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See Rule 401 & Rule 1122

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-122
Revised 4-1-1991

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

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator Ocean Energy Resources, Inc.					Lease or Unit Name Townsend State				
Test Type ☒ Initial ☐ Annual ☐ Special					Test Date Apr 27, 2000		Well No. 9		
Completion Date		Total Depth		Plug Back TD		Elevation		Unit Ltr - Sec - TWP - Rge. 2/16s/35e	
Csg. Size	Wt.	d	Set At	Perforation: From 12350 To 12358			County Lea		
Tbg. Size 2.375	Wt.	d 1.995	Set At 12362	Perforation: From To			Pool West Lovington		
Type Well-Single-Bradenhead-G.C. or G.O. Multiple Single					Packer Set At 12326		Formation		
Producing Thru Tubing		Reservoir Temp.F 185		Mean Annual Temp.F 90		Baro. Pressure 13.30		Connection Dynergy	
L 12354	H 12354	Gg .759	% CO ₂ 9.48	% N ₂ 5.20	% H ₂ S	Prover		Meter Run 3.068	Taps Flange

FLOW DATA										TUBING DATA		CASING DATA		SIP/FLOW DURATION (HRS.)
NO.	(PROVER) LINE SIZE x ORIFICE SIZE		PRESS. PSIG	DIFF. ΔP	TEMP. F	PRESS. PSIG	TEMP. F	PRESS. PSIG	TEMP. F					
SHUT-IN PRESSURE														
1.	3.07	x 1.38	100.00	40.00	85	2325	100	3773	185	120				
2.	3.07	x 1.38	390.00	37.00	85	2000	100	3297	185	1				
3.	3.07	x 1.38	390.00	46.00	85	1350	100	2507	185	1				
4.	3.07	x 1.38	390.00	40.00	85	875	100	1777	185	1				
						490	100	1243	185	1				

RATE OF FLOW CALCULATIONS							
NO.	COEFFICIENT (24 HOUR)	$\sqrt{\Delta P}$	PRESSURE P_m	FLOW TEMP. FACTOR F_t	GRAVITY FACTOR F_g	SUPER COMPRESS. FACTOR F_{sp}	RATE OF FLOW (Q) MCFD
1.	9.486	67.320	113.3	.9768	1.1478	1.0100	723.2
2.	9.486	122.156	403.3	.9768	1.1478	1.0373	1347.6
3.	9.486	136.205	403.3	.9768	1.1478	1.0373	1502.6
4.	9.486	127.012	403.3	.9768	1.1478	1.0373	1401.2

NO.	P_r	TEMP.	T_r	Z
1.	.164	545	1.410	.9803
2.	.583	545	1.410	.9294
3.	.583	545	1.410	.9294
4.	.583	545	1.410	.9294

Gas-Liquid Hydrocarbon Ratio	11.7	Mcf/bbl
API Gravity of Liquid Hydrocarbons	50.000	Deg.
Specific Gravity Separator Gas	.759	
Specific Gravity Flowing Fluid	1.005	
Critical Pressure	692 PSIA	680 PSIA
Critical Temperature	386 R	465 R

$P_C =$	3786.3	$P_C^2 =$	14336.1
NO.	P_w	P_w^2	$P_C^2 - P_w^2$
1.	3310.3	10958	3377.981
2.	2520.3	6351	7984.156
3.	1790.3	3205	11130.890
4.	1256.3	1578	12757.780

$$(1) \frac{P_C^2}{P_C^2 - P_w^2} = \frac{4.244}{2.848} \quad (2) \left[\frac{P_C^2}{P_C^2 - P_w^2} \right]^n = \frac{2.848}{2.060}$$

$$AOF = Q \left[\frac{P_C^2}{P_C^2 - P_w^2} \right]^n = 2060$$

Absolute Open Flow 2060 Mcfd @ 15.025		Angle of Slope - 54.1		Slope, n .724	
Remarks Form uses measured bottomhole pressures, listed in casing data table. Well produced a total of 17.6 bbls of condensate, flow was "slugging".					
Approved By Division: DISTRICT SUPERVISOR		Conducted By: Schlum/C.Taylor		Calculated By: BPT System/SCHLUMBERGER	
				Checked By: D. Simper	

GAS WELL BACK PRESSURE CURVE

WELL TESTER: Schlum/C.Taylor
TEST DATE: Apr 27, 2000

Ocean Energy Resources, Inc.
Townsend State 9

Lea ,NM.

Slope n : 0.7236

