NEW MEXICO OIL CONSERVATION COMMISSION

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

File 122 yates

Form C-122
Revised 9-1-65

RECEIVED
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O. C. C.
ARTESIA, OFFICE

Type Test: [X] Initial [ ] Annual [ ] Special — Test Date: 9-13-79

Company: Yates Petroleum Corp. — Connection: El Paso Natural Gas Company

Pool: W. Indian Basin Morrow — Formation: Morrow

Unit:

Farm or Lease Name: Hilliard "LE" Fed

Well No.: 1

Completion Date	Total Depth	Plug Back TD	Elevation
8-3-79	9350' KB	8750' KB	4160' KB

Csg. Size	Wt.	d	Set At	Perforations
5-1/2"	17#	4.892	9150' KB	From 8692 To 8714' KB
Tbg. Size	Wt.	d	Set At	Perforations:
2-3/8"	4.7#	1.995	8691 KB	From 8654 To 8657' KB

Unit	Sec.	Twp.	Rge.
C	14	21S	22E

County: Eddy

Type Well – Single – Bradenhead – G.G. or G.O. Multiple: Single — Packer Set At: 8648' KB

State: New Mexico

Producing Thru	Reservoir Temp. °F	Mean Annual Temp. °F	Baro. Press. – P_a	Prover	Meter Run	Taps
Tubing	144 @ 8700	62	13.2		4"	Flange

L	H	Gg	% CO_2	% N_2	% H_2S
8696	8696	0.632	0.55	0.44	Nil

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					1613	62			Days
1.	4.027 x 2.000	490	7	82	1479	66			1 hour
2.		491	14	82	1405	71			1 hour
3.		492	26	81	1257	75			1 hour
4.		494	49	80	1026	78			1 hour
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	19.81	59.35	503.2	.9795	1.274	1.040	1526
2.	19.81	84.02	504.2	.9795	1.274	1.040	2160
3.	19.81	114.61	505.2	.9804	1.274	1.040	2949
4.	19.81	154.40	507.2	.9813	1.274	1.041	3981
5.							

NO.	P_t	Temp. °R	T_r	Z
1.	.748	542	1.497	.925
2.	.749	542	1.497	.925
3.	.751	541	1.494	.924
4.	.754	540	1.492	.923
5.				

Gas Liquid Hydrocarbon Ratio: 177.714 Mcf/bbl.

A.P.I. Gravity of Liquid Hydrocarbons: 58.0 Deg.

Specific Gravity Separator Gas: 0.616 — xxxxxxxxx

Specific Gravity Flowing Fluid: xxxxx — 0.632

Critical Pressure: 673 P.S.I.A. — 812.5 P.S.I.A.

Critical Temperature: 362 R — 412 R

P_c 2100 P_c^2 4410

NO	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1			3704	706
2			3405	1005
3			2848	1562
4			2190	2220
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.9865$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.7553$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 6988$

Absolute Open Flow: 6988 Mcfd @ 15.025

Angle of Slope θ: 50.66 deg

Slope, n: 0.8197

Remarks: Static pressures by Bennett Wireline; flowing pressures by DWT. Calculations worksheet C-122D attached. Wellbore was not cleaned up in 30 minutes completion flow (20' water recovered on 3rd day of flow or 5.88 mole

Approved By Commission:

Conducted By: Don Weaver

Calculated By: Eddie Mahfood

Checked By: