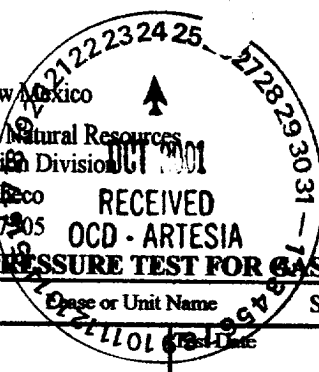


Submit in duplicate to
appropriate district office.
See Rule 401 & Rule 1122

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
2040 South Pacific
Santa Fe, NM 87205

Form C-122
Revised October, 1999

C15F



MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator KUKUI OPERATING COMPANY					Page or Unit Name SARGENT CANYON "31" FED.				
Type Test ☒ Initial ☐ Annual ☐ Special									
Completion Date 10/10/01		Total Depth 7750		Plug Back TD 7246		Elevation 4588 GL		Well No. 1	
Csg. Size 5 1/2	Wt. 17#	d 	Set At 7350	Perforations: From: 6963 To: 7,140'		Unit Ltr - Sec - TWP - Rge 31 19 21			
Tbg. Size 2 7/8	Wt. 6.5	d 2.441	Set At 6926	Perforations: From: To: 		County EDDY			
Type Well-Single-Bradenhead-G.G. or G.O. Multiple SINGLE				Packer Set At 6926		Formation ATOKA			
Producing Thru Tbg. Size		Reservoir Temp. °F 143.3 @ 6926		Mean Annual Temp. °F 60		Baro. Press. -P _a 13.2		Connection VENTED	
L 6926	H 6926	Gg Gm=.729	%CO ₂ 0.208	%N ₂ 2.196	%H ₂ S N/A	Prover N/A	Meter Run 3.068	Taps FLG	
FLOW DATA					TUBING DATA			CASING 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	Press p.s.i.g.	Temp. °F
SI						2050		PKR	
1	3	X 1.50	53	4.41	80	1860		"	1 HR
2	3	X 1.50	150	10.89	80	1800		"	1 HR
3	3	X 1.50	424	29.2	80	1710		"	2 HR
4	3	X 1.50	621	56.3	80	1351		"	1 HR
5									
RATE OF FLOW CALCULATIONS									
No.	COEFFICIENT (24 Hour)		√ 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	11.13		17.09	66.2	0.9813	1.184	1.01	223	
2	11.13		42.16	163.2	0.9813	1.184	1.017	555	
3	11.13		112.99	437.2	0.9813	1.184	1.047	1530	
4	11.13		188.96	634.2	0.9813	1.184	1.069	2612	
5									
No.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio 179.2 Mcf bbl.				
1	0.1	540	1.38	0.98	A.P. I. Gravity of Liquid Hydrocarbons 59 @ 60 Deg.				
2	0.24	540	1.38	0.967	Specific Gravity Separator Gas 0.713 XXXXXXXX				
3	0.65	540	1.38	0.913	Specific Gravity Flowing Fluid XXXXXX G mix= .729				
4	0.95	540	1.38	0.875	Critical Pressure * 652 P.S.I.A. 668 P.S.I.A.				
5					Critical Temperature * 363 R. 398 R				
P _c 2063.2 P _c 4256.8									
No.	P _i ²	P _w	P _w ²	P _c ² -P _w ²	(1) $P_c^2 = \frac{1.817}{P_c^2 - P_w^2}$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.817$				
1		1873.3	3509.2	747.6					
2		1813.8	3290	966.8					
3		1728.2	2986.7	1270.1					
4		1383.2	1913.5	2343.3					
5									
Absolute Open Flow 4.745 Mcfd @ 15.025					Angle of Slope (°): 45 Slope n: 1				
Remarks: WELL PRODUCED 1.5 BBLS 59 API GR. CONDENSATE--* CORRECTED TO 2.196 % N2									
Approved By Division:		Conducted By: SIGNAL WIRE LINE		Calculated By: BM		Checked By: BM			

COMPANY : ARROW OIL CO. LEASE 15, SECTION 31, TOWNSHIP 19, RANGE 21
 UNIT : SECTION : 31 TOWNSHIP : 19
 L : 6926 H : 6926 L/H : 1 G/GMIX : 0.729
 %CO2 : 0.208 %N2 : 2.196 H2S : DATE :
 d : 2.441 Fr : 0.010763 GH : 5049.1 RANGE : 21

PC = 4003.4 PC2 = 4230.0
 Pt2 = 3508.9 Pw = 1873.3
 3287.7 1813.8
 2969.4 1728.2
 1861.0 1383.3

VOL 1 : 223 PSIA 1 : 1873.2 RESV.TEMP 143.3
 VOL 2 : 555 PSIA 2 : 1813.2
 VOL 3 : 1530 PSIA 3 : 1723.2 SHUT-IN PR= 2063.2
 VOL 4 : 2612 PSIA 4 : 1364.2

PCR : 665
 TCR : 389

Pc2-Pw2= 747.6 Pw2 = 3509.2
 966.8 3290.0
 1270.1 2986.7
 2343.3 1913.5

n = 1.000

Pc2/(Pc2-Pw2) = 5.694
 4.403
 3.352
 1.817

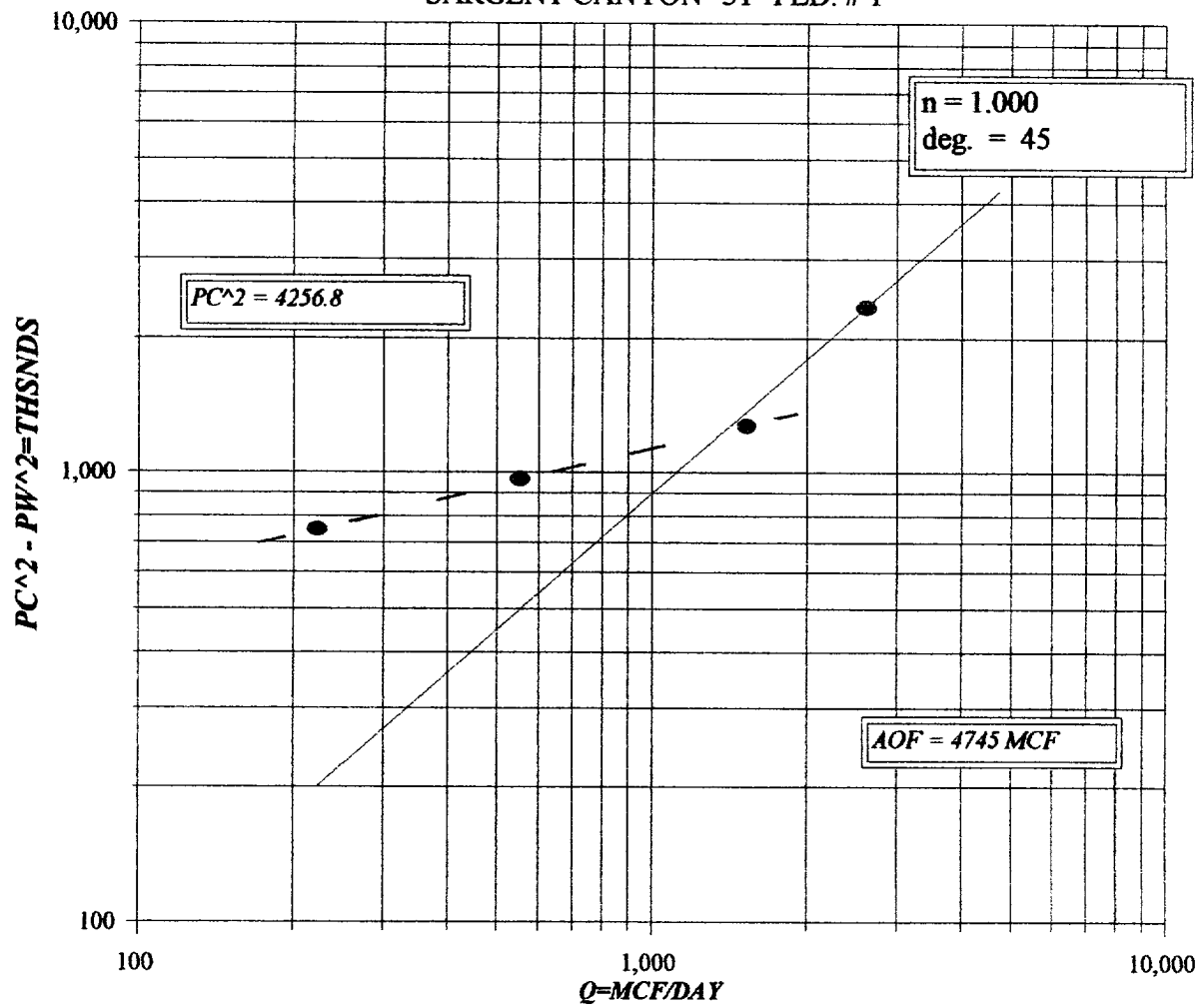
[Pc2/Pc2-Pw2]n = 5.694
 4.403
 3.352
 1.817

AOF= Q 1.270
 2.444
 5.128
 4.745

FORM C122-D

LINE		RATE 1		RATE 2		RATE 3		RATE 4	
		1ST	2ND	1ST	2ND	1ST	2ND	1ST	2ND
1	QM	0.223	0.223	0.555	0.555	1.530	1.530	2.612	2.612
2	TW	534	534	534	534	534	534	534	534
3	Ts	603.3	603.3	603.3	603.3	603.3	603.3	603.3	603.3
4	T	568.6	568.6	568.6	568.6	568.6	568.6	568.6	568.6
	PR (est)	2.82		2.73		2.59		2.05	
5	Z(est)	0.739	0.732	0.742	0.733	0.747	0.736	0.778	0.761
6	TZ	420.3	416.2	421.9	417.0	424.9	418.7	442.4	432.8
7	GH/TZ	12.014	12.132	11.966	12.109	11.882	12.059	11.412	11.666
8	eS	1.569	1.576	1.566	1.575	1.561	1.572	1.534	1.549
9	l-e-S	0.363	0.366	0.362	0.365	0.360	0.364	0.348	0.354
0	Pt	1873.2	1873.2	1813.2	1813.2	1723.2	1723.2	1364.2	1364.2
1	Pt2 /1000	3508.9	3508.9	3287.7	3287.7	2969.4	2969.4	1861.0	1861.0
2	Fr	0.010763	0.010763	0.010763	0.010763	0.010763	0.010763	0.010763	0.010763
3	Fc=FrTZ	4.523	4.479	4.541	4.488	4.573	4.506	4.762	4.658
4	FcQm	1.01	1.00	2.52	2.49	7.00	6.89	12.44	12.17
5	L/H(FcQm)	1.0	1.0	6.4	6.2	49.0	47.5	154.7	148.1
6	Pw	0.369061	0.364709	2.296934	2.264228	17.60502	17.29397	53.86199	52.460362
7	Pw2	3509.2	3509.2	3290.0	3290.0	2987.0	2986.7	1914.9	1913.5
8	Ps2	5506.4	5530.9	5153.2	5180.8	4664.0	4694.5	2937.7	2963.6
9	Ps	2346.6	2351.8	2270.1	2276.1	2159.6	2166.7	1714.0	1721.5
0	P	2109.9	2112.5	2041.6	2044.7	1941.4	1944.9	1539.1	1542.9
1	Pr	3.17	3.18	3.07	3.07	2.92	2.92	2.31	2.32
2	Tr	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46
3	Z	0.732	0.732	0.733	0.733	0.736	0.736	0.761	0.761

KUKUI OPERATING CO.
SARGENT CANYON "31" FED. # 1



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

NO. OF BBLS PRODUCED = 1.5
API GRAVITY @ 60 DEG. = 59.0

.....
SPECIFIC GRAVITY OF GAS = 0.7130

XX
TOTAL GAS PRODUCED = 269

G.O.R. = 179.167

G.MIX = 0.729



Laboratory Services, Inc.

4016 Fiesta Drive
Hobbs, New Mexico 88240

Telephone: (505) 397-3713

FOR: Signal Wireline & Testing
Attention: Mr. David Bump
Hobbs, New Mexico 88240

SAMPLE:
IDENTIFICATION: Sargent Canyon "31" Fed. #1
COMPANY: Kukui
LEASE:
PLANT:

SAMPLE DATA: DATE SAMPLED: 10/19/01 11:00AM
ANALYSIS DATE: 10/22/01
PRESSURE - PSIG 605
SAMPLE TEMP. °F 78
ATMOS. TEMP. °F

GAS (XX) LIQUID ()
SAMPLED BY: David Bump
ANALYSIS BY: Rolland Perry

COMPONENT ANALYSIS

COMPONENT	MOL PERCENT	GPM
Hydrogen Sulfide (H2S)		
Nitrogen (N2)	2.196	
Carbon Dioxide (CO2)	0.208	
Methane (C1)	83.631	
Ethane (C2)	7.024	1.874
Propane (C3)	2.753	0.757
I-Butane (IC4)	0.497	0.162
N-Butane (NC4)	0.683	0.215
I-Pentane (IC5)	0.282	0.103
N-Pentane (NC5)	0.204	0.074
Hexane Plus (C6+)	2.521	1.094
	100.000	4.279
BTU/CU.FT. - DRY	1216	MOLECULAR WT. 20.8161
AT 14.650 DRY	1212	
AT 14.650 WET	1191	
AT 14.73 DRY	1219	
AT 14.73 WET	1198	
SPECIFIC GRAVITY -		
CALCULATED	0.713	
MEASURED		