

NEW MEXICO OIL CONSERVATION COMMISSION

Form O-122

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 1-1-55

Pool: Sawyer Formation: San Andres (Gas) Agency: Lea

Initial: _____ Annual: X Special: _____ Date of Test: April 28, 1965

Company: Western Drilling Company, Inc. Lease: Quin, Federal Well No.: 1

Unit: 0 Sec. 29 Twp. 23 Rge. 38E Purchaser: Nearnsburg & Ingram

Casing: 5 1/2" Wt. 14.00# I.D. 5.012" Set at 5,024' Perf. (4,348' to 4,976')

Tubing: 2-3/8" Wt. 4.76# I.D. .995" Set at 4,352' Perf. Open To _____

Gas Pay: From 4,898' To 5,003' L. _____ H. _____ Bar. Press. 13.2 psia

Producing Thru: Casing _____ Tubing _____ Type Well: Single

Date of Completion: March 8, 1966 Packer: None Single-Pradentend-3, 4, or 5.0, Inlet
Reservoir Temp. _____

OBSERVED DATA

Tested Through: (Prover) (Choke) (Meter)Type: Flow Line

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. in	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
51						1,100		1,100	600	72 hrs
1.	2"	0.0625"				1,080		1,080	537	3 hr 0 min
2.	3.069"	0.750"	376.7	28.98	66.1	771		691	547	3 hr 0 min
3.	3.069"	0.750"	375.8	47.81	64.0	638		600	567	3 hr 0 min
4.	3.069"	0.750"	382.9	73.90	64.0	556		737	527	3 hr 0 min
5.	3.069"	0.750"	374.0	36.10	64.0	467		633	527	20 hr 0 min

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_{whf}}$	Pressure psia	Flow Temp. Factor °F.	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MOTED @ 15.025 psia
1.	.0827	-	1,093.2	.9971	.8571	1.122	37
2.	2.6719	104.64	389.3	.9962	.8580	1.131	321
3.	2.6719	115.08	389.3	.9943	.8562	1.134	415
4.	2.6719	121.14	388.1	.9931	.8562	1.134	525
5.	2.6719	118.06	387.2	.9931	.8563	1.134	553

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.

Gravity of Liquid Hydrocarbons _____ deg.

Measured _____ (1-e⁻⁸)

Specific Gravity Separator Gas 0.817

Specific Gravity Flowing Fluid _____

P₁ 1,110.2 P₂ 1,239.2

No.	P _w P _t (psia)	P ₁ P ₂	P ₁ Q	(P ₁ Q) ²	($\frac{P_1 Q}{1-e^{-8}}$) ²	P _w ²	P _w ² -P ₂ ²	Cal. P _w	P _w F _g
1.	1,093.2					1,195.1	44.1		83.2
2.	994.2					988.4	255.8		89.3
3.	903.2					815.5	423.4		81.1
4.	750.2					562.8	676.4		6.4
5.	666.2					442.8	785.2		59.8

Absolute Potential: 455MOTED: 0.51105COMPANY: Denton Oil CompanyADDRESS: Post Office Box 4359 Tech Station, Lubbock, TexasAGENT and TITLE: C. J. Jordan, Jr., Gas Engineer

WITNESSED

COMPANY

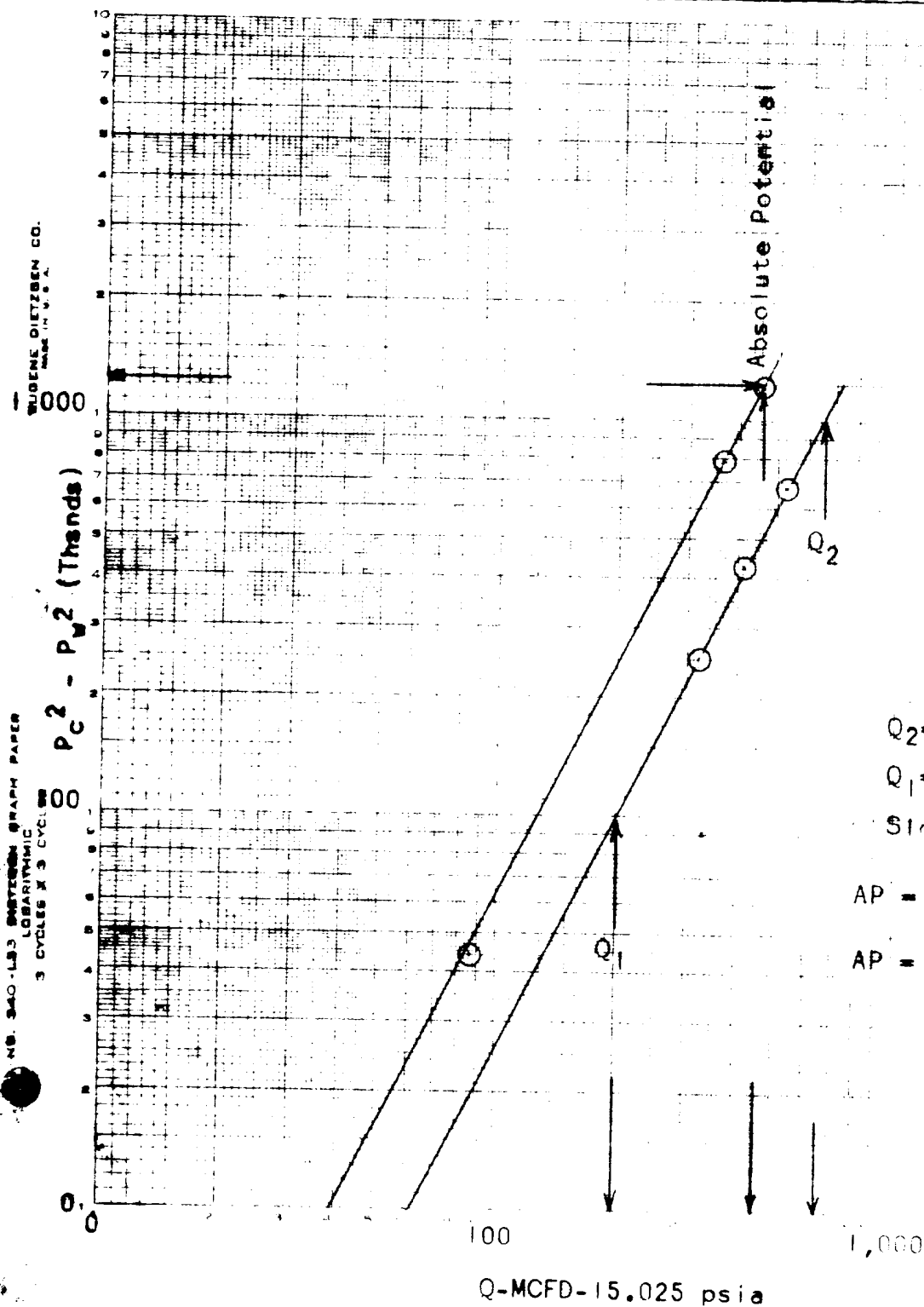
REMARKS

O₂ and N composition of gas considered as being 10% each

*Note: Critical flow is assumed to be at the choke point.

DENTON OIL COMPANY

COMPANY: Western Drilling Company
 LSE & WELL: Gulf Federal No. 1
 LOCATION: O-29-95-38E
 FIELD: Sawyer
 COUNTY: Lea
 DATE: April 28, 1965



$$Q_2 = 652; \text{Log} = 2.81425$$

$$Q_1 = 201; \text{Log} = 2.30320$$

$$\text{Slope } N = 0.51105$$

$$AP = 363 \left[\frac{1239.2}{1239.2 - 443.8} \right]^{0.51105}$$

$$AP = 455.3 \text{ MCFD} - 15.025 \text{ psia}$$