

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 9/29/82			
Company H.L. Brown, Jr.				Connection None					
Pool Bluitt				Formation WolfCamp				Unit	
Completion Date 9/29/82		Total Depth 8120'		Plug Back TD 8120'		Elevation 4058' GL		Farm or Lease Name Federal K	
Case Size 5 1/2"	Wt. 17.0	d 4.892	Set At 8120'	Perforations: From 8080 To 8113				Well No. 1	
Trq. Size 2 3/8"	Wt. 4.7	d 1.995	Set At 7950'	Perforations: Open Ended From To				Unit Sec. Twp. Rge. 0 34 7s 37e	
Type Well - Single - Bradenhead - G.C. or G.O. Multiple Single						Packer Set At 7950'		County Roosevelt	
Producing Thru Tubing		Reservoir Temp. °F 149 # 8097'		Mean Annual Temp. °F 60°		Baro. Press. - P _a 13.2		State New Mexico	
L 8097'	H -	G _g 0.6886	% CO ₂ 0.298	% N ₂ 9.725	% H ₂ S -	Prover 2"	Meter Run -	Taps -	

FLOW DATA							TUBING DATA		CASING DATA		Duration of Flow
NO.	Prover Line Size	X	Orifice Size	SD Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g. DWT	Temp. °F	Press. p.s.i.g.	Temp. °F	
SI							975		PACKER		72.0 hrs
1.	2"	4/64	3/32	60	-	92	918	60			1.0 hr
2.	2"	5/64	1/8	65	-	82	862	60			1.0 hr
3.	2"	5 1/2/64	3/16	60	-	86	714	60			1.0 hr
4.	2"	6/64	7/32	60	-	82	450	60			1.0 hr
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 Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	0.1410	-	73.2	0.9706	1.205	-	12
2	0.2648	-	78.2	0.9795	1.205	-	24
3	0.6082	-	73.2	0.9759	1.205	-	52
4	0.8393	-	73.2	0.9795	1.205	-	73
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Dry Gas _____ Mcf/bbl.			
1	0.11	552	1.55	-	A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.			
2	0.12	542	1.52	-	Specific Gravity Separator Gas _____ 0.6886 XXXXXXXX			
3	0.11	546	1.53	-	Specific Gravity Flowing Fluid _____ XXXXX			
4	0.11	542	1.52	-	Critical Pressure _____ 656 P.S.I.A. _____ P.S.I.A.			
5					Critical Temperature _____ 356 °R _____ °R			

P _c 2566.2 P _c ² 6585.4				
NO.	P _r ²	P _w *	P _w ²	P _c ² - P _w ²
1		2531.2	6407.0	178.4
2		2495.2	6221.0	364.4
3		2367.2	5603.6	981.8
4		2308.2	5327.8	1257.6
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 18.07$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 345$

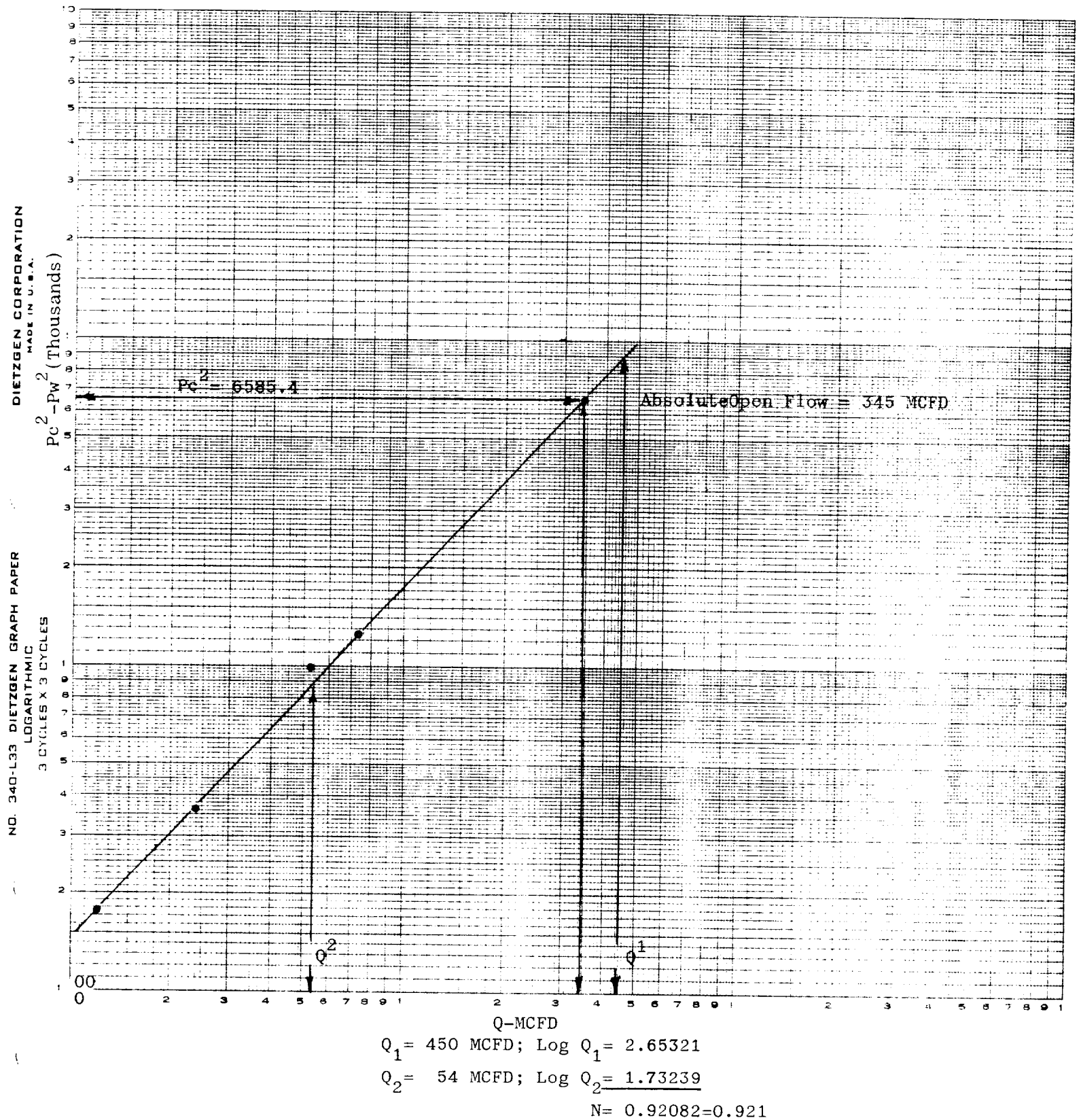
(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 14.38$

Absolute Open Flow _____ 345 _____ Mcfd @ 15.025		Angle of Slope @ _____ 47° 21'	Slope, n _____ 0.921
--	--	--------------------------------	----------------------

Remarks: * BHP @ (-4039) 8097' USED FOR PRESSURE CALCULATIONS

Approved By Division	Conducted By JARREL WELL TESTING, INC	Calculated By Joe A. Coleman	Checked By <i>Joe A. Coleman</i> PE #2208 Joe A. Coleman
----------------------	--	---------------------------------	---

COMPANY: H.L. Brown Jr.
 WELL: Federal K, No. 1
 LOCATION: 0 34 7s 37e
 COUNTY: Roosevelt
 DATE: September 29, 1982



RECEIVED

OCT 9 1982

U.S. DEPT. OF JUSTICE
HOBBBS OFFICE

NEW-TEX LAB

PHONE 505/393-3561

P. O. BOX 1161

611 W. SNYDER

HOBBS, NEW MEXICO 88240

ANALYSIS CERTIFICATE

CLIENT: BARREL WELL TESTING INC
ADDRESS: BOX 1457
CITY, STATE: HOBBS, NM 88240

ANALYSIS NUMBER: 8386
DATE OF RUN: 09/30/82
DATE RECEIVED: 09/29/82

BARREL IDEN: A L BROWN - FEDERAL PK #1
SAMPLING PRESS: 42 PSIG SAMPLING TEMP: 82 DEG F

REMARKS: 57175 PCF
CERAMIC SAMPLED AT 2:52 PM

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

	% LIQ FACILIT	GL/ MCF
ETHANE	0.725	
PROPANE	2.278	
BUTANE	70.800	
ETHANE	0.183	1.616
PROPANE	1.271	0.794
ISOBUTANE	0.077	0.123
NORMAL BUTANE	0.951	0.300
ISOPENTANE	2.192	0.270
NORMAL PENTANE	0.030	0.056
HEXANES	0.106	0.256
HEPTANES PLUS	0.483	0.030
TOTAL	100.725	3.143

PROPANE BPM:	0.79	BUTANE BPM:	0.42
ETHANE BPM:	1.62	PENTANES PLUS BPM:	0.25

APPROVED GRAY (CALC):	0.0554
WELL WEIGHT:	19.95

WELL IDEN:	PRESSURE (PSIA):	WLT	DRY
14.675	10.4	1052	
14.652	10.37	1049	
14.700	10.4	1054	
14.730	10.41	1055	

ANALYZED BY: J. B. BROWN JR.

APPROVED BY: *W. Simpson*

RECEIVED

OCT 6 1982

Q.L.B.
HOBBS OFFICE

JARREL SERVICES, INC.

POST OFFICE BOX 1654

PHONE 505 393-5396

HOBBS, NEW MEXICO 88240

COMPANY: H.L. Brown, Jr.

WELL: Federal K, No. 1

FIELD: Bluitt WolfCamp

CHRONOLOGICAL PRESSURE DATA

DATE	STATUS OF WELL	TIME	ELAPSED TIME HRS.	MIN.	SURFACE PRESSURE TBG	CSG	BHP @ (-4039 .) 8097'
1982							
9/29	Shut in 72.0 hrs. Run Static Gradient w/Tandem Bombs & hung Bombs @ 8097'	11:00 AM	-	-	975 DWT	PKR	2553
	Started 1st Rate	11:15	0	15	975	MCF/D	2553
	Finished 1st Rate	12:15 PM	1	00	918	12	2418
	& Started 2nd Rate						
	Finished 2nd Rate	1:15	1	00	862	24	2481
	& Started 3rd Rate						
	Finished 3rd Rate	2:15	1	00	714	52	2354
	& Started 4th Rate						
	Finished 4th Rate	3:15	1	00	450	73	2295
	& Pulled Bombs						

RECEIVED

OCT 6 1982

O.C.O.
HOBBS OFFICE

JARREL SERVICES, INC.

POST OFFICE BOX 1654

PHONES 505 393-5396 — 393-8274

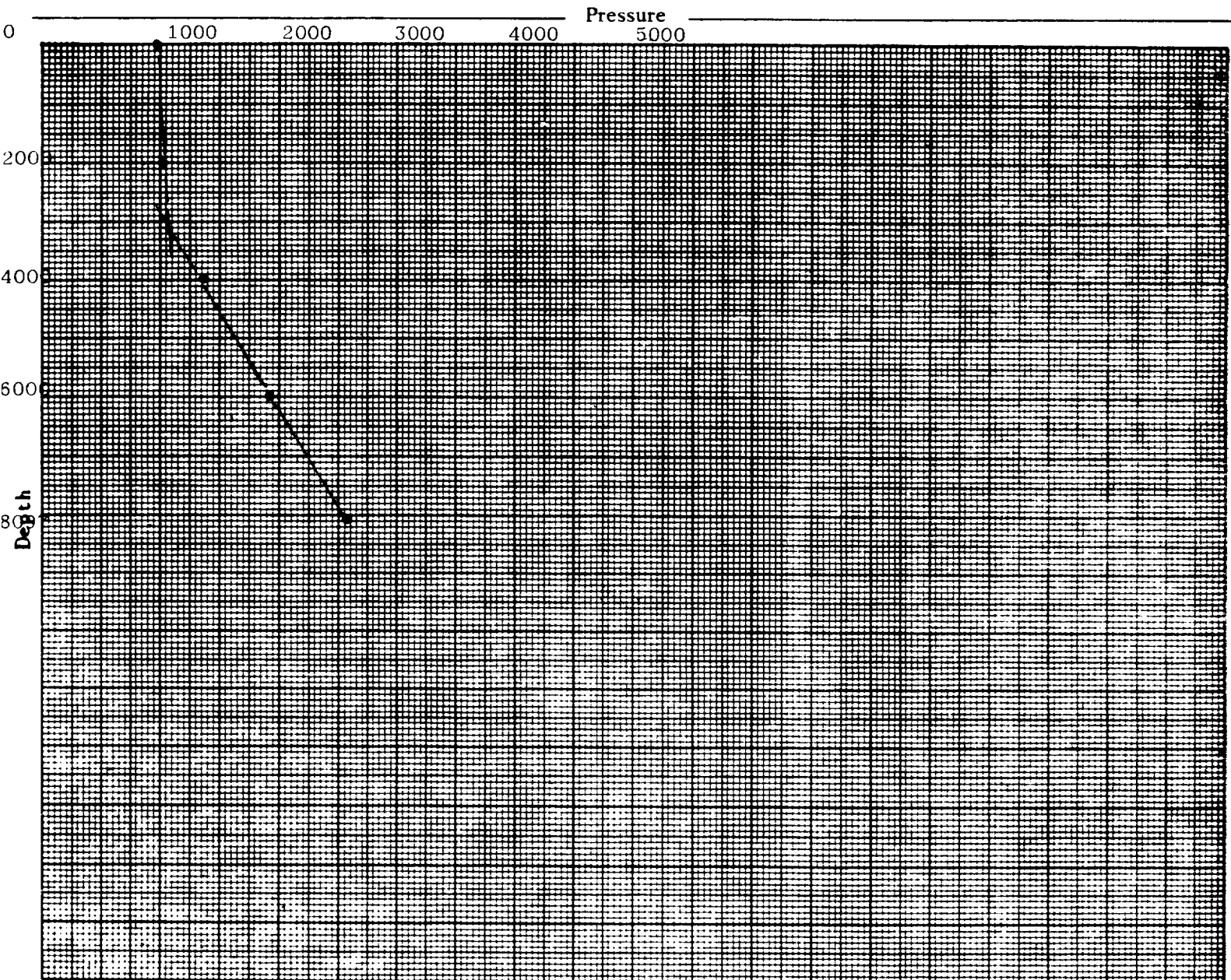
HOBBS, NEW MEXICO 88240

OPERATOR H.L. Brown, Jr.
FIELD Bluitt
FORMATION WolfCamp
LEASE Federal K WELL #1
COUNTY Roosevelt STATE New Mexico
DATE 9/29/82 TIME 11:00 AM
Status Shut in
Test Depth 8097'
Time S. I. 72.0 hrs Last test date -
Tub Pres. 975 DWT BHP last test -
Cas. Pres. PKR BHP change -
Elev. 4058' GL Fluid top 3000'
Datum (-4039)** Water top None
Temp. @ 149 F Run by JSI #16
Cal. No. A36825N Chart No. 1

BOTTOM HOLE PRESSURE RECORD

Depth	Pressure	Gradient
0	975	-
2000	1043	.034
4000	1353	.155
6000	1936	.292
8097 (-4039)	2553 **	.294

** MIDPOINT OF CASING PERFORATIONS



RECEIVED

OCT 6 1982

U.S. DEPT. OF JUSTICE
HONORARY OFFICE