NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 9-1-65

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test: [x] Initial [ ] Annual [ ] Special		Test Date: 3/17/1981	
Company: Conoco Inc	Connection: New		
Pool: Otero Ranch	Formation: Picture Cliffs		Unit: M
Completion Date: 3/2/1981	Total Depth: 2555'	Plug Back TD	Elevation: 6610 GL	Farm or Lease Name: N.E. HAYNES
Csg. Size: 3½	Wt.	d	Set At: 2555'	Perforations: From 2332 To 2389	Well No.: 11Y
Tbg. Size: none	Wt.: —	d: —	Set At: —	Perforations: From — To —	Unit M Sec. 15 Twp. 24N Rge. 5W
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: Single Gas	Packer Set At: None	County: Rio Arriba
Producing Thru: Casing	Reservoir Temp. °F: @	Mean Annual Temp. °F: 50°F	Baro. Press. – P_a: 12.2	State: N.M.
L: 2332'	H: 2389'	Gg: .620	% CO_2	% N_2	% H_2S	Prover: 3/4 x 6"	Meter Run	Taps

NO.	FLOW DATA: Prover Line Size X Orifice Size	Press. p.s.i.g.	Diff. h_w	Temp. °F	TUBING DATA: Press. p.s.i.g.	Temp. °F	CASING DATA: Press. p.s.i.g.	Temp. °F	Duration of Flow
SI							630#		51.7 DAYS
1.	3/4 x 6 Choke						508#	46°F	1st hour
2.	3/4 x 6 Choke						421#	45°F	2nd hour
3.	3/4 x 6 Choke						364#	43°F	3rd hour
4.									
5.									

RATE OF FLOW CALCULATIONS

NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P_m	Flow Temp. Factor Ft.	Gravity Factor Fg	Super Compress. Factor, Fpv	Rate of Flow Q, Mcfd
1							
2							
3	14.0		376.2	1.017	.970	1.044	5583.081
4							
5							

NO.	P_r	Temp. °R	T_r	Z
1				
2				
3	.560	503°R	1.31	.959
4				
5				

Gas Liquid Hydrocarbon Ratio __________ Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons __________ Deg.
Specific Gravity Separator Gas .620 X X X X X X X X
Specific Gravity Flowing Fluid __________ X X X X X
Critical Pressure 671 Pcr P.S.I.A. P.S.I.A.
Critical Temperature 385 Tcr R R

P_c 642.2 P_c^2 412,420.84

NO	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1				
2				
3				
4				
5				

$$(1)\ \frac{P_c^2}{P_c^2 - P_w^2} = 1.077 \qquad (2)\ \left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.057$$

$$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 5898.092$$

Absolute Open Flow 5898.0 Mcfd @ 15.025 | Angle of Slope θ __________ | Slope, n .75

Remarks: H2S = 0'

Approved By Commission:	Conducted By:	Calculated By: RAF	Checked By: RAF

CONTINENTAL OIL COMPANY

BOTTOM-HOLE PRESSURE BUILDUP DATA

Date 3/8/1981

Well N E HAYNES #4 Field Otero Ranch

Producing Formation Picture Cliff Perfs 2332-96 / 2428-32 Casing Point 2555'

Net Pay Thickness _____ Pay Zone _____ Average Porosity _____

Crude Gravity at 60° F. _____ Bottom Hole Temp. _____ Bottom Hole Crude Gravity _____

Fluid Gradient _____ Sp. Gr. Gas in Well .680 Producing B.H.P. _____

Cumulative Production _____ Oil Compressibility _____

Date	Barrels Oil	Barrels Water	Total Fluid

Avg. Stabilized Producing Rate = R - BF/D

$t = 1440 \frac{Cum}{R} = 1440 \frac{\quad}{\quad} =$ Min.

t = Time, min. 960

Cum = Cumulative Fluid Production, Bbl.

Date	Time	Δt	t + Δt	$\frac{t+\Delta t}{\Delta t}$	Fluid Level Feet Below Surface	Fluid Level Above Pay	Fluid Level @ Pay PSI	Extension (Inches)	Gas Column Weight PSI	Total Bottom Hole Press. PSIG
3/3/81	4 [illegible]	0	960	9.999				0		
3/3/81	4 [illegible]	0	960	9.999			Start	.167		552.9
3/3/81	5 [illegible]	60	1020	17.00				.173		577.2
3/3/81	6 [illegible]	120	1080	9.00				.183		557.7
3/3/81	7 [illegible]	180	1140	6.33				.187		569.9
3/3/81	8 [illegible]	240	1200	5.00				.191		582.1
3/3/81	9 [illegible]	300	1260	4.20				.1935		589.2
3/3/81	10 [illegible]	360	1320	3.66				.196		597.4
3/3/81	11 [illegible]	420	1380	3.29				.200		609.6
3/3/81	12 [illegible]	480	1440	3.00				.203		618.7
3/3/81	1 [illegible]	540	1500	2.78				.2055		625.8
3/3/81	2 [illegible]	600	1560	2.60				.209		637.0
3/3/81	3 [illegible]	660	1620	2.45				.2115		644.1
3/3/81	4 [illegible]	720	1680	2.33				.213		649.2
3/3/81	5 [illegible]	780	1740	2.23				.2155		656.3
3/3/81	6 [illegible]	840	1800	2.14				.217		661.4
3/3/81	7 [illegible]	900	1860	2.07				.218		664.5
3/3/81	8 [illegible]	960	1920	2.00				.219		667.5
3/3/81	9 [illegible]	1020	1980	1.94				.220		670.6
3/3/81	10 [illegible]	1080	2040	1.89				.222		676.7
3/3/81	11 [illegible]	1140	2100	1.84				.223		679.7

CONTINENTAL OIL COMPANY
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ate ____________________

ell ____________________ Field ____________________

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t = Time, min.

Cum = Cumulative Fluid Production, Bbl.

ate	Time	Δt	t + Δt	$\frac{t + \Delta t}{\Delta t}$	Fluid Level Feet Below Surface	Fluid Level Above Pay	Fluid Level @ Pay PSI	Extension (Inches)	Gas Column Weight PSI	Total Bottom Hole Press. PSIG
[illegible]	[illegible]	10080	11,040	1.09				.2231		680.0

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