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appropriate district office
See Rule 401 & Rule 1122

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

JUN 10 1992

O. C. H.

c/s
F. 1/2

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator VINTAGE PETROLEUM, INC.						Lease or Unit Name ALLIED STATE					
Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 5-6-92			Well No. 1		
Completion Date 4-1-92		Total Depth 11,942		Plug Back TD 11580		Elevation			Unit Ltr. - Sec. - TWP - Rge. 10 23 26		
Csg. Size	Wt.	d	Set At	Perforations:			County				
5 1/2			11580	From: 10552 To: 10574			EDDY				
Tbg. Size	Wt.	d	Set At	Perforations:			Pool				
2 3/8	4.7	1.995	10490	From: To: Free tier			S. Sanabed Strauss				
Type Well - Single - Bradenhead - G.G. or G.O. Multiple				Packer Set At 10490			Formation Strauss				
Producing Thru TBG		Reservoir Temp. °F 179 @ 10490		Mean Annual Temp. °F 60		Baro. Press - P 13.2			Connection EPNG		
L 10490	H 10490	Gg .896	% CO ₂ 21.34	% N ₂ .49	% H ₂ S -	Prover		Meter Run 4.026	Taps FLG		

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.		Temp. °F
SI						3843		PKR		72 hrs.
1.	4 X .750		520	16.00	80	3540		"		1 hr.
2.	4 X .750		520	23.00	84	3360		"		1 hr.
3.	4 X .750		520	37.20	78	3000		"		1 hr.
4.	4 X .750		520	88.40	72	2280		"		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, F _{pv}	Rate of Flow Q, Mcfd
1.	2.661	92.36	533.2	.9813	1.056	1.063	271
2.	2.661	110.74	533.2	.9777	1.056	1.063	323
3.	2.661	140.84	533.2	.9831	1.056	1.071	417
4.	2.661	217.11	533.2	.9887	1.056	1.071	646
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Dry Gas	Mcf/bbl.
1.	.70	540	1.29	.885	A.P. I. Gravity of Liquid Hydrocarbons	Dry	Deg.
2.	.70	544	1.30	.885	Specific Gravity Separator Gas	.896	XXXXXXXXXX
3.	.70	538	1.28	.871	Specific Gravity Flowing Fluid	N/A	XXXXXX
4.	.70	532	1.27	.871	Critical Pressure *754	P.S.I.A.	P.S.I.A.
5.					Critical Temperature *418	R	R

P_c **3856.2** P_c² **14870.3**

NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²
1.		3553.6	12628.4	2241.9
2.		3373.8	11382.9	3487.4
3.		3014.5	9086.3	5784.0
4.		2296.6	5274.2	9596.1
5.				

$$1) \frac{P_c^2}{P_c^2 - P_w^2} = 1.550 \quad (2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.343$$

$$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = .868$$

Absolute Open Flow 868	Mcf/d @ 15.025	Angle of Slope θ 56	Slope, n .673
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Remarks: ***=Corrected to 21.34% Co²**

No Fluid Produced during test

Approved By Division	Conducted By: PRO WELL TESTERS	Calculated By: BM	Checked By: BM
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WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)

Form C-122D
Adopted 9-1-65

COMPANY VINTAGE OIL LEASE ALLIED STATE WELL NO. 1 DATE 5-6-92

LOCATION: Unit 10490 Section 10 Township 23 S Range 26 E

L 10490 H 10490 L/H 1.000 G 896 % CO₂ 21.34 % N₂ 49 % H₂S -

* = P_w² d 1.995 F_i 0.018231 GH 9399.04 P_{cr} 754 T_{cr} 418
(1) (2) (3) (4) TABLE IX & X

LINE	1ST	2ND	1ST	2ND	1ST	2ND	1ST	2ND
1 Q _m	.271	.271	.323	.323	.417	.417	.646	.646
2 T _w (W.H. °R)	534	534	534	534	534	534	534	534
3 T _s (B.H. °R)	639	639	639	639	639	639	639	639
4 T = (T _w + T _s) / 2	586.5	586.5	586.5	586.5	586.5	586.5	586.5	586.5
5 Z (Est.)	.744	.811	.733	.791	.716	.755	.706	.709
6 T _Z	475.4	518.2	468.3	505.4	457.5	482.4	451.1	453.1
7 GH/T _Z	19.770	18.136	20.666	18.595	20.543	19.482	20.834	20.746
8 e ^S (Table XIV)	2.098	1.974	2.122	2.008	2.160	2.076	2.184	2.177
9 1 - e ^S (Table XIV)	.523	.493	.528	.502	.537	.518	.542	.540
10 P _t	3553.2	3553.2	3373.2	3373.2	3013.2	3013.2	2293.2	2293.2
11 P _t 2/1000	12.625.2	12.625.2	11378.4	11378.4	9079.3	9079.3	5258.7	5258.7
12 F _t (Table XV)	.018231	.018231	.018231	.018231	.018231	.018231	.018231	.018231
13 F _c = F _t T _Z	8.667	9.447	8.539	9.214	8.341	8.795	8.224	8.259
14 F _c Q _m	2.348	2.560	2.758	2.976	3.478	3.667	5.313	5.335
15 L/H (F _c Q _m) ²	5.517	6.555	7.607	8.858	12.098	13.452	28.229	28.469
16 F _w = L/H (F _c Q _m) ² (1 - e ^S)	2.888	3.234	4.022	4.447	6.498	6.973	15.305	15.352
17 P _w ² = P _t ² + F _w	12.628.1	12.628.4	11382.5	11382.4	9085.8	9086.3	5274.1	5274.2
18 P _s ² = e ^S P _w ²	2650.4	24930.3	24157.2	22861.2	19630.6	18865.8	11520.0	11482.1
19 P _s	51.48	4953.0	4914.9	4781.3	4430.6	4343.4	3394.1	3388.5
20 P = (P _t + P _s) / 2	4350.7	4273.1	4144.0	4097.2	3721.9	3678.3	2843.6	2840.8
21 P _r = (P/P _{cr})	5.77	5.67	5.50	5.41	4.94	4.88	3.77	3.77
22 T _r = (T/T _{cr})	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
23 Z (Table XI)	.811	.803	.791	.785	.755	.752	.709	.709