

STATE OF KANSAS - CORPORATION COMMISSION
MULTIPOINT BACK PRESSURE TEST

FORM CG-1

Revised

15-023-20276-000

TYPE TEST: Initial Annual Special **TEST DATE:** 10/2/89

COMPANY: Harvest Energy Company **LEASE:** Andrist **WELL NO.:** 1-27

COUNTY: Cheyenne **LOCATION:** SWSESW **SECTION:** 27 **TWP:** 4S **RNG:** 39W **ACRES:**

FIELD: Wheeler **RESERVOIR:** Niobrara **PIPELINE CONNECTION:** none on test date

COMPLETION DATE: 9/25/89 **PLUG BACK TOTAL DEPTH:** 1,395' **PACKER SET AT:** n/a

CASING SIZE: 4 1/2"	WT.: 10.5#	ID: 4.052"	SET AT: 1,407'	PERF.: 1290'	TO: 1308'
TUBING SIZE: n/a	WT.:	ID:	SET AT:	PERF.:	TO:

TYPE COMPLETION (Describe): single gas **TYPE FLUID PRODUCTION:**

PRODUCING THRU: casing **RESERVOIR TEMPERATURE F:** 84 **BAR PRESS - P_a:** 13 14.4 Psia

GAS GRAVITY - G_g: .6 est, **% CARBON DIOXIDE:** **% NITROGEN:** **API GRAVITY OF LIQUID:**

VERTICAL DEPTH (H): 1,302' **TYPE METER CONN.:** none on test date **(METER RUN) (PROVER) SIZE:** 2" prover

REMARKS: 2" critical flow prover & dead weight tester.

OBSERVED DATA

DURATION OF SHUT-IN _____ HR.

RATE No.	ORIFICE SIZE in.	(METER) (PROVER) PRESSURE psig	DIFF. (h _w) (h _d)	FLOWING TEMP. t	WELL-HEAD TEMP. t	CASING WELLHEAD PRESS.		TUBING WELLHEAD PRESS.		DURATION HOURS	LIQUID PROD. Bbls.
						psig	(P _w)(P _i)(P _c) psia	psig	(P _w)(P _i)(P _c) psia		
SHUT IN		232				232	245				
1	5/32	229		62		229	242			1	
2	7/32	223		62		223	236			1	
3	10/32	217		62		217	230			1	
4	12/32	213		62		213	226			1	
5	12/32	125		62		125	138			24	

RATE OF FLOW CALCULATIONS

RATE NO.	COEFFICIENT (F _p)(F _p) Mcfd	(METER) (PROVER) PRESSURE psia	EXTENSION √P _m h _w	GRAVITY FACTOR F _g	FLOWING TEMP FACTOR F _t	DEVIATION FACTOR F _{pv}	RATE OF FLOW Q Mcfd	GOR	G _m
1	.4380	242		1.291	.9981	1.0198	139		
2	.8608	236		1.291	.9981	1.0191	267		
3	1.7140	230		1.291	.9981	1.0188	518		
4	2.4390	226		1.291	.9981	1.0185	723		
5	2.4390	138		1.291	.9981	1.0095	438		

PRESSURE CALCULATIONS

RATE NO.	P _i psia	P _c psia	P _w psia	(P _c) ² THOUSANDS	(P _w) ² THOUSANDS	PLOTTING POINTS		100 [P _w -P _a / P _c -P _a]
						(P _c) ² - (P _w) ² THOUSANDS	Q Mcfd	
1		245	242	60.0	58.6	1.5	139	99
2		245	236	60.0	55.7	4.3	267	96
3		245	230	60.0	52.9	7.1	518	94
4		245	226	60.0	51.1	8.9	723	92
5		245	138	60.0	19.0	41.0	438	54

INDICATED WELLHEAD OPEN FLOW 4866 Mcfd @ 14.65 psia "n" = 1.0

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 therein, and that said report is true and correct.

Executed this the 11th day of March, 19 91.

Witness (if any)

For Commission

Alan L. Nackerud
 For Company
 Alan L. Nackerud
 Checked by

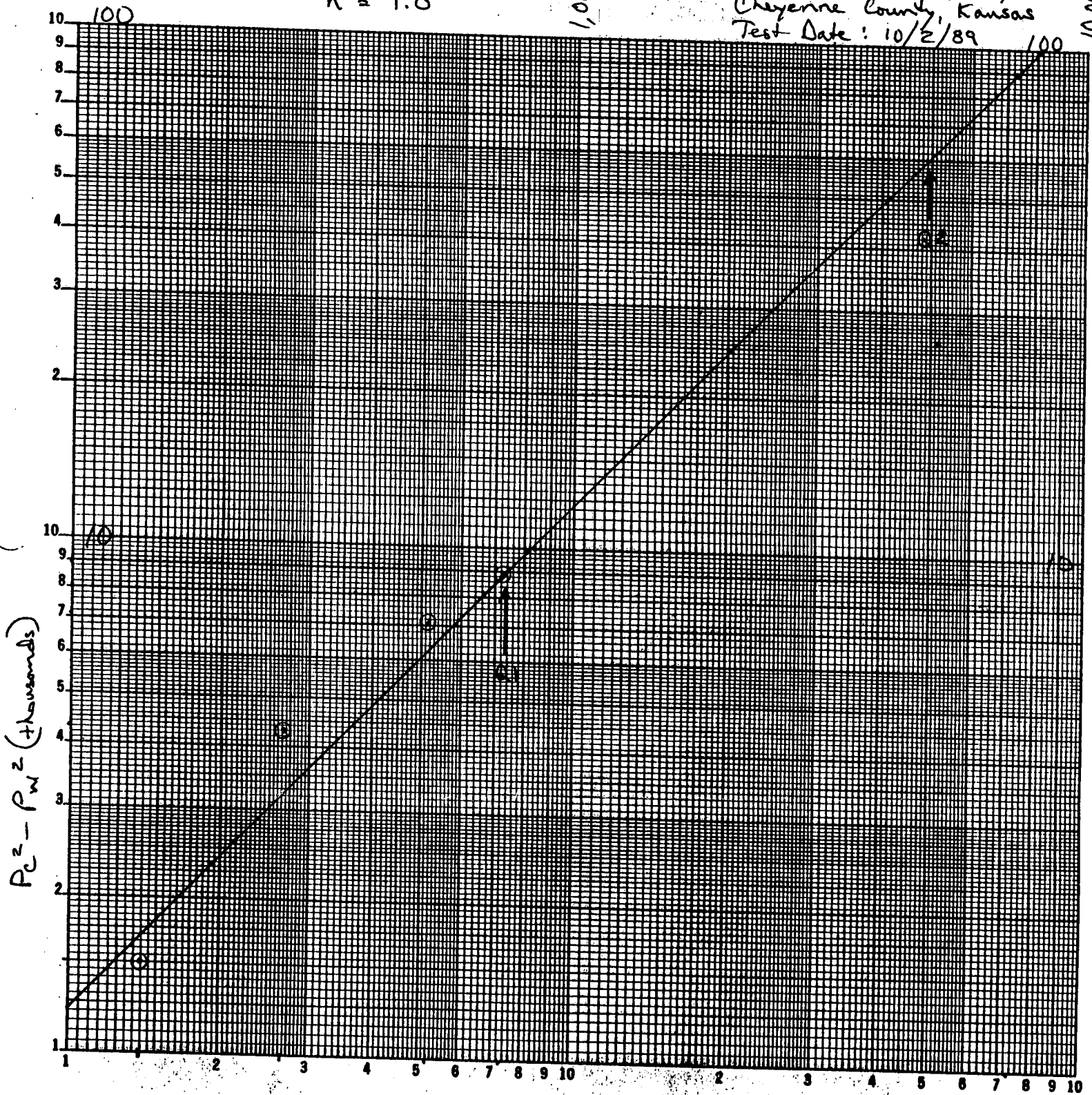
HARVEST ENERGY COMPANY
P. O. Box 620006
Littleton, Colorado 80162

$Q_2 = 7230 : \text{Log } 3.8591383$

$Q_1 = 723 : \text{Log } 2.8591383$

$n = 1.0$

Andrist #1-27 Well
SWSESW Sec. 27, T4S, R39W
Cheyenne County, Kansas
Test Date: 10/2/89



$Q = \text{MCFD @ } 14.65 \text{ PSIA}$