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See Rule 40, & Rule 1122

State of New Mexico
Energy, Minerals and Natural Resources Dept

Form C-122
Revised 4-1-91

OIL CONSERVATION DIVISION

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

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator VISTA RESOURCES						Lease or Unit Name SOUTH LEA FED					
Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 12/3/98		Well No. 17-26S-36E			
Completion Date 11/30/98		Total Depth 21252		Plug Back TD 18191		Elevation		Unit Loc. - Sec. - Twp. - Rge. 17-26S-36E			
Csg. Size 5"		Wt. 23.2		d 4.044		Set At 21,252		Perforations: From: 17755 To: 17892		County LEA	
Tub. Size 2-3/8-2-7/8		Wt. 5.95		d 1.865		Set At 17,660		Perforations: From: To:		Pool	
Type Well - Single - Broadhead - G.O. ☒ Multiple single						Packer Set At 17660'		Formation DEVONIAN			
Producing Thru TBG		Reservoir Temp. °F 250.6		Mean Annual Temp. °F 60°		Baro. Press - P _a 13.2		Connection AIR			
L 17660	II 17660	G _g .622	% CO ₂ 5.275	% N ₂ .560	% H ₂ S	Prover -0-	Meter Run 4.026	Taps Flg.			

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow
NO.	Prover Line Size	Orifice Size	Press. psig.	Diff. h _w	Temp. °F	Press. psig.	Temp. °F	Press. psig.	Temp. °F	
51						3485		prv		12 hrs
1.	4.026 X 2.00		100	4.	68°	3083		"		60 min
2.	4.026 X 2.00		100	5	68°	3068		"		60 min
3.	4.026 X 2.00		100	12	65°	3039		"		60 min
4.	4.026 X 2.00		100	32	65°	2940		"		60 min
5.										

RATE OF FLOW CALCULATIONS							
NO.	COEFFICIENT (24 HOUR)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor F _{sp}	Rate of Flow Q, MscfD
1.	19.81	21.2	113.2	.9924	1.268	1.041	550
2.	19.81	23.7	113.2	.9924	1.268	1.041	615
3.	19.81	36.8	113.2	.9952	1.268	1.042	958
4.	19.81	60.1	113.2	.9952	1.268	1.042	1565
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Method
1.	.76	528	1.49	.922	n/a	Gas
2.	.76	528	1.49	.922	n/a	Gas
3.	.75	525	1.48	.921	.622	XXXXXXXXXX
4.	.75	525	1.48	.921	n/a	XXXXXXXXXX
5.					691	PSIA
					353	R

P_e **3498.2** P_w **12,237.4**

NO.	P _e ²	P _w	P _w ²	P _e ² - P _w ²
1.	19586.5	3100.6	9613.7	2623.7
2.	19493.8	3086.7	9527.8	2709.6
3.	19315.9	3065.6	9398.2	2839.2
4.	18721.4	2989.9	8939.4	3298.0
5.				

1) $\frac{P_e^2}{P_e^2 - P_w^2} = \underline{3.711}$ (2) $\left[\frac{P_e^2}{P_e^2 - P_w^2} \right]^* = \underline{3.711}$

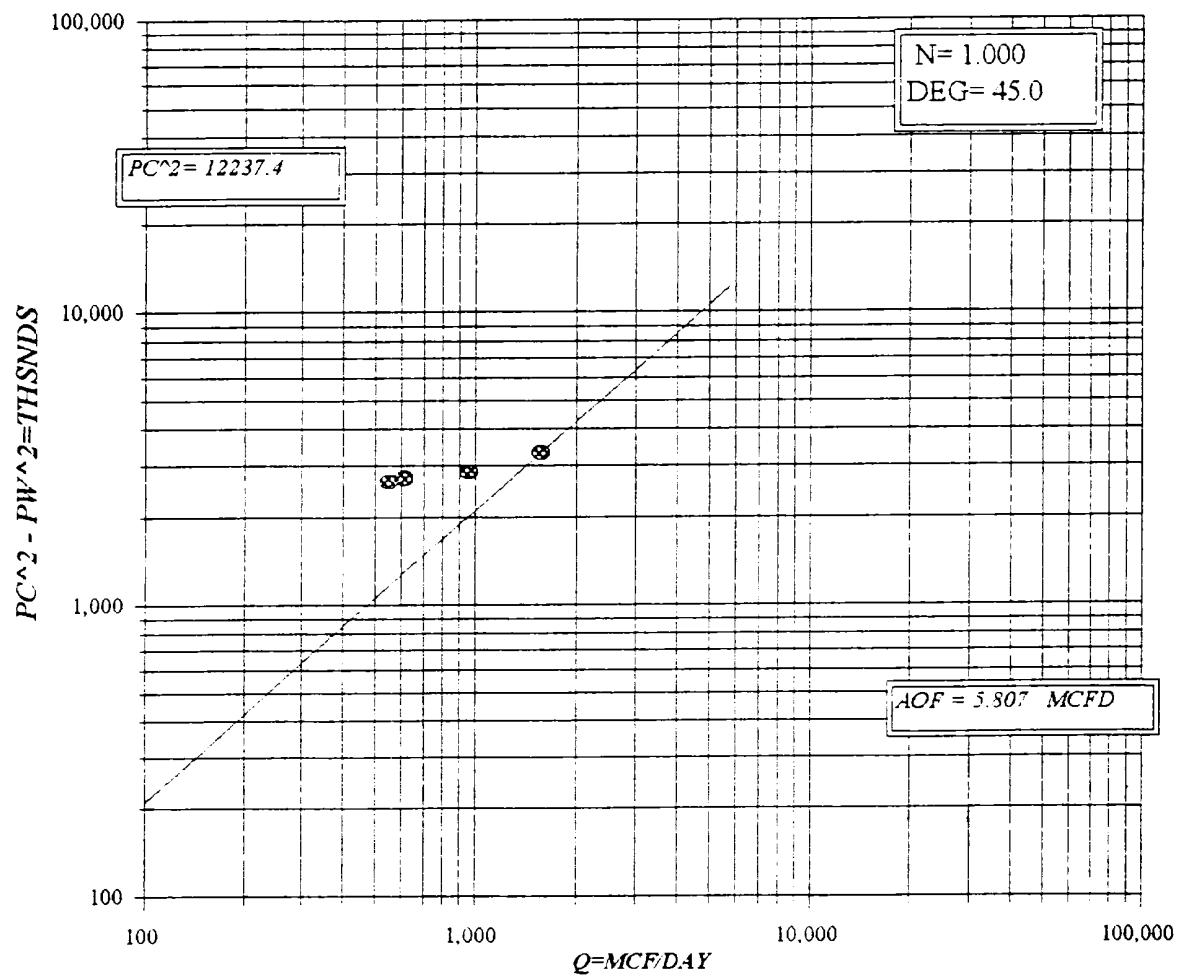
AOF = Q $\left[\frac{P_e^2}{P_e^2 - P_w^2} \right]^* = \underline{5.807}$

Absolute Open Flow 5.807	Meq @ 15.025	Angle of Slope 45.0	Slope n 1.000
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Remarks: *** NO FLUID MADE DURING TEST**

Approved By Division	Conducted By: PRO WELL TESTING	Calculated By: MB	Checked By: BM
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VISTA RES.
S. LEA FED # 1



O COMPANY : VISTA RES. LEASE : S. LEA FED WELL NO. : 1 Pc = 3498.2 Pc2 = 12237.4 *
 UNIT : SECTION : 17 TOWNSHIP : 26 Pt2 = 9586.5 Pw = 3100.6 *
 L : 17660 H : 17660 L/H : 1 G/GMIX : 0.622 9493.8 3086.7 *
 %CO2 : 5.275 %N2 : 0.56 H2S : DATE : 12/3/98 9315.9 3065.6 *
 d : 1.811 Fr : 0.023473 GH : 10984.5 RANGE : 36 8721.4 2989.9 *

VOL 1 : 550 PSIA 1 : 3096.2 RESV.TEMP 250.6 Pc2-Pw2= 2623.7 Pw2 = 9613.7 *
 VOL 2 : 615 PSIA 2 : 3081.2 2709.6 9527.8 *
 VOL 3 : 958 PSIA 3 : 3052.2 SHUT-IN PR= 3498.2 2839.2 9398.2 *
 VOL 4 : 1565 PSIA 4 : 2953.2 3298.0 8939.4 *

PCR : 691 n = 1.000 *
 TCR : 353

Pc2/(Pc2-Pw2) = 4.664 *
 4.516 *
 4.310 *
 3.711 *

LINE	RATE 1		RATE 2		RATE 3		RATE 4	
	1ST	2ND	1ST	2ND	1ST	2ND	1ST	2ND
1 QM	0.550	0.550	0.615	0.615	0.958	0.958	1.565	1.565
2 TW	534	534	534	534	534	534	534	534
3 Ts	710.6	710.6	710.6	710.6	710.6	710.6	710.6	710.6
4 T	622.3	622.3	622.3	622.3	622.3	622.3	622.3	622.3
PR (est)	4.48		4.46		4.42		4.27	
5 I(est)	0.872	0.899	0.872	0.899	0.871	0.897	0.869	0.893
6 TZ	542.8	559.7	542.6	559.2	542.1	558.3	540.6	555.5
7 GH/TZ	20.235	19.626	20.245	19.644	20.263	19.673	20.319	19.775
8 eS	2.136	2.088	2.137	2.089	2.138	2.091	2.142	2.099
9 l-e-S	0.532	0.521	0.532	0.521	0.532	0.522	0.533	0.524
10 Pt	3096.2	3096.2	3081.2	3081.2	3052.2	3052.2	2953.2	2953.2
11 Pt2 /1000	9586.5	9586.5	9493.8	9493.8	9315.9	9315.9	8721.4	8721.4
12 Fr	0.023473	0.023473	0.023473	0.023473	0.023473	0.023473	0.023473	0.023473
13 Fc=FrTZ	12.742	13.138	12.737	13.126	12.725	13.106	12.690	13.039
14 FcQm	7.01	7.23	7.83	8.07	12.19	12.56	19.86	20.41
15 L/H(FcQm)	49.1	52.2	61.4	65.2	148.6	157.7	394.4	416.4
16 Fw	26.11963	27.20139	32.63783	33.97046	79.10288	82.26523	210.3231	213.05176
17 Pw2	9612.6	9613.7	9526.4	9527.8	9395.0	9398.2	8931.7	8939.4
18 Ps2	20530.2	20068.8	20353.4	19902.6	20086.1	19653.7	19135.9	18765.5
19 Ps	4531.0	4479.3	4511.5	4461.2	4481.8	4433.3	4374.5	4331.9
20 P	3813.6	3788.0	3796.3	3771.2	3767.0	3742.7	3663.8	3642.6
21 Pr	5.52	5.48	5.49	5.46	5.45	5.42	5.30	5.27
22 Tr	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76
23 I	0.899	0.898	0.899	0.897	0.897	0.896	0.893	0.892

AOF= Q 2.565 *
 2.777 *
 4.129 *
 5.307 *

FORM C122-D *

Equivalent Diameter Program

Author: Bob Murray

Date: December 26, 1990

L1 =	17660 ft.	L5 =	0 ft.	Lt =	17660 ft.
D1 =	1.865 in.	D5 =	1 in.	C =	0.10797

L2 =	9845 ft.	L6 =	0 ft.		
D2 =	2.328 in.	D6 =	1 in.	Deff =	1.811 in.

L3 =	0 ft.	L7 =	0 ft.	Fr =	0.02290
D3 =	1 in.	D7 =	1 in.		

L4 =	0 ft.	L8 =	0 ft.		
D4 =	1 in.	D8 =	1 in.		



Laboratory Services, Inc.

4016 Fiesta Drive
Hobbs, New Mexico 88240

Telephone: (505) 397-3713

FOR: Pro Well Testing & Wireline
Attention: Mr. Merv Buecker
P. O. Box 791
Hobbs, New Mexico 88241

SAMPLE:
IDENTIFICATION: Lea Federal #1
COMPANY: Vista
LEASE:
PLANT:

SAMPLE DATA: DATE SAMPLED: 12/3/98
ANALYSIS DATE: 12/7/98
PRESSURE - PSIG 100
SAMPLE TEMP. °F
ATMOS. TEMP. °F

GAS (XX) LIQUID ()
SAMPLED BY: Ben Pena
ANALYSIS BY: Vickie Walker

REMARKS:

COMPONENT ANALYSIS

COMPONENT	MOL PERCENT	GPM
Hydrogen Sulfide (H2S)		
Nitrogen (N2)	0.560	
Carbon Dioxide (CO2)	5.275	
Methane (C1)	91.466	
Ethane (C2)	2.401	0.641
Propane (C3)	0.196	0.054
I-Butane (IC4)	0.040	0.013
N-Butane (NC4)	0.062	0.020
I-Pentane (IC5)	0.000	0.000
N-Pentane (NC5)	0.000	0.000
Hexane Plus (C6+)	0.000	0.000
	100.000	0.728

BTU/CU.FT. - DRY 975
AT 14.650 DRY 972
AT 14.650 WET 955
AT 14.73 DRY 977
AT 14.73 WET 960

MOLECULAR WT. 18.0172

SPECIFIC GRAVITY -
CALCULATED 0.622
MEASURED