

**KANSAS CORPORATION COMMISSION
MULTIPOINT BACK PRESSURE TEST**

FORM G-1
8-7-58

TYPE TEST: ☒ Initial ☐ Annual ☐ Special		TEST DATE: 02-01-01	
COMPANY Horsehoe Operating Inc		LEASE Harding	
COUNTY Greeley		WELL NO. 3	
LOCATION C SE	SECTION 10	TWP 20s	RNG 40w
ACRES 160			
FIELD Bradshaw	RESERVOIR Winfield	PIPELINE CONNECTION	
COMPLETION DATE 10-13-2000	PLUG BACK DEPTH 2874	PACKER SET AT	
	TOTAL DEPTH 2874		
CASING SIZE 4.500	WT. 10.500	ID 2873	SET AT 2835
		PERF. 2850	TO
TUBING SIZE 2.375	WT. 4.700	ID 1.995	SET AT 2861
		PERF.	TO
TYPE COMPLETION (Describe) acid		TYPE FLUID PRODUCTION water	
PRODUCING THRU (Annulus/Tubing) Annulus		RESERVOIR TEMPERATURE F 90	BAR PRESS - Pa 14.4 psia
GAS GRAVITY - Gg .765	% CARBON DIOXIDE .022	% NITROGEN 28.584	API GRAVITY OF LIQUID
VERTICAL DEPTH (H) 2842	TYPE METER CONN. Flange		METER RUN SIZE 2"
REMARKS			

OBSERVED SURFACE DATA

RATE NO.	ORIFICE SIZE in.	(METER) PRESSURE psig	DIFF. (h _w) (h _t)	FLOWING TEMP. t.	WELLHEAD TEMP. t.	CASING WELLHEAD PRESS.		TUBING WELLHEAD PRESS.		DURATION HOURS	LIQUID PROD. Bbls.
						psig	(P _w) (P _t) (P _c) psia	psig	(P _w) (P _t) (P _c) psia		
SHUT-IN						84	98			74.50	
1.	.375	45.00	5.00	29		79	93			.50	
2.	.375	45.00	10.00	29		76	90			.50	
3.	.375	45.00	20.00	31		73	87			.50	
4.	.375	45.00	30.00	31		67	81			.50	

FLOW STREAM ATTRIBUTES

RATE NO.	COEFFICIENT (F _b) Mcf/d	(METER) PRESSURE psia	EXTENSION $\sqrt{P_m \times H_w}$	GRAVITY FACTOR F _g	FLOWING TEMP FACTOR F _t	DEVIATION FACTOR F _{pv}	RATE OF FLOW Q Mcf/d	GOR	G _m
1.	.690	59.4	17.23	1.1433	1.0312	1.0057	14		.765
2.	.686	59.4	24.37	1.1433	1.0312	1.0057	19		.765
3.	.686	59.4	34.47	1.1433	1.0291	1.0056	27		.765
4.	.686	59.4	42.21	1.1433	1.0291	1.0056	34		.765

PRESSURE CALCULATION

RATE NO.	P _t psia	P _c psia	P _w psia	(P _c) ² Thousands	(P _w) ² Thousands	PLOTING POINTS		% SHUT-IN 100 $\left[\frac{P_w - P_a}{P_c - P_a} \right]$
						(P _c) ² - (P _w) ² Thousands	Q Mcfd	
1.	93.4	98.4	93.4	9.7	8.7	1.0	14.1	94.1
2.	90.4	98.4	90.4	9.7	8.2	1.5	19.8	90.5
3.	87.4	98.4	87.4	9.7	7.6	2.0	28.0	87.0
4.	81.4	98.4	81.5	9.7	6.6	3.0	34.3	79.8

INDICATED WELLHEAD OPEN FLOW

81

Mcfd @ 14.65 psia

"n" =

The undersigned authority, on behalf of the Company, states that he is duly authorized to make the above report and that he has knowledge of the facts stated herein and that said report is true and correct. Executed this 9 day of Feb, 192001

Witness (if any)

For Commission

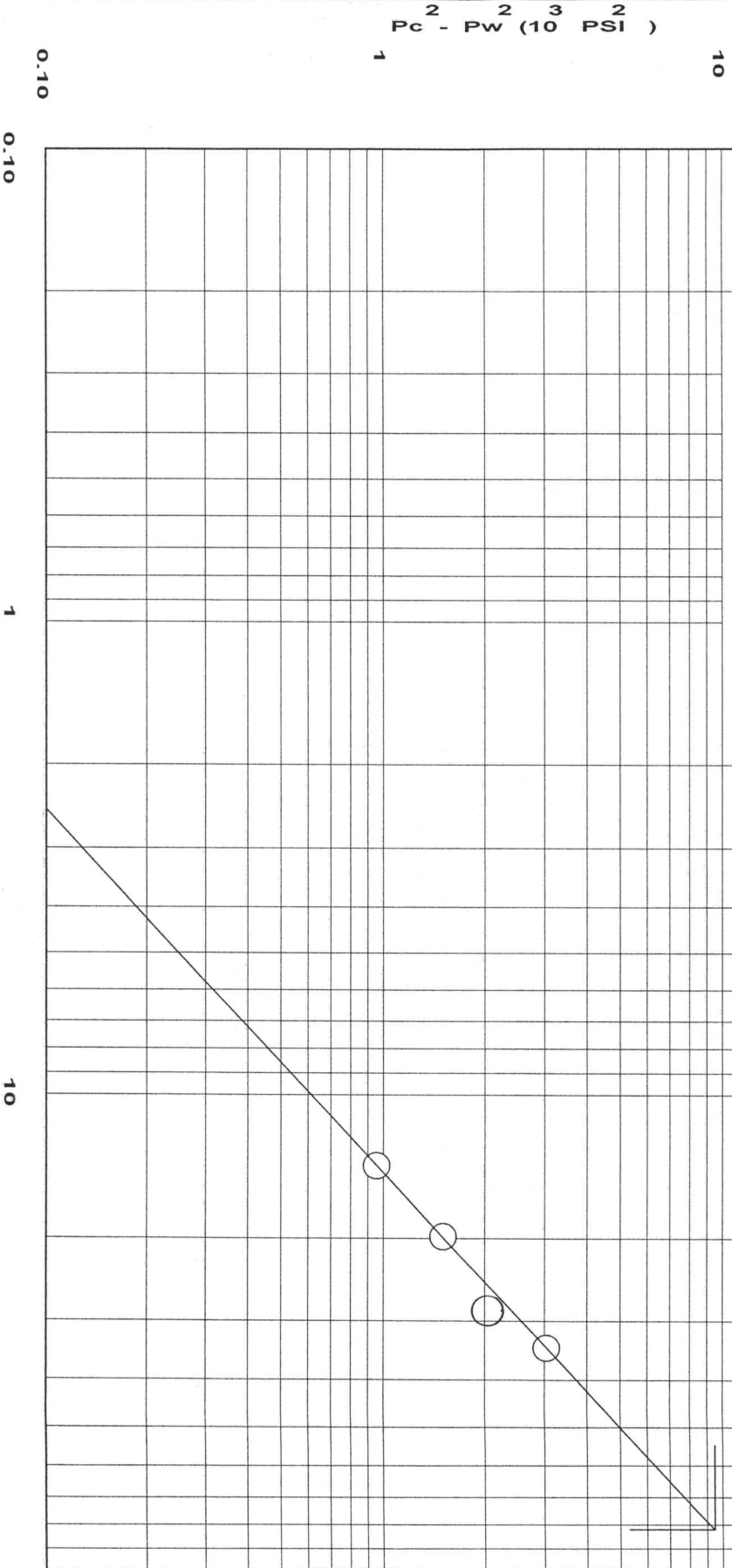
For Company

Checked by

GAS WELL BACK PRESSURE CURVE

WELL TESTER: 02/01/01@ 10:35
 TEST DATE: 02-01-01

Horsehoe Operating Inc
 Harding 3
 10 20s 40w
 Greeley
 Exponent n: 0.7677
 AOF: 81.



Horseshoe Operating
 10-20S-40W Greeley co Kansas
 Start Test Date: 2001/02/01
 Final Test Date: 2001/02/02

FieldNotes Field Measurements

Harding 3

Date	Clock	Time	Comments	Casing	Static1	Diff1	Meter1	Gas1	Orifice1
yyyy/mm/dd	hh:mm:ss			psi(g)	psi(g)	in of H2O	°F	MMCF/D	in
1	2001/02/01	10:35:00	Shutin						
2		10:35:00		84.00	0.00	0.00	0.00	0.000	0.375
3		10:45:00		81.00	45.00	5.00	29.00	0.014	
4		10:55:00		80.00	45.00	6.00	29.00	0.015	
5		11:05:00	1st pt						
6		11:05:00		79.00	45.00	6.00	29.00	0.015	
7		11:15:00		78.00	45.00	10.00	29.00	0.020	
8		11:25:00		77.00	45.00	10.00	29.00	0.020	
9		11:35:00	2nd pt						
10		11:35:00		76.00	45.00	10.00	29.00	0.020	
11		11:45:00		75.00	45.00	15.00	29.00	0.024	
12		11:55:00		75.00	45.00	15.00	30.00	0.024	
13		12:05:00	3rd pt						
14		12:05:00		73.00	45.00	20.00	31.00	0.028	
15		12:15:00		71.00	45.00	25.00	31.00	0.031	
16		12:25:00		69.00	45.00	30.00	31.00	0.034	
17		12:35:00	4th pt						
18		12:35:00		67.00	45.00	30.00	31.00	0.034	
19	2001/02/02	11:35:00	1pt						
20		11:35:00		63.00	45.00	2.00	31.00	0.009	

2001/02/01 10:35:00 To 2001/02/02 11:35:00
 Gas 0.002 Cum. 0.002 MMCF

