NEW MEXICO OIL CONSERVATION COMMISSION

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

cst File

RECEIVED

Type Test: [x] Initial [ ] Annual [ ] Special — Test Date: 7-1-87

RECEIVED APR 18 '89 O. C. D. ARTESIA, OFFICE

APR 6 11 21 AM '89

Company: Marathon Oil Co.	Connection: Air				
Pool: Indian Basin Morrow	Formation: Morrow				
Completion Date: 6-27-87	Total Depth: 10212	Plug Back TD: 10140	Elevation: 3681 KB	Farm or Lease Name: Indian Hills Unit	
Csg. Size: 7	Wt.	d	Set At: 10159	Perforations: From 9200 To 9214	Well No.: 1
Tbg. Size: 2 3/8	Wt.: 4.7	d: 7369	Set At	Perforations: From To	Unit M, Sec. 21, Twp. 21, Rge. 24
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: Single			Packer Set At: 7369		County: Eddy
Producing Thru: Tbg	Reservoir Temp. °F: 166 @ 9200	Mean Annual Temp. °F: 60	Baro. Press. – P_a: 13.2		State: NM

L	H	Gg	% CO_2	% N_2	% H_2S	Prover	Meter Run	Taps
9200	9200	.598	.653	.295			3.068	Flg

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					2490				
1.	3.068 x 1.250	675	9	77	2350				1 HR.
2.	3.068 x 1.250	675	16	75	2220				1 HR.
3.	3.068 x 1.250	675	30	72	2015				1 HR.
4.	3.068 x 1.250	675	56	74	1700				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 Fg	Super Compress. Factor, Fpv	Rate of Flow Q, Mcfd
1	7.577	78.70	688.2	.9840	1.293	1.052	798
2	7.577	104.93	688.2	.9859	1.293	1.054	1068
3	7.577	143.69	688.2	.9887	1.293	1.055	1468
4	7.577	196.31	688.2	.9868	1.293	1.054	2000
5.							

NO.	P_r	Temp. °R	T_r	Z
1	1.02	537	1.52	.904
2.	1.02	535	1.51	.901
3.	1.02	532	1.50	.899
4.	1.02	534	1.51	.901
5.				

Gas Liquid Hydrocarbon Ratio: Dry Mcf/bbl.

A.P.I. Gravity of Liquid Hydrocarbons: Deg.

Specific Gravity Separator Gas: .598 — XXXXXXXXX

Specific Gravity Flowing Fluid: XXXXX

Critical Pressure: 672 P.S.I.A. — P.S.I.A.

Critical Temperature: 354 R — R

P_c 2503.2 P_c^2 6266

NO	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1	5585	2366.4	5600	666
2	4987	2239.6	5016	1250
3	4113	2041.7	4168	2098
4	2935	1743.2	3039	3227
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.942$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.552$

$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 3.103$

Absolute Open Flow: 3,103 Mcfd @ 15.025 — Angle of Slope θ: 56.5 — Slope, n: .662

Remarks:

Approved By Commission:	Conducted By:	Calculated By:	Checked By:
	BUMP & LAWSON	B & D WELL TESTERS	Carl A. Bagwell