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State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-122
Revised 4-1-91

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator <i>Mewborne Oil Co.</i>					Lease or Unit Name <i>Carlsbad 15 #2</i>				
Type Test ☒ Initial ☐ Annual ☐ Special					Test Date <i>7-18-99</i>		Well No.		
Completion Date		Total Depth		Plug Back TD <i>9968</i>		Elevation		Unit Ltr. - Sec. - TWP - Rge. <i>15-21-26</i>	
Csg. Size <i>5 1/2</i>	Wt. <i>17#</i>	d <i>4.892</i>	Set At <i>10100</i>	Perforations: From: <i>9726</i> To: <i>9736</i>		County <i>Eddy</i>			
Tbg. Size <i>2 7/8</i>	Wt. <i>6.5</i>	d <i>2.441</i>	Set At <i>9695</i>	Perforations: From: To:		Pool <i>Fddy</i>			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple <i>Single</i>					Packer Set At <i>9695</i>		Formation <i>Straw</i>		
Producing Thru <i>TBG</i>		Reservoir Temp. °F <i>168°</i>		Mean Annual Temp. °F <i>60°</i>		Baro. Press - P. <i>13.2</i>		Connection <i>Sales</i>	
L <i>9728</i>	H <i>9728</i>	Gg <i>.675</i>	% CO ₂ <i>.476</i>	% N ₂ <i>.625</i>	% H ₂ S <i>0</i>	Prover <i>0</i>	Meter Run <i>3.067</i>	Taps <i>F/G</i>	

FLOW DATA					TUBING DATA		CASING DATA		Duration of Flow
NO.	Prover Line Size	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	
SI						<i>2140</i>		<i>PKR</i>	
1.	<i>1.000 X 3.068</i>		<i>420</i>	<i>25"</i>	<i>105°</i>	<i>520</i>	<i>62°</i>		
2.									
3.									
4.									
5.									

RATE OF FLOW CALCULATIONS							
NO.	COEFFICIENT (24 HOUR)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _L	Gravity Factor F _G	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1.	<i>4.789</i>	<i>104.0</i>	<i>433.2</i>	<i>.9594</i>	<i>1.217</i>	<i>1.045</i>	<i>607</i>
2.							
3.							
4.							
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1.	<i>.83</i>	<i>565</i>	<i>1.49</i>	<i>.916</i>	<i>33.722</i>	
2.					<i>60.2</i>	
3.					<i>.675</i>	<i>XXXXXXXXXX</i>
4.					<i>XXXXXX</i>	
5.					<i>672</i>	<i>P.S.I.A.</i>
					<i>378</i>	<i>R</i>

P _c <i>2524.8</i> P _c <i>6374.6</i>				
NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²
1.		<i>728.9</i>	<i>531.1</i>	<i>5843.3</i>
2.				
3.				
4.				
5.				

1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.09$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 661.6$

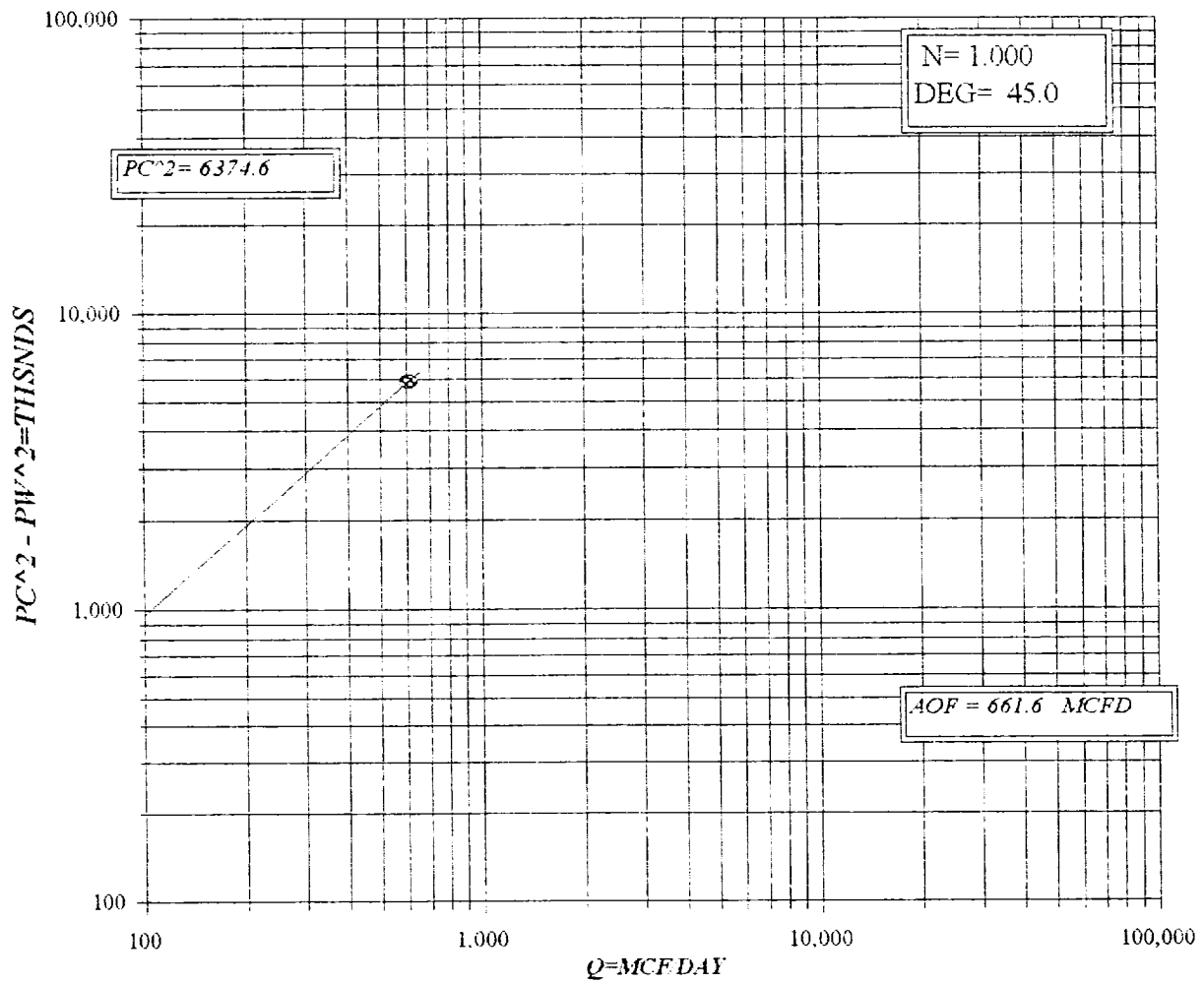
(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.09$

Absolute Open Flow <i>661.6</i>	Mcf @ 15.025	Angle of Slope θ <i>45°</i>	Slope, n <i>1.000</i>
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Remarks: ** Calculated from known bottom hole pressure*
** Well made 3 BBLS of 60.2 API gravity condensate during test*

Approved By Division	Conducted By:	Calculated By: <i>M.B.</i>	Checked By: <i>B.M.</i>
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MEWBORNE OIL CO.
CARLSBAD 15 # 2



WORK SHEET FOR CALCULATION OF WELLHEAD PRESSURE (Pc or Pw)
FROM KNOWN BOTTOM HOLE PRESSURE (Pf or Ps)

FORM C-122F

COMPANY NEWBORNE LEASE : CARLS. 15 WELL NO. : 2 DATE 1/18/99
UNIT SECTION : TOWNSHIP : RANGE :
L 9728 H : 9728 L/H : 1 G/GMIX : 0.6750
CO2 : 0.476 N2 : 0.625 H2S :
GH : 6566.4 PCR : 672 TCR : 378

LINE		1	2	3	4	5	6	7	8
1	TW(W.H. R)	534	534	534	534	534	534	534	534
2	Ts(B.H. R)	631.3	631.3	631.3	631.3	631.3	631.3	631.3	631.3
3	T=(Tw+Ts/2)	582.6	582.6	582.6	582.6	582.6	582.6	582.6	582.6
4	Z (EST.)	0.922	0.870	ERR	ERR	ERR	ERR	ERR	ERR
5	TZ	537	507	ERR	ERR	ERR	ERR	ERR	ERR
6	GH/TZ	12.217	12.951	ERR	ERR	ERR	ERR	ERR	ERR
7	eS(TABLE XIV)	1.581	1.625	ERR	ERR	ERR	ERR	ERR	ERR
8	Pf or Ps	929.27	929.27	0	0	0	0	0	0
9	Pf2 or Ps2	863.5	863.5	0.0	0.0	0.0	0.0	0.0	0.0
10	Pc2=Pf/eS or Pw2=Ps2/eS	546.1	531.3	ERR	ERR	ERR	ERR	ERR	ERR
11	Pc or Pw	739	729	ERR	ERR	ERR	ERR	ERR	ERR
12	P=(Pw+Ps/2) or (Pc+Pf/2)	834	829	ERR	ERR	ERR	ERR	ERR	ERR
13	Pr=(P/Pcr)	1.24	1.23	ERR	ERR	ERR	ERR	ERR	ERR
14	Tr(T/Tcr)	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54
15	Z (TABLE XI)	0.870	0.871	ERR	ERR	ERR	ERR	ERR	ERR

PW 1 : 728.9 PW 2 : ERR PW 3 : ERR PW 4 : ERR

WORK SHEET FOR CALCULATION OF WELLHEAD PRESSURE (Pc or Pw)
FROM KNOWN BOTTOM HOLE PRESSURE (Pf or Ps)

FORM C-122F

COMPANY MEWBORNE
UNIT L
LEASE :CARLS. 15 WELL NO. : 2
SECTION : 9728 TWNSHP :
H : 9728 L/H : 1
CO2 : 0.476 N2 : 0.625
GH : 6566.4 PCR : 672

DATE 1/18/99
RANGE :
G/GMIX : 0.6750
H2S :
TCR : 378

LINE		1	2	3	4	5	6	7	8
1	TW(W.H. R)	534	534	534	534	534	534	534	534
2	Ts(B.H. R)	631.3	631.3	631.3	631.3	631.3	631.3	631.3	631.3
3	T=(Tw+Ts/2)	582.6	582.6	582.6	582.6	582.6	582.6	582.6	582.6
4	Z (EST.)	0.864	0.788	ERR	ERR	ERR	ERR	ERR	ERR
5	TZ	503	459	ERR	ERR	ERR	ERR	ERR	ERR
6	GR/TZ	13.047	14.307	ERR	ERR	ERR	ERR	ERR	ERR
7	es(TABLE XIV)	1.631	1.710	ERR	ERR	ERR	ERR	ERR	ERR
8	Pf or Ps	3301.68	3301.68	0	0	0	0	0	0
9	Pf2 or Ps2	10901.1	10901.1	0.0	0.0	0.0	0.0	0.0	0.0
10	Pc2=Pf/es or Pw2=Ps2/es	6583.2	6374.8	ERR	ERR	ERR	ERR	ERR	ERR
11	Pc or Pw	2585	2525	ERR	ERR	ERR	ERR	ERR	ERR
12	P=(Pw+Ps/2) or (Pc+Pf/2)	2943	2913	ERR	ERR	ERR	ERR	ERR	ERR
13	Pr=(P/Pcr)	4.38	4.34	ERR	ERR	ERR	ERR	ERR	ERR
14	Tr(T/Tcr)	1.54	1.54	1.54	1.54	1.54	1.54	1.54	1.54
15	Z (TABLE XI)	0.789	0.787	ERR	ERR	ERR	ERR	ERR	ERR

PC 1 : 2524.8 PW 2 : ERR PW 3 : ERR PW 4 : ERR

NEW MEXICO G.O.R./G. MIX

NO. OF BBLs PRODUCED = 3.0
API GRAVITY @ 60 DEG. = 60.2

SPECIFIC GRAVITY OF GAS = 0.6750

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TOTAL GAS PRODUCED = 101

G.O.R. = 33.722

G.MIX = 0.757