STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-122
Revised 10-1-78

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

OCT 23 '90 c/s File

Type Test: ☐ Initial ☐ Annual ☒ Special		Test Date: 3/23/90	
Company: TEKOA OPERATING CO. (H. Sanders)	Connection: FLARE AIR		
Pool: Wildcat Wolfcamp	Formation: WOLFCAMP GAS		Unit
Completion Date: 3/10/90	Total Depth: 7200	Plug Back TD: 5978	Elevation: 3527GL
Farm or Lease Name: THIGPEN			

Csg. Size	Wt.	d	Set At	Perforations: From	To	Well No.
5.500	17	4.892	7197	4660	4687	#1

Tbg. Size	Wt.	d	Set At	Perforations: From	To	Unit	Sec.	Twp.	Rge.
2.875	6.5	2.441	4597	OPEN ENDED		F	SEC.7	16s	25e

Type Well – Single – Bradenhead – G.G. or G.O. Multiple	Packer Set At	County
SINGLE GAS	4597	EDDY

Producing Thru	Reservoir Temp. °F	Mean Annual Temp. °F	Baro. Press. – P_a	State
TUBING	100	60	13.2	N.MEX.

L	H	Gg	% CO_2	% N_2	% H_2S	Prover	Meter Run	Taps
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3.0	FLANGE

NO.	FLOW DATA: Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h_w	Temp. °F	TUBING DATA: Press. p.s.i.g.	Temp. °F	CASING DATA: Press. p.s.i.g.	Temp. °F	Duration of Flow
SI							1453	60			72
1.	3.00	X	.750	80	8.0	82	1432	60	0	0	1.0
2.	3.00	X	.750	80	25.0	82	1405	60	0	0	1.0
3.	3.00	X	.750	80	47.0	82	1371	60	0	0	1.0
4.	3.00	X	.750	80	83.0	82	1320	60	0	0	1.0
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_{pv}	Rate of Flow Q, Mcfd
1	2.67	27.31	93.2	.9795	1.2619	1.0074	91
2.	2.67	48.27	93.2	.9795	1.2619	1.0074	161
3	2.67	66.18	93.2	.9795	1.2619	1.0074	220
4.	2.67	87.95	93.2	.9795	1.2619	1.0074	293
5.							

NO.	P_r	Temp. °R	T_r	Z
1.	.14	542	1.48	.985
2.	.14	542	1.48	.985
3.	.14	542	1.48	.985
4.	.14	542	1.48	.985
5.				

Gas Liquid Hydrocarbon Ratio: 0 Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons: 0 Deg.
Specific Gravity Separator Gas: .628 | XXXXXXXXXX
Specific Gravity Flowing Fluid: XXXXX | .628
Critical Pressure: 670 P.S.I.A. | 670 P.S.I.A.
Critical Temperature: 365 R | 365 R

P_c 1466.2 P_c^2 2150

NO	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1	2089	1445	2089	61
2	2011	1418	2011	138
3	1916	1384	1916	234
4	1777	1333	1777	373
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 5.7707$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 3.0982$

$AOF = Q\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 907$

Absolute Open Flow: 907 Mcfd @ 15.025 | Angle of Slope θ: 57.2' | Slope, n: .645

Remarks: 1 RATE 1/64 2 RATE 2/64 3 RATE 4/64 4 RATE 6/64

Approved By Division	Conducted By:	Calculated By:	Checked By:
	BENNETT & CATHEY	MONTY RANDOLPH	JIM SMITH

2967

C & [illegible] WIRELINE, INC. d/b/a BENNETT-CATI [illegible] WELL TESTING

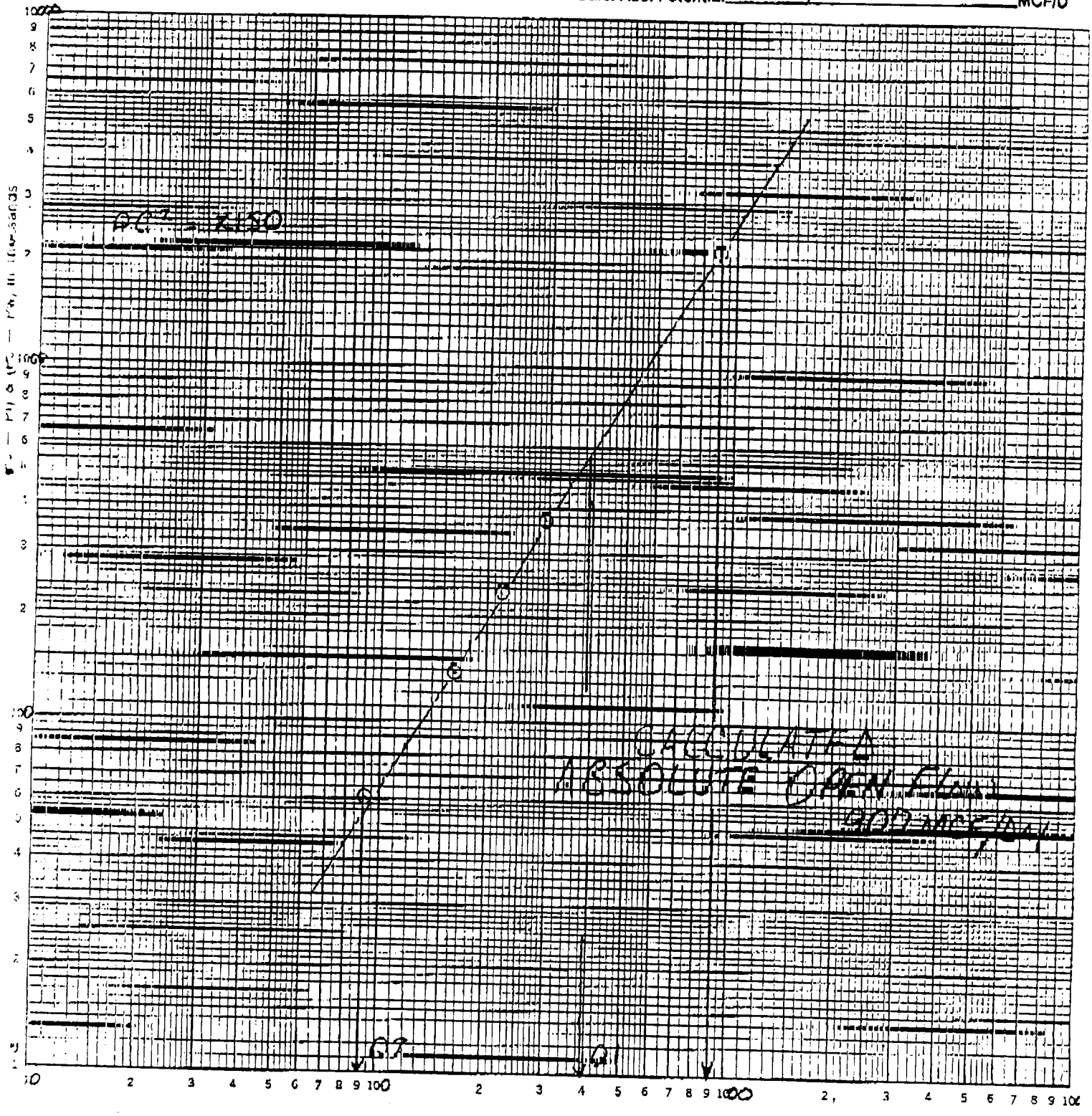
BACK PRESSURE CURVE

Operator OTIS H SANDERS TEXON OPERATING Co. Lease THIGPEN Well No. #1

County Eddy Field UNDESIGNATED Location SEC. 7 16S 27E

Date of Test 3-23-90 Slope "n" .645 Angle of Slope 57.2

Calc. Abs. Potential 907 MCF/D



$\overline{\Delta P_1^2}$ $P_c^2 - P_w^2 = 540$

$\overline{\Delta P_2^2}$ $P_c^2 - P_w^2 = 54$

$Q_1 = 397$

LOG $Q_1 = 2.599$

LOG $Q_2 = 1.954$

$n = .645$

[ENRON]
GAS PIPELINE GROUP
(TRANSWESTERN)

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GAS QUALITY TEST REPORT
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PRODUCER	OTIS SANDERS	STATION NO.	013-012
FIELD	ATOKA	DATE OF ANALYSIS	7-12-90
RESERVOIR	WOLFCAMP	LAB NUMBER	6
STATION NAME	THIGPEN #1		

COMPONENTS	SPECIFIC GRAVITY	MOLE FRACTION
NITROGEN	.9672	.0065
CARBON DIOXIDE	1.5195	.0002
HELIUM	.1382	
OXYGEN	1.1048	.0000
HYDROGEN SULFIDE	1.1767	.0000
WATER VAPOR	.6220	.0000
METHANE	.5539	.9004
ETHANE	1.0382	.0583
PROPANE	1.5226	.0202
ISOBUTANE	2.0068	.0031
N-BUTANE	2.0068	.0058
ISOPENTANE	2.4912	.0018
N-PENTANE	2.4912	.0013
HEXANES +	3.2176	.0024
COMPOSITION----------		1.0000

LIQUEFIABLE HYDROCARBONS	COMPONENT GPM	GPM CONTENT
PROPANE	27.514	.5558
ISOBUTANE	32.698	.1014
N-BUTANE	31.510	.1828
LPG----------		.8399
ISOPENTANE	36.582	.0658
N-PENTANE	36.213	.0471
HEXANES +	43.619	.1047
NATURAL GASOLINE_		.2176
TOTAL LIQUEFIABLE GPM___		1.0575

WATER VAPOR CONTENT:	
GAS MIXTURE STATIC PSIG	205
FLOWING GAS TEMP (F)	83
LBS WATER VAPOR / MMCF	130
MOL FRACTION	.0027

MIXTURE SPECIFIC GRAVITY	
CALC. FROM ANAL. (REAL)	0.631
DETERMINED BY TEST INST.	0.634
MIXTURE HEATING VALUE (REAL)	
(BTU/CF @ 14.73 PSIA, 60F)	
SATURATED VALUE	1103
DRY VALUE	1122

SULFUR CONTENT (GR. PER 100 CF)	
HYDROGEN SULFIDE	0.00
MERCAPTANS	0.00
SULFIDES	0.00
RESIDUALS	0.00
TOTAL SULFUR	0.00
MOL FRACT H2S	.0000
COMPRESSIBILITY (Z)	.9974

SP. GR. DEVIATION ALLOWED FOR WATER VAPOR: .004
PR: 09:50 JUL 12, 1990

ANALYST---------- [TW]
R. L. ALSTON

REMARKS:INITIAL ANALYSIS NO DEHY INSTALLED