

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
 Revised 9-1-85

RECEIVED

C/SF C-122

Type Test: ☒ Initial ☐ Annual ☐ Special				Test Date: 12-18-81		DEC 23 1981 O. C. D. ARTESIA, OFFICE	
Company: Inexco Oil Co. ✓				Location: Air			
Pool: <i>West Indian Basin Y. ...</i>				Formation: Upper Morrow		Unit: NE/4	
Completion Date: 12-15-81		Total Depth: 9950		Plug Back TD: 8908		Elevation: _____	
Casing Size: 5 1/2		V.L.: 17		Set At: 9950		Perforations: From 8826 To 8840	
Tub. Size: 2 3/8		V.L.: n/80		Set At: 8717		Perforations: From _____ To _____	
Type Well - Single - Brodenhead - G.G. or G.O. Multiple				Packer Set At: 8717		County: Eddy	
Producing Thru: Tbg.		Reservoir Temp. °F: 161 @ 8717		Mean Annual Temp. °F: 60°		Baro. Press. - P _a : 13.2	
L: 8717		H: 8717		G _g : .6321		% CO ₂ : .745	
				% N ₂ : 4.545		% H ₂ S: _____	
				Prover: _____		Meter Run: 3"	
						Flag: Flg.	

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	Press. p.s.i.g.		Temp. °F
51							2580				24 hrs.
1.	3 X 1.250			480	4.0	90	2120				1 hr.
2.	3 X 1.250			490	7.0	90	1715				1 hr.
3.	3 X 1.250			495	10.0	80	1325				1 hr.
4.	3 X 1.250			500	12.5	76	980				1 hr.
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mscf/d
1	7.577	44.42	493.2	.9723	1.258	1.036	426
2	7.577	59.35	503.2	.9723	1.258	1.036	570
3	7.577	71.29	508.2	.9813	1.258	1.039	693
4	7.577	80.09	513.2	.9850	1.258	1.041	783
5							

NO.	P ₁	Temp. °R	T ₁	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/ubl.
1	.75	550	1.54	.932	A.P.L. Gravity of Liquid Hydrocarbons dry _____ Deg.
2	.76	550	1.54	.931	Specific Gravity Separator Gas .6321 _____
3	.77	540	1.52	.926	Specific Gravity Flowing Fluid XXXXX _____
4	.78	536	1.51	.923	Critical Pressure 662 _____ P.S.I.A.
5					Critical Temperature 356 _____ R

P₁ = 2593.2 P₂ = 6724.7

NO.	P ₁ ²	P _w ²	P ₂ ²	P ₂ ² - P _w ²
1	2134.3	4555.3	2169.4	
2	1730.7	2995.3	3729.4	
3	1343.1	1804.0	4920.7	
4	1002.0	1004.0	5720.7	
5				

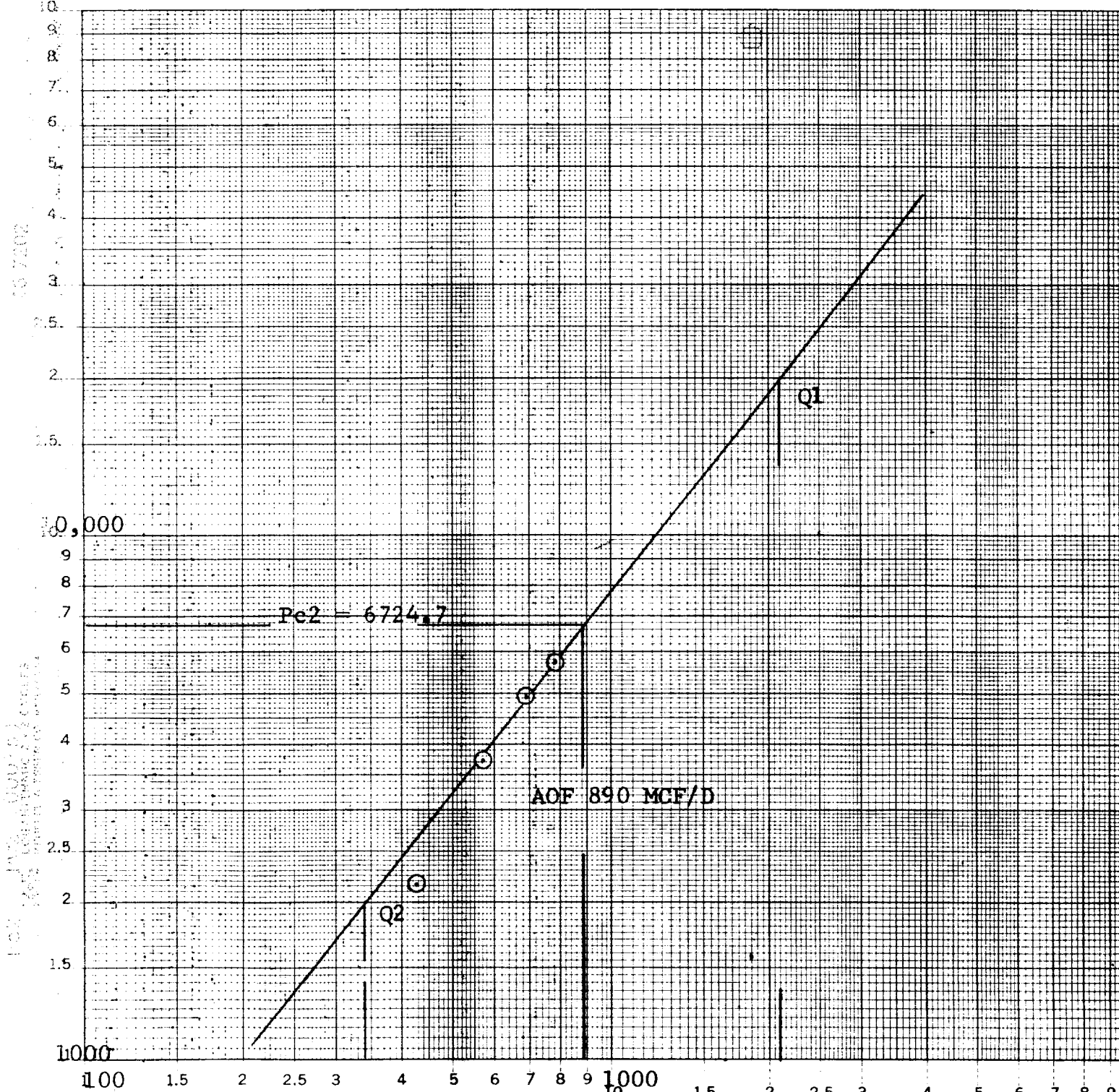
(1) $\frac{P_c^2}{P_2^2 - P_w^2} = \underline{1.176}$ (2) $\left[\frac{P_c^2}{P_2^2 - P_w^2} \right]^n = \underline{1.136}$

ADP = Q $\left[\frac{P_c^2}{P_2^2 - P_w^2} \right]^n = \underline{.890}$

Absolute Open Flow: 890	Mscf @ 15.025	Angle of Slope: 51.5°	Slope, n: .791
Remarks: _____			

Approved by Commission: _____	Conducted By: Davis Services, Inc.	Calculated By: Rick Pagan	Checked By: _____
-------------------------------	---	----------------------------------	-------------------

COMPANY : INEXCO OIL CO
 LEASE : ~~BORES~~ FEDERAL
 WELL NO. : 2-Y
 UNIT : NE/4 /Sec 24/Twp. 21s/Rge 22e
 COUNTY : Eddy
 STATE : New Mexico
 DATE : 12-18-81



Q = MCF/Day
 Q1 = 2100; Log of Q1 = 3.322219
 Q2 = 340; Log of Q2 = 2.531479
 N = .791
 θ = 51.5°

NEW-TEX LAB
P.O. BOX 1161
HOBBS NM 88241-1161
505-393-3561

ANALYSIS NUMBER: 6294
DATE OF RUN: 12 21 81
DATE SECURED: 12 18 81

ANALYSIS CERTIFICATE

SAMPLE IDENT: INEXCO OIL CO -- MADORES FEDERAL 2-Y

CLIENT: DAVIS SERVICES INC.
ADDRESS: BOX 2033
CITY, STATE: HOBBS N 88240

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

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

	MOLE PERCENT	GAL/ MCF
NITROGEN	4.3448202	
CARBON DIOXIDE	0.7452074	
METHANE	88.0708847	
ETHANE	4.4801030	1.1948400
PROPANE	1.0903018	0.2992880
ISO-BUTANE	0.2523118	0.0823293
NORMAL BUTANE	0.2851622	0.0896550
ISO-PENTANE	0.1378341	0.0503232
NORMAL PENTANE	0.0810625	0.0292960
HEXANES	0.0815165	0.0334381
HEPTANES PLUS	0.2307958	0.1062120
TOTAL	100.0000000	1.8853900

PROPANE GPM: 0.30 BUTANES GPM: 0.17
ETHANE GPM: 1.19 PENTANES PLUS GPM: 0.22

SPECIFIC GRAV (CALC): .6322
WATER WEIGHT: 18.33

WET-BULB/CO FT	PRESSURE (PSIA)	WET	DRY
	14.696	1021	1039
	14.650	1018	1036
	14.730	1023	1042
	14.735	1024	1042

ANALYZED BY:

APPROVED BY:

R. Simpson

WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)

Form C-122D
Adopted 9-1-65

COMPANY Inexco Oil Co. LEASE Madones Federal WELL NO. 2-Y DATE 12-18-81

LOCATION: Unit 7 Section 23 Township 21s Range 22e

L 8717 H 8717 L/H 1.000 G .6321 % CO₂ .745 % N₂ 4.545 % H₂S

d 1.995 F_r .018231 GH 5510 P_{cr} 662 T_{cr} 356

LINE	1st Rate		2nd Rate		3rd Rate		4th Rate		TABLE IX & X
	1st	2nd	1st	2nd	1st	2nd	1st	2nd	
1 Q _m	.426	.426	.570	.570	.693	.693	.783	.783	
2 T _w (W.H. °R)	534	534	534	534	534	534	534	534	
3 T _s (B.H. °R)	621	621	621	621	621	621	621	621	
4 T = ($\frac{1}{w} + \frac{1}{s}$)	577.5	577.5	577.5	577.5	577.5	577.5	577.5	577.5	
5 Z (Est.)	.821	.816	.837	.828	.860	.850	.889	.878	
6 T _Z	474.1	471.2	483.4	478.2	496.7	490.9	513.4	507.0	
7 GH/T _Z	11.621	11.693	11.399	11.523	11.094	11.225	10.732	10.867	
8 e ^s (Table XIV)	1.546	1.550	1.533	1.541	1.516	1.523	1.496	1.503	
9 1-e ^s (Table XIV)	.353	.355	.348	.351	.340	.344	.331	.335	
10 P _t	2133.2	2133.2	1728.2	1728.2	1338.2	1338.2	993.2	993.2	
11 P _t ² /1000	4550.5	4550.5	2986.7	2986.7	1790.8	1790.8	986.4	986.4	
12 F _r (Table XV)	.018231	.018231	.018231	.018231	.018231	.018231	.018231	.018231	
13 F _c = F _r T _Z	8.644	8.591	8.812	8.718	9.054	8.949	9.360	9.244	
1 F _c Q _m	3.682	3.660	5.023	4.969	6.275	6.202	7.329	7.238	
15 L _w /H (F _c Q _m) ²	13.559	13.394	25.230	24.691	39.372	38.462	53.710	52.389	
16 F _w =L _w /H (F _c Q _m) ² (1-e ^{-s})	4.790	4.755	8.776	8.663	13.400	13.214	17.796	17.534	
17 P _w ² = P _t ² + F _w	4555.3	*4555.3	2995.5	*2995.3	1804.2	*1804.0	1004.2	*1004.0	
18 P _s ² = e ^s P _w ²	7043.5	7062.2	4593.1	4614.4	2735.0	2748.2	1501.9	1509.1	
19 P _s	2654.0	2657.5	2143.2	2148.1	1653.8	1657.8	1225.5	1228.4	
20 P = ($\frac{P_t + P_s}{2}$)	2393.6	2395.3	1935.7	1938.2	1496.0	1498.0	1109.4	1110.8	
21 P _r = (P/P _{cr})	3.62	3.62	2.92	2.93	2.26	2.26	1.68	1.68	
22 T _r = (T/T _{cr})	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	
23 Z (Table XI)	.814	.814	.828	.828	.850	.850	.878	.878	