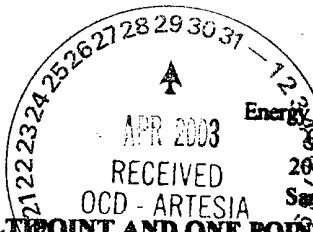


Submit in duplicate to
appropriate district office.
See Rule 401 & Rule 1122



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

Form C-122
Revised October, 1999

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator SAGA PETROLEUM				Lease or Unit Name ALLIED			
Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 4/12/03		Well No. 2	
Completion Date		Total Depth 11,051'		Plug Back TD 10,949'		Elevation 3261' Gr	
Csg. Size 5 1/2		Wt. 17 #		Set At 11,051'		Perforations: From: 10768 To: 10780	
Tbg. Size 2 7/8		Wt. 6.5		Set At 10647		Perforations: From: To:	
Type Well-Single-Bradenhead-G.G. or G.O. Multiple SINGLE				Packer Set At 10647		Formation Morrow	
Producing Thru Tbg. Size		Reservoir Temp. °F 180.5 @ 10647		Mean Annual Temp. °F 60		Baro. Press. -P _a 13.2	
L 10647		H 10647		Gg 0.627		Taps FLG	
				%CO ₂ 0.696		%H ₂ S N/A	
				%N ₂ 0.353		Prover N/A	
						Meter Run 4.026	
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
1	4 X	1.625				2850	PKR
2	4 X	1.625				2450	"
3	4 X	1.625				2155	"
4	4 X	1.625				1948	"
5	4 X	1.625				1330	"
RATE OF FLOW CALCULATIONS							
No.	COEFFICIENT (24 Hour)		Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress Factor F _{pv}	Rate of Flow Q, Mcfd
1							570
2							615
3	MEASURED		BY	TOTAL	FLOW	METER	880
4							1,240
5							
No.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio 137.7 Mcf bbl.		
1					A.P. I. Gravity of Liquid Hydrocarbons 57 @ 60 Deg.		
2					Specific Gravity Separator Gas 0.627 XXXXXXXX		
3		N/A			Specific Gravity Flowing Fluid XXXXXX GMIX = .647		
4					Critical Pressure 671 P.S.I.A. 670 P.S.I.A.		
5					Critical Temperature 365 R 372 R		
P _o	2863.2		P ₂	8197.9			
No.	P _i ²	P _w	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = \frac{1.286}{1.238}$		
1		2463.9	6070.9	2127			
2		2169.1	4705.1	3492.8			
3		1963.2	3854.6	4343.3			
4		1349.5	1821.3	6376.6			
5							
Absolute Open Flow 1.535				Mcf/d @ 15.025		Angle of Slope Q: 49.68	
				Slope n: 0.849			
Remarks: WELL PRODUCE 1 BBL 57 API GR. CONDENSATE							
Approved By Division:		Conducted By: METER & TESTING		Calculated By: BM		Checked By: BM	



Laboratory Services, Inc.

4016 Fiesta Drive
Hobbs, New Mexico 88240

Telephone: (505) 397-3713

FOR: Metering & Testing Services Inc.
Attention: Mr. Tom Duncan
2807 West County Road
Hobbs, New Mexico 88240

SAMPLE:
IDENTIFICATION: Allied #2
COMPANY: Saga
LEASE:
PLANT:

SAMPLE DATA: DATE SAMPLED: 4/12/03 11:45 am
ANALYSIS DATE: 4/14/03
PRESSURE - PSIG 95
SAMPLE TEMP. °F 89
ATMOS. TEMP. °F 70

GAS (XX) LIQUID ()
SAMPLED BY: Floyd
ANALYSIS BY: Vickie Biggs

REMARKS:

COMPONENT ANALYSIS

COMPONENT	MOL PERCENT	GPM
Hydrogen Sulfide (H2S)		
Nitrogen (N2)	0.353	
Carbon Dioxide (CO2)	0.696	
Methane (C1)	91.528	
Ethane (C2)	4.552	1.214
Propane (C3)	1.412	0.388
I-Butane (IC4)	0.226	0.074
N-Butane (NC4)	0.338	0.106
I-Pentane (IC5)	0.124	0.045
N-Pentane (NC5)	0.111	0.040
Hexane Plus (C6+)	0.660	0.286
	100.000	2.153

BTU/CU.FT. - DRY 1100
AT 14.650 DRY 1096
AT 14.650 WET 1077
AT 14.73 DRY 1102
AT 14.73 WET 1083

MOLECULAR WT. 18.1855

SPECIFIC GRAVITY -
CALCULATED 0.627
MEASURED

200 2357

Fax. No. (505)-397-0990

plate 1.625

Meter Run Size: _____

Orifice Meter Range: _____

Tbg. Size: _____

Cog Size: _____

Perfs: _____

Packer Depth: _____

TD / Pbid: _____

4.026"

DIFF. 150 STATIC 1000 (Total Flood Computer)

Running Totals:

Oil: _____

Water: _____

Date	Time	Choke	Tbg PX	Cog PX	GAS Temp	Oil Meter	BBL Oil Per Hr	Total Oil	Water Meter	BBL H2O Per Hr	Total Water	Diff Press	Static Press	Gas Rate	well Head temp Comments
	10:30	5/64	2850												
	10:45	5/64	2775	PKI	88										
	11:00	5/64	2658	PKI	89									458	63°
	11:15	5/64	2515	PKI	89									520	63°
	11:30	5/64	2450	PKI	92									623	62°
														570	62°
	11:45	7/64	2300	PKI	88										
	12:00	7/64	2220	PKI	87									798	64°
	12:15	7/64	2173	PKI	87									712	64°
	12:30	7/64	2155	PKI	87									654	64°
														615	64°
	12:45	9/64	2050	PKI	83										
	1:00	9/64	2025	PKI	84									750	68°
	1:15	9/64	1997	PKI	84									696	68°
	1:30	9/64	1948	PKI	79									682	68°
														880	68°
	1:45	11/64	1670	PKI	28										
	2:00	11/64	1550	PKI	83									1450	70°
	2:15	11/64	1440	PKI	90									1444	70°
	2:30	11/64	1330	PKI	90									1300	70°
														1240	70°

Dead weight started test

NO Fluid

NO Fluid

Flow line pressure came up from 110 to 125

made 1 BBL oil

1

oil gravity 57

GOR/GMIX TEXAS

VOLUME OF FIRST RATE = 570
DURATION OF FLOW IN MIN. = 60

VOLUME OF SECOND RATE = 615
DURATION OF FLOW IN MIN. = 60

VOLUME OF THIRD RATE = 880
DURATION OF FLOW IN MIN. = 60

VOLUME OF FOURTH RATE = 1240
DURATION OF FLOW IN MIN. = 60

VOLUME OF FIFTH RATE = 0
DURATION OF FLOW IN MIN. = 1

VOLUME OF SIXTH RATE = 0
DURATION OF FLOW IN MIN. = 1

TEXAS G.O.R./G. MIX

NO. OF BBLs PRODUCED = 1.0
API GRAVITY @ 60 DEG. = 57.0

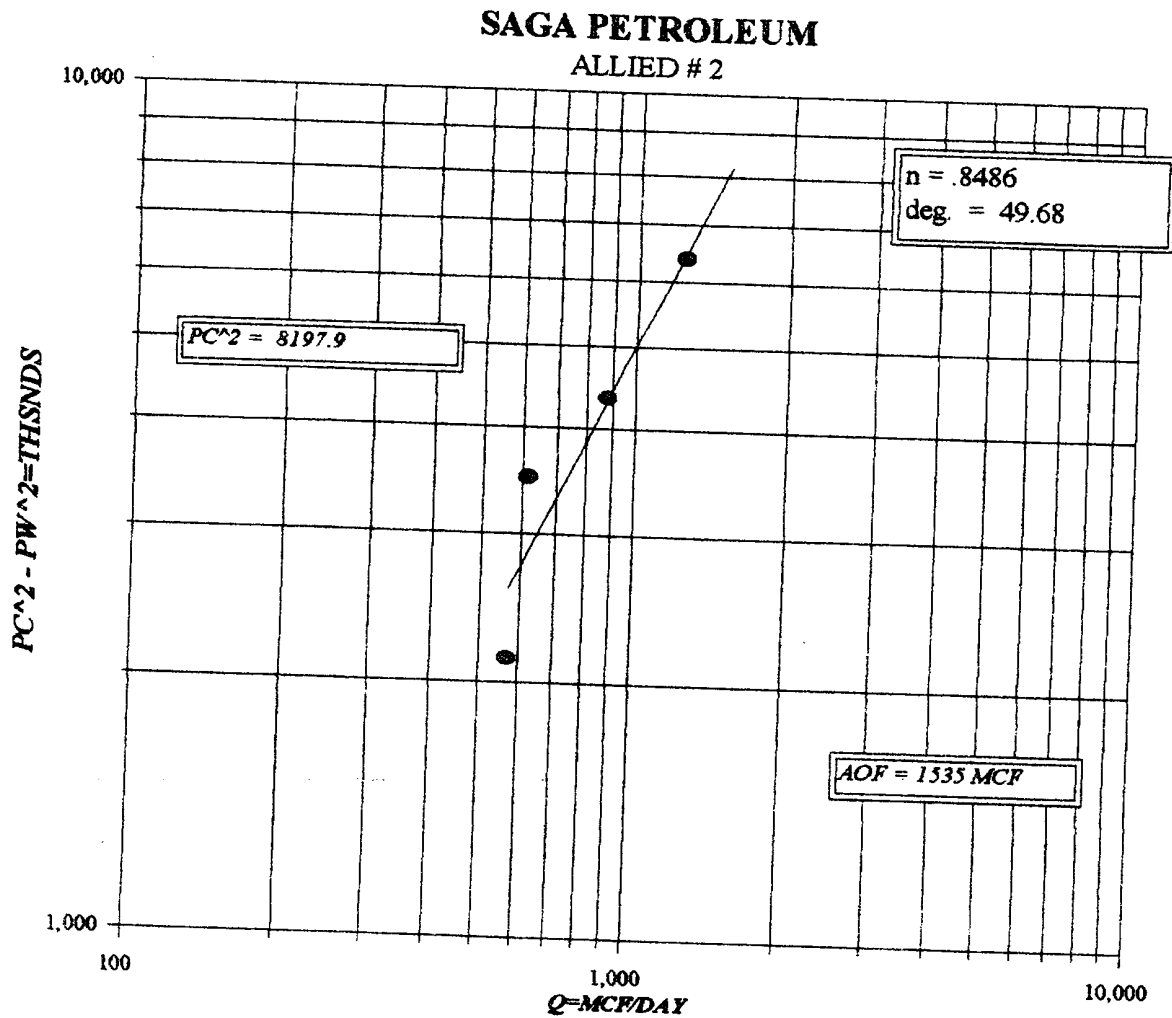
SPECIFIC GRAVITY OF GAS = 0.6270

XX
TOTAL GAS PRODUCED = 138 MCF/D

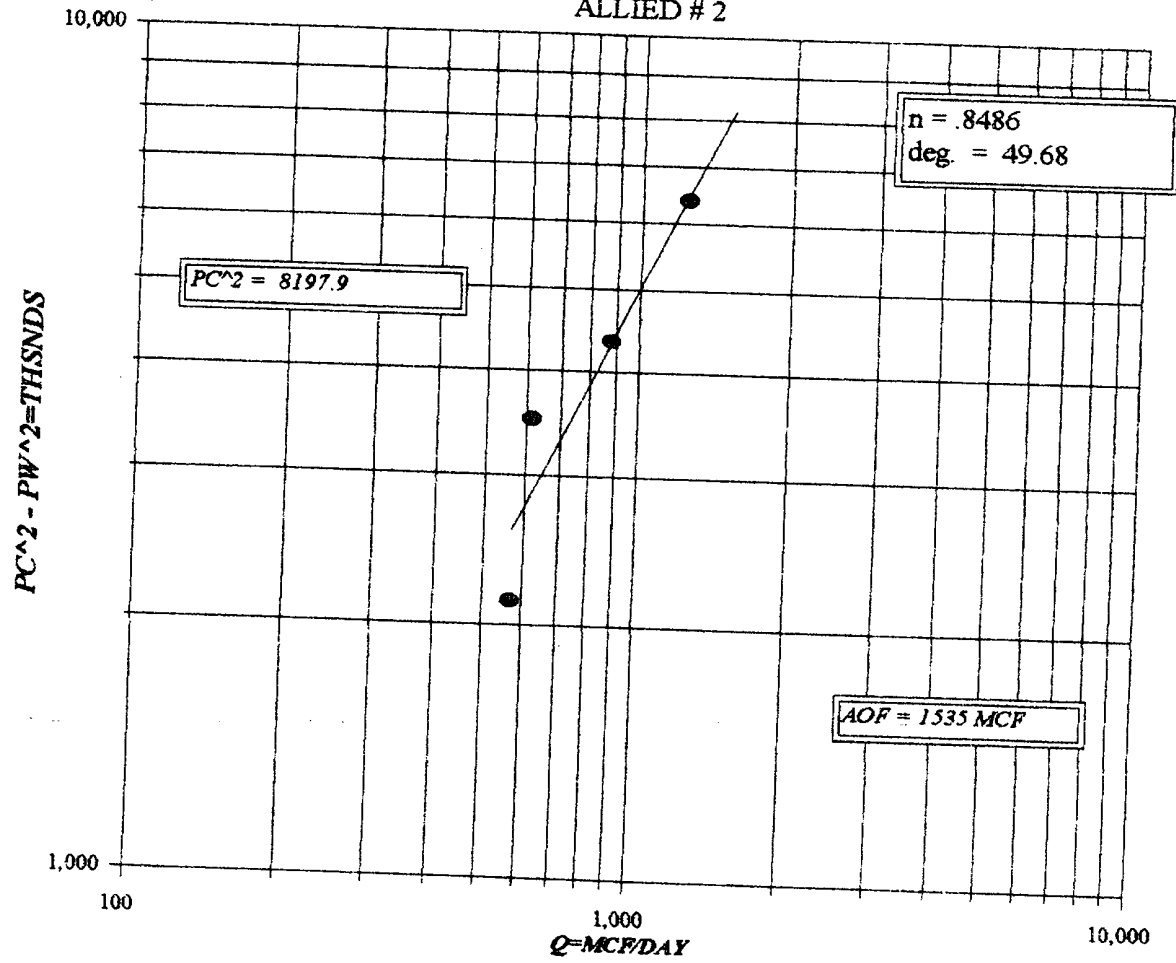
G.O.R. = 137,708 CF/Bbl.

G.MIX = 0.647

COPY



SAGA PETROLEUM
ALLIED # 2



JOHN BIRCHER

LEASE : ALLIED

WELL NO. : 2

SECTION :

TOWNSHIP :

10647

H : 10647

L/H :

1

G/GMIX : 0.647

0.696

N2 : 0.353

H2S :

DATE : 4-12-03

0.441

Fr : 0.010763

GH : 6888.6

RANGE :

Pc = 2863.2

Pc2 = 8197.9 *

Pt2 = 6067.4

Pw = 2463.9 *

4701.1

2169.1 *

3846.3

1963.3 *

1804.2

1349.5 *

VOL 1 : 570

PSIA 1 : 2463.2

RESV.TEMP 180.5

VOL 2 : 615

PSIA 2 : 2168.2

Pc2-Pw2= 2127.0

Pw2 = 6070.9 *

VOL 3 : 880

PSIA 3 : 1961.2

3492.8

4705.1 *

VOL 4 : 1240

PSIA 4 : 1343.2

SHUT-IN PR= 2863.2

4343.3

3854.6 *

6376.6

1821.3 *

PCR : 670

TCR : 372

n = 0.849 ✓

Pc2/(Pc2-Pw2) = 3.854

2.347

1.887

1.286 ✓

[Pc2/Pc2-Pw2]n = 3.142

2.063

1.714

1.238 ✓

AOF= Q 1.791

1.269

1.509

1.535 ✓

LINE		RATE 1		RATE 2		RATE 3		RATE 4	
		1ST	2ND	1ST	2ND	1ST	2ND	1ST	2ND
1	QH	0.570	0.570	0.615	0.615	0.880	0.880	1.240	1.240
2	TW	534	534	534	534	534	534	534	534
3	Ts	640.5	640.5	640.5	640.5	640.5	640.5	640.5	640.5
4	T	587.2	587.2	587.2	587.2	587.2	587.2	587.2	587.2
	PR (est)	3.68		3.24		2.93		2.00	
5	Z(est)	0.794	0.802	0.794	0.794	0.799	0.793	0.832	0.818
6	PZ	466.0	470.7	466.5	466.3	469.1	465.9	488.7	480.2
7	GH/TZ	14.781	14.634	14.767	14.772	14.685	14.785	14.096	14.345
8	eS	1.741	1.731	1.740	1.740	1.734	1.741	1.697	1.712
9	I-e-S	0.426	0.422	0.425	0.425	0.423	0.426	0.411	0.416
10	Pt	2463.2	2463.2	2168.2	2168.2	1961.2	1961.2	1343.2	1343.2
11	Pt2 /1000	6067.4	6067.4	4701.1	4701.1	3846.3	3846.3	1804.2	1804.2
12	Fr	0.010763	0.010763	0.010763	0.010763	0.010763	0.010763	0.010763	0.010763
13	Fc=FrTZ	5.016	5.066	5.021	5.019	5.049	5.015	5.260	5.169
14	FcQm	2.86	2.89	3.09	3.09	4.44	4.41	6.52	6.41
15	L/H(FcQm)	8.2	8.3	9.5	9.5	19.7	19.5	42.5	41.1
16	Fw	3.478609	3.522183	4.054347	4.052699	8.359381	8.288093	17.46577	17.089847
17	Pw2	6070.8	6070.9	4705.1	4705.1	3854.7	3854.6	1821.7	1821.3
18	Ps2	10567.4	10509.7	8185.9	8187.4	6685.6	6710.8	3090.5	3118.8
19	Ps	3250.8	3241.9	2861.1	2861.4	2585.6	2590.5	1758.0	1766.0
20	P	2857.0	2852.5	2514.7	2514.8	2273.4	2275.9	1550.6	1554.6
21	Pr	4.26	4.26	3.75	3.75	3.39	3.40	2.31	2.32
22	Tr	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58
23	Z	0.802	0.801	0.794	0.794	0.793	0.793	0.818	0.818

FORM C122-D