
Set At 5500		Perforations: From OPEN To ENDED		Unit O							
Type Well - Single - Bradenhead - G.C. or G.O. Multiple SINGLE		Packer Set At 5500		County CHAVES							
Producing Thru TUBING		Reservoir Temp. °F 131° 5490		Mean Annual Temp. °F 60							
Base Press. - P _g 13.2		State NEW MEXICO		Meter Run 4"							
L 5694		H 5694		G _g .644							
% CO ₂ .231		% N ₂ 5.546		% H ₂ S Prover							
Meter Run 4"		Trips 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	B.H.P. P.S.I.G.	Temp. °F	Duration of Flow
SI							1792	61	2123		
1.	4.000	X	.750	400	2.0	88	1747	61	2079		1
2.	4.000	X	.750	420	5.5	89	1730	60	2050		1
3.	4.000	X	1.000	400	9.0	97	1611	60	1925		1
4.	4.000	X	1.000	415	24.0	99	1505	60	1802		1
5.											
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. Compens. Factor, F _{sp}	Rate of Flow Q, Mhd				
1	2.7290	28.75	413.2	.9741	1.2461	1.0292	98.				
2	1.7290	48.81	433.2	.9732	1.2461	1.0303	166.				
3	4.8740	60.98	413.2	.9662	1.2461	1.0276	368.				
4	4.8740	101.37	428.2	.9645	1.2461	1.0281	611.				
5.											
NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.						
1	.62	548.	1.55	.944	A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.						
2	.65	549.	1.55	.942	Specific Gravity Separator Gas .6440 X X X X X X X X						
3	.62	557.	1.57	.947	Specific Gravity Flowing Fluid X X X X X .6440						
4	.65	559.	1.58	.946	Critical Pressure 622 P.S.I.A. 622 P.S.I.A.						
5					Critical Temperature 355 R 355 R						
$P_c = 2136.2$ $P_r^2 = 4563.4$											
NO.	P _r	P _w	P _r ²	P _r ² - P _w ²	(1) $\frac{P_c^2}{P_r^2 - P_w^2} = 3.5989$			(2) $\left[\frac{P_c^2}{P_r^2 - P_w^2} \right]^n = 3.3578$			
1		2092.2	4377.3	186.0							
2		2063.2	4256.8	307.0							
3		1938.2	3756.6	807.0							
4		1815.2	3295.0	1268.0							
5											
Absolute Open Flow 2051.6 Mhd @ 15.025								Angle of Slope @ 46.6		Slope, n .9459	
Remarks: BOTTOM HOLE PRESSURE MEASURED WITH AMARADA GAUGE											
Approved By Division				Conducted By: RICHARD TOWNLEY				Calculated By: WOHLFORD & JENKINS			
								Checked By:			

WEST HAYS OK #7

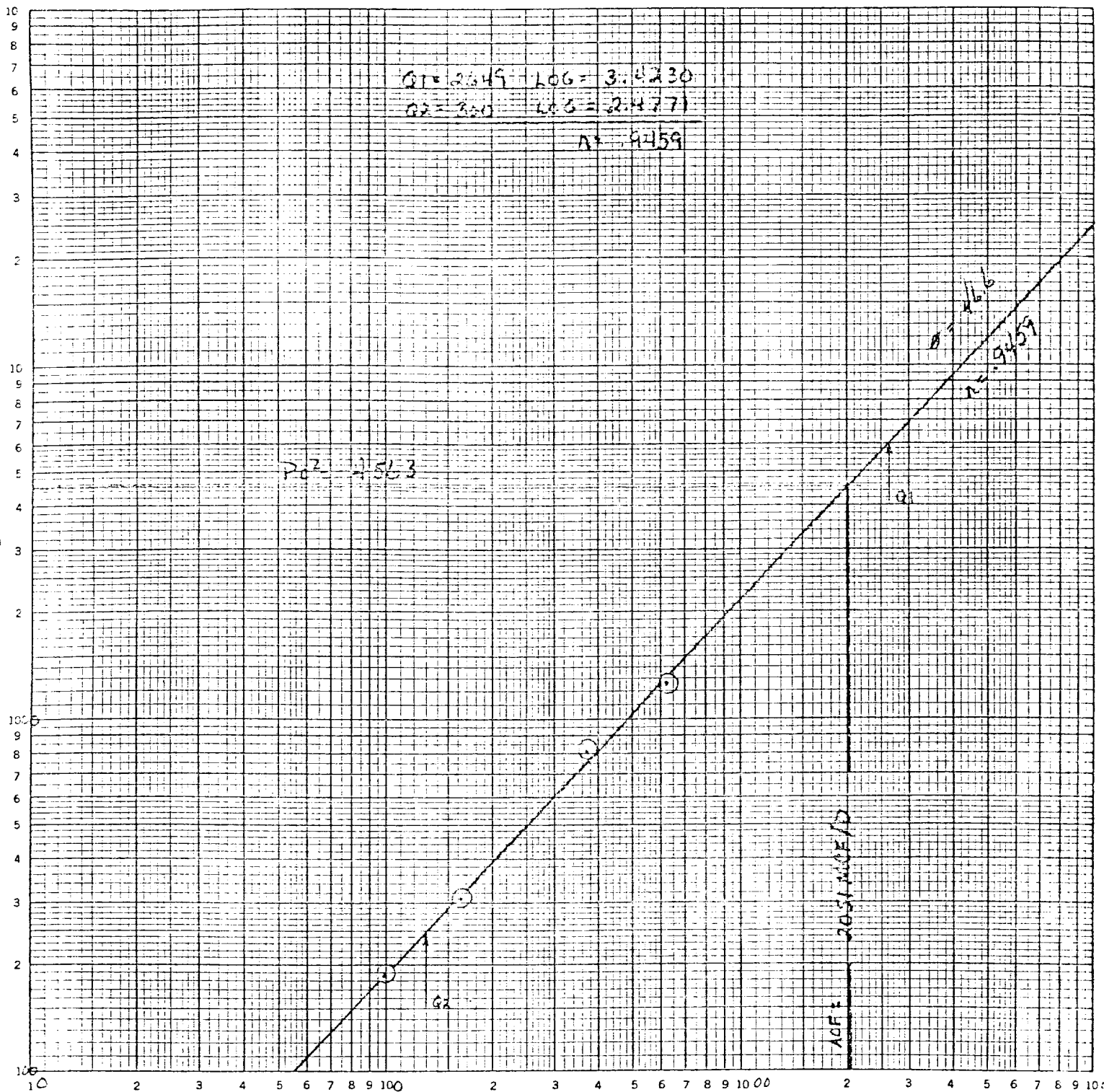
Unit 0, Sec 19, Twp 6S, R27E

Chaves County

11-16-81

46 7403

KE LOGARITHMIC 3 X 3 CYCLES
KEUFFEL & ESSER CO. MADE IN U.S.A.



BENNETT - CATHEY
Artesia, New Mexico 88210

COMPANY READ & STEVENS WELL NAME WEST HAYSTACK FEDERAL WELL NO. 1
DATE OF TEST 11-16-81 FORMATION MISSOURI - CISCO PAGE 1 OF 1

CHART READINGS AND CALCULATIONS FOR BUILDUP OR DRAWDOWN TEST

ELEMENT NUMBER	RPG3# 41552	RANGE	0 - 6,000 LBS.
CLOCK NUMBER	B3443	RANGE	12 HOURS
TIME WELL SHUT IN	1425 HOURS		
TIME CLOCK STARTED	1345 HOURS		
DEAD WEIGHT ELEMENT ON SURFACE	1805		LBS.
TIME ELEMENT REACHED BOTTOM	1520 HOURS		
DEAD WEIGHT ELEMENT ON BOTTOM	1805		LBS.
ELEMENT SET AT	5490		FEET.
TEMPERATURE	5490	FT.	131 °F.
DEAD WEIGHT AT THE END OF	HOURS		MINUTES.
BOTTOM HOLE PRESSURES DURING FOUR POINT BACK PRESSURE TEST			

[illegible]

NEW-TEX LAP
P.O. BOX 1 61
HOBBS NM 88241-1161
505-393-3561

ANALYSIS NUMBER: 6059
DATE OF RUN: 11/18/81
DATE SECURED: 11/16/81

ANALYSIS CERTIFICATE

SAMPLE IDENT: READ & STEVENS - WEST HAYSTACK #1

CLIENT: BENNETT-CATHEY
ADDRESS: BOX 787
CITY, STATE: ARTESIA NM 88210

RECEIVED

SAMPLING PRESS: 0 PSIG SAMPLING TEMP: 0 DEG F
STATION NUMBER:

SEP 29 1982

***** GAS ANALYSIS *****

O. C. D.
ARTESIA, OFFICE

	MOLE PERCENT	GAL/ MCF
NITROGEN	5.5457305	
CARBON DIOXIDE	0.2313182	
METHANE	86.2409592	
ETHANE	4.6864810	1.2498800
PROPANE	1.9353241	0.5312470
ISO-BUTANE	0.2936027	0.0958026
NORMAL BUTANE	0.5463740	0.1717800
ISO-PENTANE	0.1532752	0.0559608
NORMAL PENTANE	0.1478161	0.0534207
HEXANES	0.1156976	0.0474591
HEPTANES PLUS	0.1034215	0.0475946
TOTAL	100.0000000	2.2531500

PROPANE GPM:	0.53	BUTANES GPM:	0.27
ETHANE GPM:	1.25	PENTANES PLUS GPM:	0.20

SPECIFIC GRAV (CALC): .6441
MOLE WEIGHT: 18.66

HHV-BTU/CU FT	PRESSURE (PSIA)	WET	DRY
14.696		1035	1054
14.650		1032	1050
14.730		1037	1056
14.735		1038	1056

ANALYZED BY:

APPROVED BY:

R. Simpson

BENNETT - CATHEY
Artesia, New Mexico 88210

COMPANY READ & STEVENS WELL NAME WEST HAYSTACK FEDERAL WELL NO. 1
DATE OF TEST 11-18-81 TO 11-21-81 FORMATION MISSOURI/CISCO PAGE 1 OF 1

CHART READINGS AND CALCULATIONS FOR BUILDUP OR DRAWDOWN TEST

ELEMENT NUMBER RPG3 #7201B RANGE 3,200 LBS.
CLOCK NUMBER 19040 RANGE 72 HOURS
TIME WELL SHUT IN 1426 HOURS
TIME CLOCK STARTED 1351 HOURS
DEAD WEIGHT ELEMENT ON SURFACE 1816 LBS.
TIME ELEMENT REACHED BOTTOM 1424 HOURS
DEAD WEIGHT ELEMENT ON BOTTOM 376 LBS.
ELEMENT SET AT 5694 FEET.
TEMPERATURE 5694 FT. 116 °F.
DEAD WEIGHT AT THE END OF 77 HOURS 13 MINUTES.

1843 PSIA DEAD WEIGHT AT THE END OF 77 HOURS 13 MINUTES.
WELL FLOWED DOWN WHILE RIGGING UP AND GOING IN THE WELL WITH PRESSURE ELEMENT

[illegible]