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See Rule 401 & Rule 1122

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

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Form C-122
Revised October, 1999

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30-015-22864

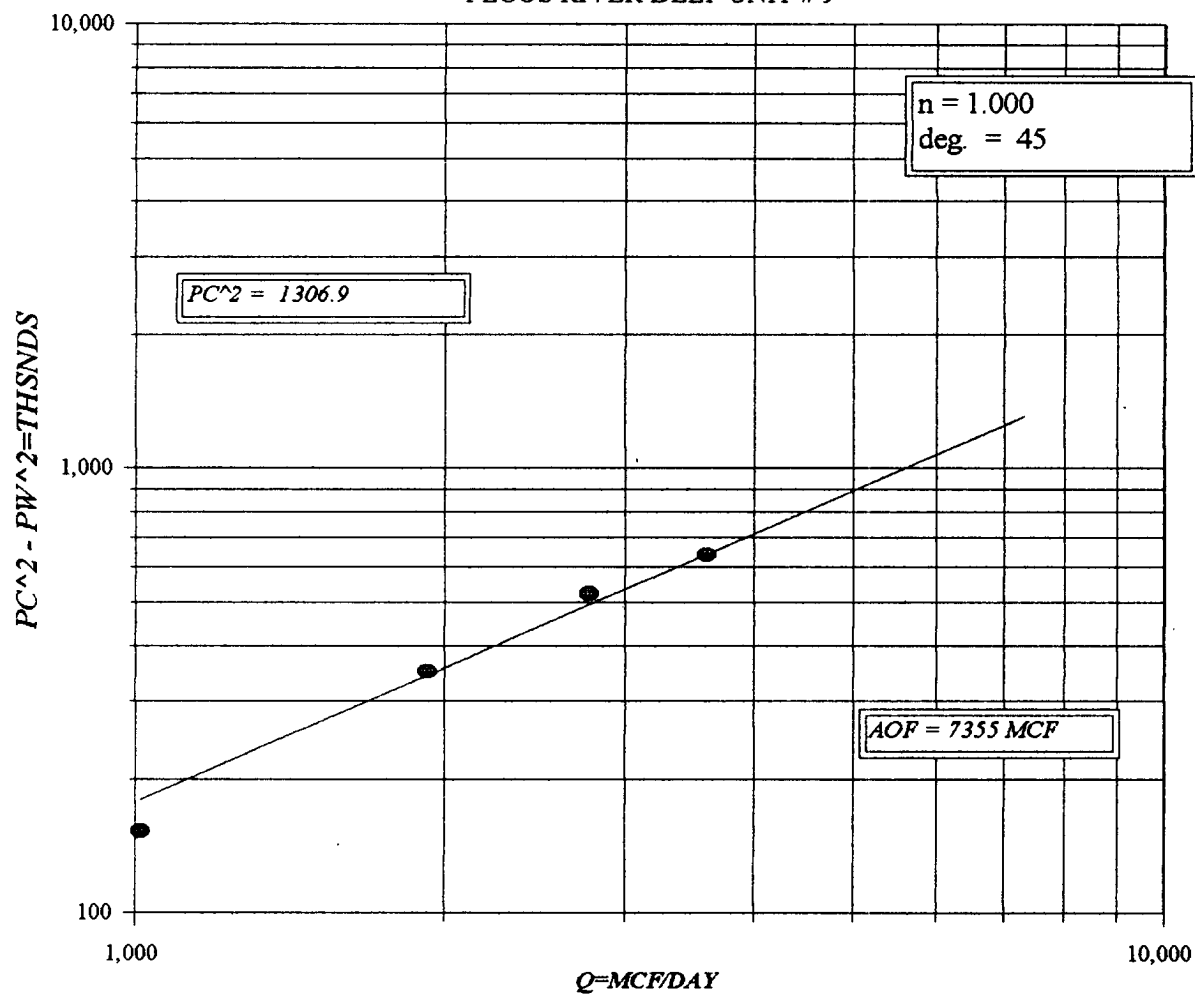
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator YATES DRILLING COMPANY				Lease or Unit Name PECOS RIVER DEEP UNIT			
Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 3/22/04		Well No. 9	
Completion Date 11/5/03		Total Depth 10800		Plug Back TD 10365		Elevation 3471 GL	
Unit Ltr - Sec - TWP - Rge N 28 19 27		County EDDY		Pool McMILLAN		Formation MORROW	
Csg. Size 5 1/2	Wt. 17&15.5	d 4.892	Set At 10756	Perforations: From: 10290 To: 10320		Connection AGAVE	
Tbg. Size 2 7/8	Wt. 6.5	d 2.441	Set At 10240	Perforations: From: OPEN To: ENDED		Baro. Press. - P _a 13.2	
Type Well-Single-Bradenhead-G.G. or G.O. Multiple SINGLE				Packer Set At 10240		Connection AGAVE	
Producing Thru TBG		Reservoir Temp. °F 176.4 @ 10240		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2	
L 10240	H 10240	Gg 0.627	%CO ₂ 0.731	%N ₂ 0.312	%H ₂ S N/A	Prover N/A	Meter Run 2.067
Taps FLG				Duration of Flow			
FLOW DATA				TUBING DATA			
No.	Prover Line Size	Orifice x Size	Press p.s.i.g.	Diff. h _w	Temp. °F	Press p.s.i.g.	Temp. °F
SI						1130	PKR
1	2 X	1.500	272	12.8	75	1056	"
2	2 X	1.500	302	42.7	76	944	"
3	2 X	1.500	337	82.2	77	822	"
4	2 X	1.500	366	126	75	705	"
5							
RATE OF FLOW CALCULATIONS							
No.	COEFFICIENT (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress Factor F _{pv}	Rate of Flow Q. Mcfd
1							1,012
2							1,928
3							2,775
4	MEASURED		BY	TOTAL	FLOW	METER	3,604
5							
No.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio 258.861 Mcf bbl.		
1					A.P. I. Gravity of Liquid Hydrocarbons 52.4 @ 60 Deg.		
2					Specific Gravity Separator Gas 0.627 XXXXXXXX		
3		N/A			Specific Gravity Flowing Fluid XXXXXX GMIX = .639		
4					Critical Pressure 671 P.S.I.A. 670 P.S.I.A.		
5					Critical Temperature 365 R. 368 R		
P _c 1143.2 P ₂ 1306.9							
No.	P ₁ ²	P _w	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = \frac{2.041}{79825}$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = \frac{2.041}{7.355}$		
1		1074.5	1154.6	152.4			
2		978.8	958.1	348.8			
3		886.4	785.6	521.3			
4		816.4	666.5	640.4			
5							
Absolute Open Flow 7.355 Mcfd @ 15.025				Angle of Slope Q: 45			
Slope n: 1							
Remarks: WELL PRODUCED 1.5 BBLs 52.4 API CONDENSATE							
Approved By Division:		Conducted By: Jarrel Services, Inc.		Calculated By: BM		Checked By: BM	

LINE	RATE 1		RATE 2		RATE 3		RATE 4		
	1ST	2ND	1ST	2ND	1ST	2ND	1ST	2ND	
1	QM	1.012	1.012	1.928	1.928	2.775	2.775	3.604	3.604
2	TW	534	534	534	534	534	534	534	534
3	Ts	636.4	636.4	636.4	636.4	636.4	636.4	636.4	636.4
4	T	585.2	585.2	585.2	585.2	585.2	585.2	585.2	585.2
	PR (est)	1.60		1.43		1.25		1.07	
5	Z(est)	0.859	0.846	0.869	0.856	0.881	0.867	0.893	0.877
6	TZ	502.6	495.0	508.7	500.9	515.8	507.5	522.8	513.3
7	GH/TZ	13.018	13.218	12.862	13.062	12.687	12.895	12.515	12.746
8	eS	1.629	1.642	1.620	1.632	1.609	1.622	1.599	1.613
9	l-e-S	0.386	0.391	0.383	0.387	0.379	0.383	0.375	0.380
10	Pt	1069.2	1069.2	957.2	957.2	835.2	835.2	718.2	718.2
11	Pt2 /1000	1143.2	1143.2	916.2	916.2	697.6	697.6	515.8	515.8
12	Fr	0.010763	0.010763	0.010763	0.010763	0.010763	0.010763	0.010763	0.010763
13	Fc=FrTZ	5.410	5.328	5.476	5.392	5.551	5.462	5.627	5.525
14	FcQm	5.47	5.39	10.56	10.40	15.40	15.16	20.28	19.91
15	L/H(FcQm)	30.0	29.1	111.5	108.1	237.3	229.7	411.3	396.5
16	Fw	11.57796	11.36300	42.64718	41.84859	89.84017	88.07466	154.0664	150.66766
17	Pw2	1154.8	1154.6	958.9	958.1	787.4	785.6	669.9	666.5
18	Ps2	1881.5	1895.3	1553.2	1563.6	1267.1	1274.2	1071.1	1074.9
19	Ps	1371.7	1376.7	1246.3	1250.4	1125.7	1128.8	1034.9	1036.8
20	P	1220.4	1223.0	1101.7	1103.8	980.4	982.0	876.6	877.5
21	Pr	1.82	1.83	1.64	1.65	1.46	1.47	1.31	1.31
22	Tr	1.59	1.59	1.59	1.59	1.59	1.59	1.59	1.59
23	Z	0.846	0.846	0.856	0.856	0.867	0.867	0.877	0.877

YATES DRILLING COMPANY

PECOS RIVER DEEP UNIT # 9



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NEW MEXICO G.O.R./G. MIX

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NO. OF BBLS PRODUCED = 1.5

API GRAVITY @ 60 DEG. = 52.4

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SPECIFIC GRAVITY OF GAS = 0.6270

XX

TOTAL GAS PRODUCED = 388

G.O.R. = 258.861

G.MIX = 0.639



Laboratory Services, Inc.

4016 Fiesta Drive
Hobbs, New Mexico 88240

Telephone: (505) 397-3713

FOR: Jarrel Services, Inc.
Attention: Mr. Donnie Dickerson
P. O. Box 1230
Hobbs, New Mexico 88240

SAMPLE:
IDENTIFICATION: Pecos River Deep Unit #9
COMPANY: Yates Drilling Company
LEASE:
PLANT:

SAMPLE DATA: DATE SAMPLED: 3/22/04 1:00PM
ANALYSIS DATE: 3/23/04
PRESSURE - PSIG
SAMPLE TEMP. °F
ATMOS. TEMP. °F

GAS (XX) LIQUID ()
SAMPLED BY: Donnie Dickerson
ANALYSIS BY: Rolland Perry

REMARKS:

COMPONENT ANALYSIS

COMPONENT	MOL PERCENT	GPM
Hydrogen Sulfide (H2S)		
Nitrogen (N2)	0.312	
Carbon Dioxide (CO2)	0.731	
Methane (C1)	91.353	
Ethane (C2)	4.661	1.244
Propane (C3)	1.517	0.417
I-Butane (IC4)	0.257	0.084
N-Butane (NC4)	0.333	0.105
I-Pentane (IC5)	0.129	0.047
N-Pentane (NC5)	0.084	0.030
Hexane Plus (C6+)	0.623	0.270
	100.000	2.197
BTU/CU.FT. - DRY	1101	MOLECULAR WT. 18.2055
AT 14.650 DRY	1097	
AT 14.650 WET	1078	
AT 14.73 DRY	1103	
AT 14.73 WET	1084	
SPECIFIC GRAVITY - CALCULATED	0.627	
MEASURED		