

TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Drill-Stem Test Data

Well Name THOMAS #1 Test No. 1 Date 11/1/93
Company KENNETH S. WHITE Zone VIOLA
Address 200 E FIRST #210 WICHITA KS 67202 Elevation 1852
Co. Rep./Geo. TOM ROBINSON Cont. ALLEN DRLG RIG #3 Est. Ft. of Pay _____
Location: Sec. 29 Twp. 25S Rge. 11W Co. STAFFORD State KS

Interval Tested 4110-4120 Drill Pipe Size 4.5" XH
Anchor Length 10 Wt. Pipe I.D. - 2.7 Ft. Run _____
Top Packer Depth 4105 Drill Collar - 2.25 Ft. Run _____
Bottom Packer Depth 4110 Mud Wt. 9.2 lb/Gal.
Total Depth 4120 Viscosity 46 Filtrate 8

Tool Open @ 11:13 PM Initial Blow STRONG-BOTTOM OF BUCKET IN 1.5 MINUTES

Final Blow STRONG-BOTTOM OF BUCKET IN 90 SECONDS
GAS TO SURFACE ON FINAL SHUTIN

Recovery - Total Feet 169 Flush Tool? NO

Rec. 45 Feet of WTR & MUD CUT GSY OIL-20% GAS/50% OIL/20% WTR/10% MUD
Rec. 124 Feet of WATER WITH SCUM OF OIL
Rec. _____ Feet of _____
Rec. _____ Feet of _____
Rec. _____ Feet of _____

BHT 118 °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API
RW 0.15 @ 72 °F Chlorides 50000 ppm Recovery Chlorides 8000 ppm System

(A) Initial Hydrostatic Mud 2123.2 PSI AK1 Recorder No. 13754 Range 4000

(B) First Initial Flow Pressure 32.1 PSI @ (depth) 4112 w / Clock No. 27567

(C) First Final Flow Pressure 56.5 PSI AK1 Recorder No. 7437 Range 4200

(D) Initial Shut-in Pressure 1394.3 PSI @ (depth) 4116 w / Clock No. 27501

(E) Second Initial Flow Pressure 53.2 PSI AK1 Recorder No. _____ Range _____

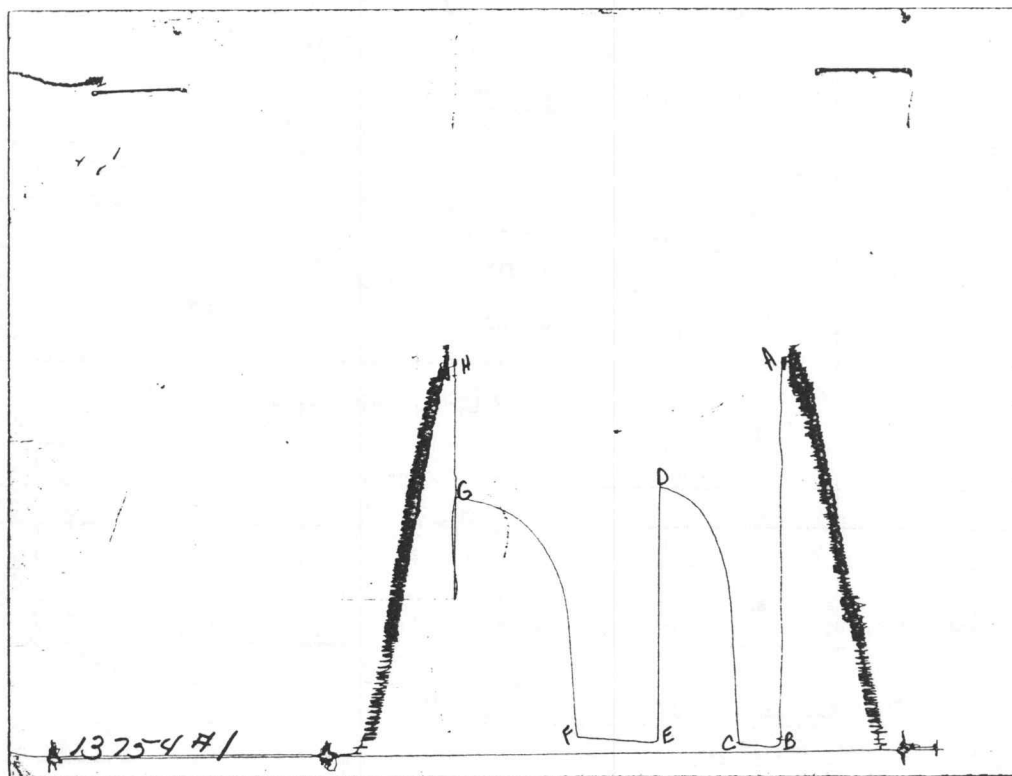
(F) Second Final Flow Pressure 102.1 PSI @ (depth) _____ w / Clock No. _____

(G) Final Shut-in Pressure 1344.3 PSI Initial Opening 30 Final Flow 60

(H) Final Hydrostatic Mud 2069.8 PSI Initial Shut-in 60 Final Shut-in 90

Our Representative DAN BANGLE

CHART PAGE

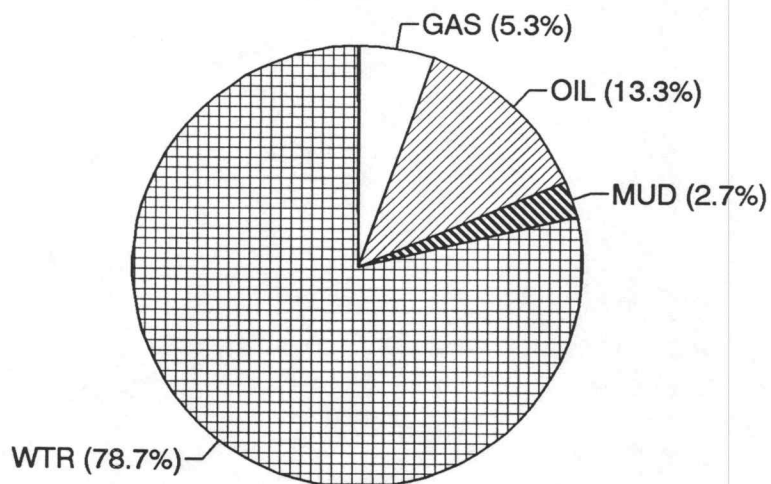


This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	2117	2123.2
(B) FIRST INITIAL FLOW PRESSURE	29	32.1
(C) FIRST FINAL FLOW PRESSURE	49	56.5
(D) INITIAL CLOSED-IN PRESSURE	1386	1394.3
(E) SECOND INITIAL FLOW PRESSURE	49	53.2
(F) SECOND FINAL FLOW PRESSURE	98	102.1
(G) FINAL CLOSED-IN PRESSURE	1336	1344.3
(H) FINAL HYDROSTATIC MUD	2066	2069.8

CALCULATED RECOVERY ANALYSIS						DRILL	PIPE		
DST #	1	TICKET				6556			
SAMPLE	TOTAL	GAS	OIL		WATER		MUD		
#	FEET	%	FEET	%	FEET	%	FEET	%	FEET
1	45	20	9	50	22.5	20	9	10	4.5
2	124	0	0	0	0	100	124	0	0
3			0		0		0		0
4			0		0		0		0
5			0		0		0		0
TOTAL	169	5.3254438	9	13.3	22.5	78.698225	133	2.66	4.5

			HRS	BBL/DAY
BBL OIL=	0.31995	*	1.5	5.1192
BBL WATER=	1.89126	*		30.26
BBL MUD=	0.06399			
BBL GAS	0.12798			



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Test Ticket

No 6556

Well Name & No. <u>Thomas #1</u>	Test No. <u>1</u>	Date <u>11-1-93</u>
Company <u>Kennerth S. White</u>	Zone Tested <u>Viola</u>	
Address <u>200 E. First, Wichita, Ks. 67202</u>	Elevation <u>1852 K.B.</u>	
Co. Rep./Geo. <u>Tom Robinson</u>	Cont. <u>Allen #3</u>	Est. Ft. of Pay _____
Location: Sec. <u>29</u>	Twp. <u>25</u>	Rge. <u>11</u>
Co. <u>Stafford</u>		State <u>Ks.</u>
No. of Copies <u>5</u>	Distribution Sheet _____	Yes _____ No _____ Turnkey _____ Yes _____ No _____ Evaluation _____

Interval Tested <u>4110 - 4120</u>	Drill Pipe Size <u>4.5 x H</u>
Anchor Length <u>10'</u>	Top Choke — 1" _____ Bottom Choke — 1/4" _____
Top Packer Depth <u>4105'</u>	Hole Size — 7 7/8" _____ Rubber Size — 6 3/4" _____
Bottom Packer Depth <u>4110</u>	Wt. Pipe I.D. — 2.7 Ft. Run _____
Total Depth <u>4120</u>	Drill Collar — 2.25 Ft. Run _____
Mud Wt. <u>9.2</u> lb/gal.	Viscosity <u>46</u> Filtrate <u>8</u>
Tool Open @ <u>11:13 p.m.</u> Initial Blow <u>Strong - B.O.B in 1 1/2 min.</u>	

Final Blow Strong - B.O.B in 1 1/2 min.
G.T.S. on final shut-in.

Recovery — Total Feet <u>169</u>	Feet of Gas in Pipe <u>G.T.S.</u>	Flush Tool? _____
Rec. <u>45</u> Feet Of <u>WTR + M.C. 10</u>	<u>20</u> %gas <u>50</u> %oil <u>20</u> %water <u>10</u> %mud	
Rec. <u>124</u> Feet Of <u>WTR. w/ scum of</u>	%gas _____ %oil <u>100</u> %water _____ %mud _____	
Rec. _____ Feet Of <u>oil</u>	%gas _____ %oil _____ %water _____ %mud _____	
Rec. _____ Feet Of _____	%gas _____ %oil _____ %water _____ %mud _____	
Rec. _____ Feet Of _____	%gas _____ %oil _____ %water _____ %mud _____	

BHT 118 °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API
 RW 115 @ 72 °F Chlorides 50,000 ppm Recovery Chlorides 8,000 ppm System

(A) Initial Hydrostatic Mud <u>2117</u>	PSI AK1 Recorder No. <u>13754</u>	Range <u>4000</u>
(B) First Initial Flow Pressure <u>29</u>	PSI @ (depth) <u>4112</u>	w/Clock No. <u>27567</u>
(C) First Final Flow Pressure <u>49</u>	PSI AK1 Recorder No. <u>7437</u>	Range <u>4200</u>
(D) Initial Shut-In Pressure <u>1386</u>	PSI @ (depth) <u>4116</u>	w/Clock No. <u>27501</u>
(E) Second Initial Flow Pressure <u>49</u>	PSI AK1 Recorder No. _____	Range _____
(F) Second Final Flow Pressure <u>98</u>	PSI @ (depth) _____	w/Clock No. _____
(G) Final Shut-In Pressure <u>1336</u>	PSI Initial Opening <u>30</u>	Test <u>600.00</u>
(H) Final Hydrostatic Mud <u>2066</u>	PSI Initial Shut-In <u>60</u>	Jars _____

TRILOBITE TESTING L.L.C. SHALL NOT BE LIABLE FOR DAMAGE OF ANY KIND OF THE PROPERTY OR PERSONNEL OF THE ONE FOR WHOM A TEST IS MADE, OR FOR ANY LOSS SUFFERED OR SUSTAINED, DIRECTLY OR INDIRECTLY, THROUGH THE USE OF ITS EQUIPMENT, OR ITS STATEMENTS OR OPINION CONCERNING THE RESULTS OF ANY TEST. TOOLS LOST OR DAMAGED IN THE HOLE SHALL BE PAID FOR AT COST BY THE PARTY FOR WHOM THE TEST IS MADE.

Final Flow <u>60</u>	Safety Joint _____
Final Shut-In <u>90</u>	Straddle _____
	Circ. Sub _____
	Sampler _____
	Extra Packer _____
	Other _____

Approved By Kennerth S. White
 Our Representative Dan Rangle

TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Drill-Stem Test Data

Well Name THOMAS #1 Test No. 2 Date 11/2/93
Company KENNETH S. WHITE Zone MISS
Address 200 E FIRST #210 WICHITA KS 67202 Elevation 1852
Co. Rep./Geo. TOM ROBINSON Cont. ALLEN DRLG RIG #3 Est. Ft. of Pay 5
Location: Sec. 29 Twp. 25S Rge. 11W Co. STAFFORD State KS

Interval Tested 3935-4010 Drill Pipe Size 4.5" XH
Anchor Length 75 Wt. Pipe I.D. - 2.7 Ft. Run
Top Packer Depth 3935 Drill Collar - 2.25 Ft. Run
Bottom Packer Depth 4010 Mud Wt. 9.2 lb/Gal.
Total Depth 4175 Viscosity 46 Filtrate 8

Tool Open @ 7:30 PM Initial Blow STRONG-GAS TO SURFACE IN 1 MINUTE
GAUGED GAS - SEE GAS VOLUME SHEET
Final Blow STRONG BLOW

Recovery - Total Feet 30 Flush Tool? NO

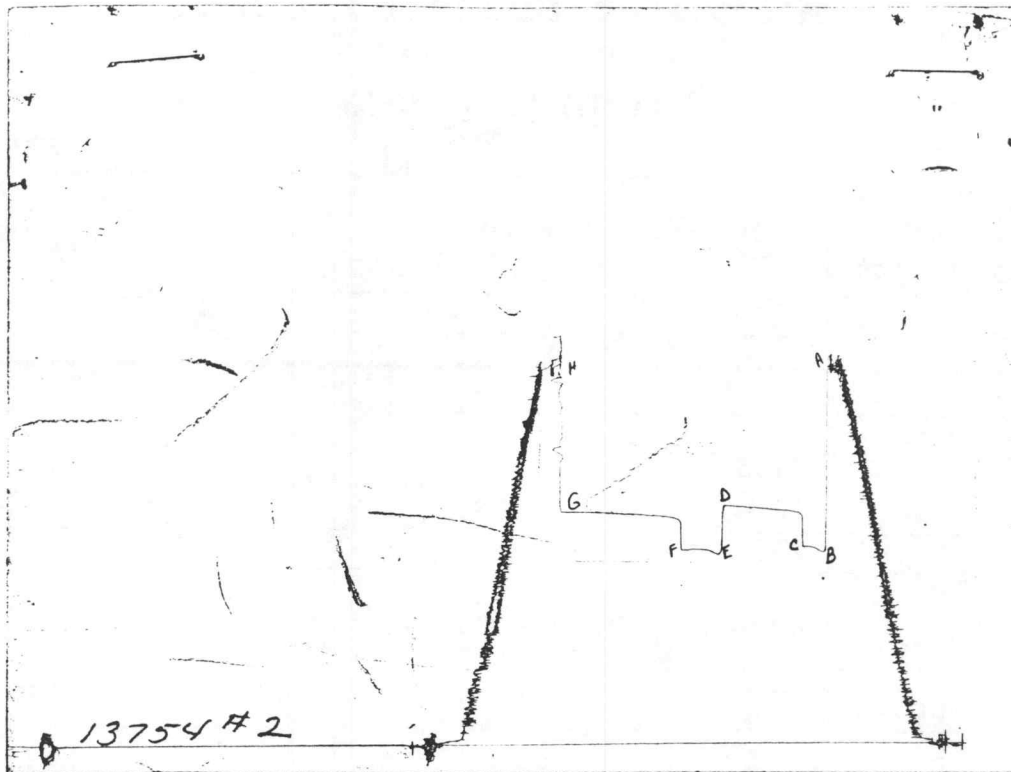
Rec. 30 Feet of DRILLING MUD
Rec. Feet of
Rec. Feet of
Rec. Feet of
Rec. Feet of

BHT 111 °F Gravity °API @ °F Corrected Gravity °API
RW @ °F Chlorides ppm Recovery Chlorides 8000 ppm System

(A) Initial Hydrostatic Mud 2022.3 PSI AK1 Recorder No. 13754 Range 4000
(B) First Initial Flow Pressure 982.2 PSI @ (depth) 3939 w / Clock No. 27501
(C) First Final Flow Pressure 1011.1 PSI AK1 Recorder No. 7437 Range 4200
(D) Initial Shut-in Pressure 1227.9 PSI @ (depth) 4006 w / Clock No. 27567
(E) Second Initial Flow Pressure 972.3 PSI AK1 Recorder No. 13849 Range 4375
(F) Second Final Flow Pressure 993.1 PSI @ (depth) 4171 w / Clock No. 8175
(G) Final Shut-in Pressure 1197.9 PSI Initial Opening 15 Final Flow 30
(H) Final Hydrostatic Mud 1988.9 PSI Initial Shut-in 60 Final Shut-in 90

Our Representative DAN BANGLE

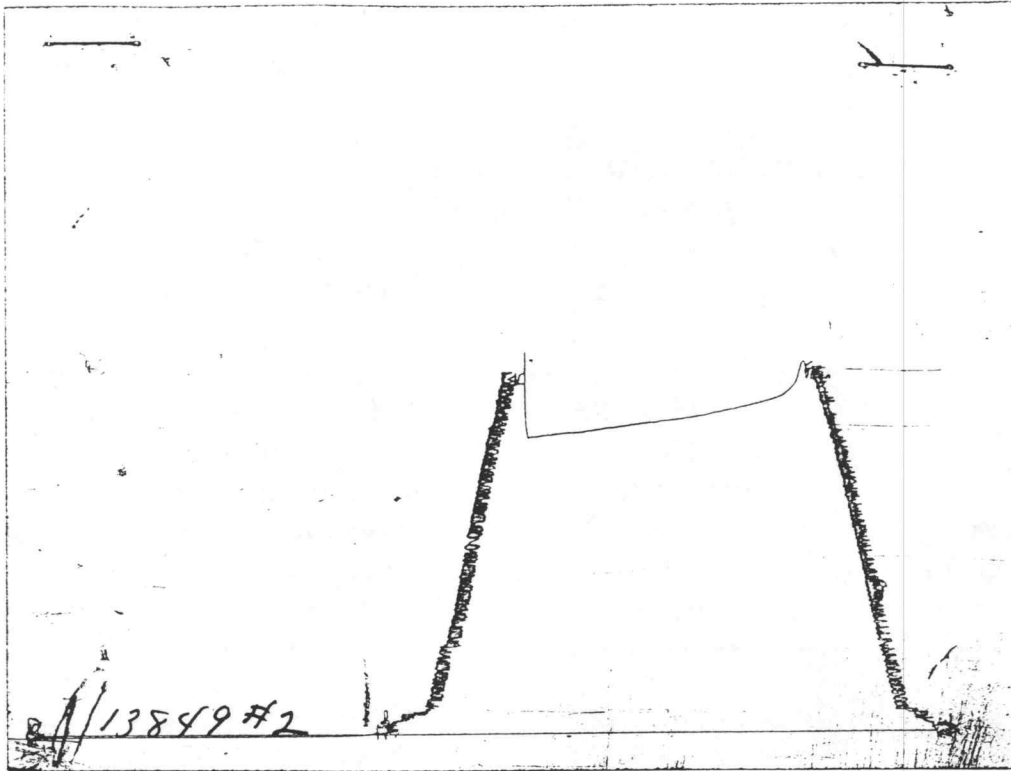
CHART PAGE



This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	2016	2022.3
(B) FIRST INITIAL FLOW PRESSURE	986	982.2
(C) FIRST FINAL FLOW PRESSURE	1016	1011.1
(D) INITIAL CLOSED-IN PRESSURE	1226	1227.9
(E) SECOND INITIAL FLOW PRESSURE	966	972.3
(F) SECOND FINAL FLOW PRESSURE	986	993.1
(G) FINAL CLOSED-IN PRESSURE	1196	1197.9
(H) FINAL HYDROSTATIC MUD	1986	1988.9

CHART PAGE



This is an actual photograph of recorder chart

FIELD
READING

OFFICE
READING

- (A) INITIAL HYDROSTATIC MUD
- (B) FIRST INITIAL FLOW PRESSURE
- (C) FIRST FINAL FLOW PRESSURE
- (D) INITIAL CLOSED-IN PRESSURE
- (E) SECOND INITIAL FLOW PRESSURE
- (F) SECOND FINAL FLOW PRESSURE
- (G) FINAL CLOSED-IN PRESSURE
- (H) FINAL HYDROSTATIC MUD

COMPUTER GAS EVALUATION BY TRILOBITE TESTING, L.L.C.

KENNETH S. WHITE

THOMAS #1

DST 2

29 25S 11W

STAFFORD

KS

ELEVATION:	1852 KB	EST. PAY:	5 FT.
DATUM:	-2088	ZONE TESTED:	MISSISSIPPI
TEST INTERVAL:	3935-4010	TIME INTERVALS:	15-60-30-90
RECORDER DEPTH:	3939	VISCOSITY:	0.01373 CP
BOTTOM HOLE TEMP:	111	HOLE SIZE:	7.875 IN
COMPRESSIBILITY:	0.9976	GAS GRAVITY:	0.7224

TEMPERATURE RANKINE:	571.00	&
TRANSMISSIBILITY:	177060.90	Kh/%
THEORITICAL FLOW CAPICITY:	2430.64	Kh
AVERAGE EFFECTIVE PERMEABILITY:	486.13	K(md.)
RADIUS OF INVESTIGATION:	147.90	FT.
DAMAGE RATIO:	1.53	
ABSOLUTE OPEN FLOW(MAX)	16981.94	MCFD
ABSOLUTE OPEN FLOW(MIN)	9702.11	MCFD
THEORITICAL OPEN FLOW(MAX)	26005.09	MCFD
THEORITICAL OPEN FLOW(MIN)	14857.20	MCFD
POTENTIOMETRIC SURFACE	0.00	(FT.)

INITIAL SHUT-IN VALUES:

SLOPE	84271.34
THEORETICAL STATIC PRESSURE	1262

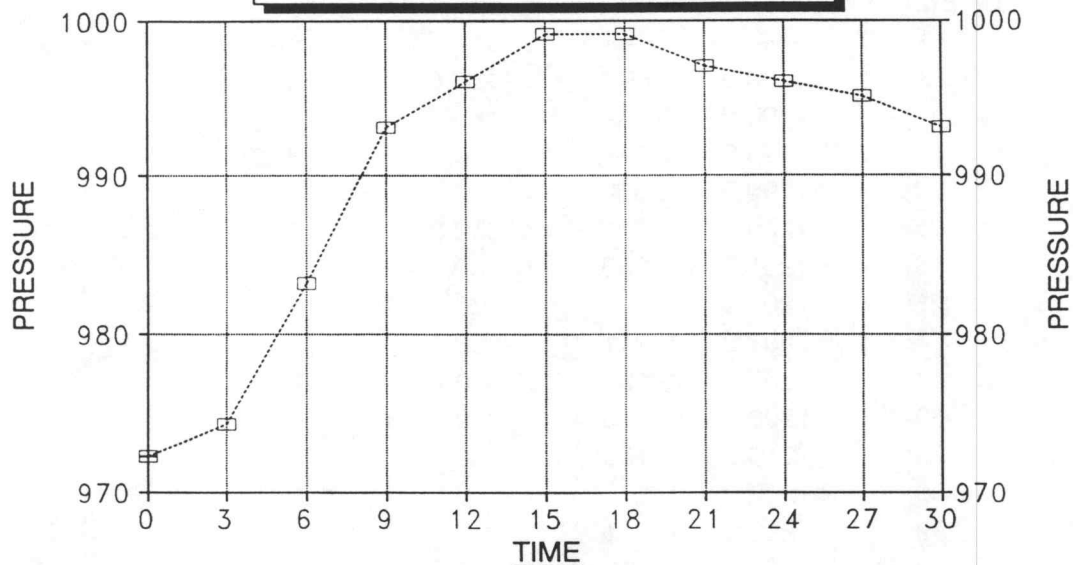
FINAL SHUT-IN VALUES:

SLOPE	29191.97
THEORETICAL STATIC PRESSURE	1210

DRAWDOWN FACTOR:	4.10 (%)
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DELTA T DELTA P

FINAL FLOW / DST #2



---THOMAS #1

FINAL FLOW

RECORDER 13754

DST # 2

TIME(MIN) PRESSURE <> PRESSURE

0	972.3	972.3
3	974.3	2.0
6	983.2	8.9
9	993.1	9.9
12	996.1	3.0
15	999.1	3.0
18	999.1	0.0
21	997.1	-2.0
24	996.1	-1.0
27	995.1	-1.0
30	993.1	-2.0

THOMAS #1
INITIAL

DST #2		-----			
SHUTIN					
15	TOTAL FLOW TIME	Slope	84271.34	psi/cycle	
		P *	1262	psi	

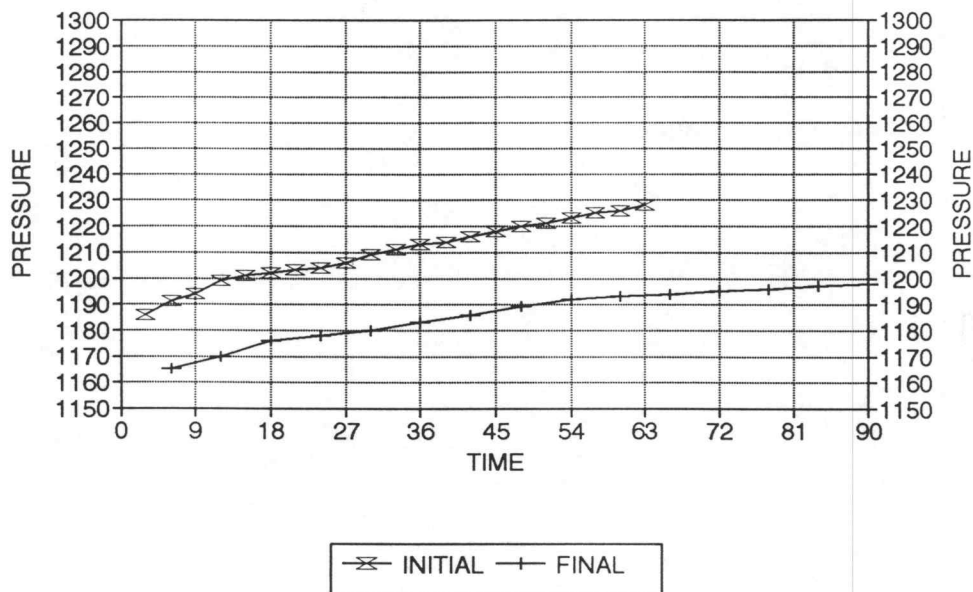
		Log	<>		
TIME(MIN)	Pws (psi)	Horn T	PRESSURE		Horn T
		-----	-----		-----
3	1186.0	0.778	1186.0		6
6	1190.9	0.544	4.9		4
9	1193.9	0.426	3.0		3
12	1198.9	0.352	5.0		2
15	1200.9	0.301	2.0		2
18	1201.9	0.263	1.0		2
21	1202.9	0.234	1.0		2
24	1203.9	0.211	1.0		2
27	1205.9	0.192	2.0		2
30	1208.9	0.176	3.0		2
33	1210.9	0.163	2.0		1
36	1212.9	0.151	2.0		1
39	1213.9	0.141	1.0		1
42	1215.9	0.133	2.0		1
45	1217.9	0.125	2.0		1
48	1219.9	0.118	2.0		1
51	1220.9	0.112	1.0		1
X	54	1222.9	0.106	2.0	1
	57	1224.9	0.101	2.0	1
	60	1225.9	0.097	1.0	1
X	63	1227.9	0.093	2.0	1

THOMAS #1
FINAL

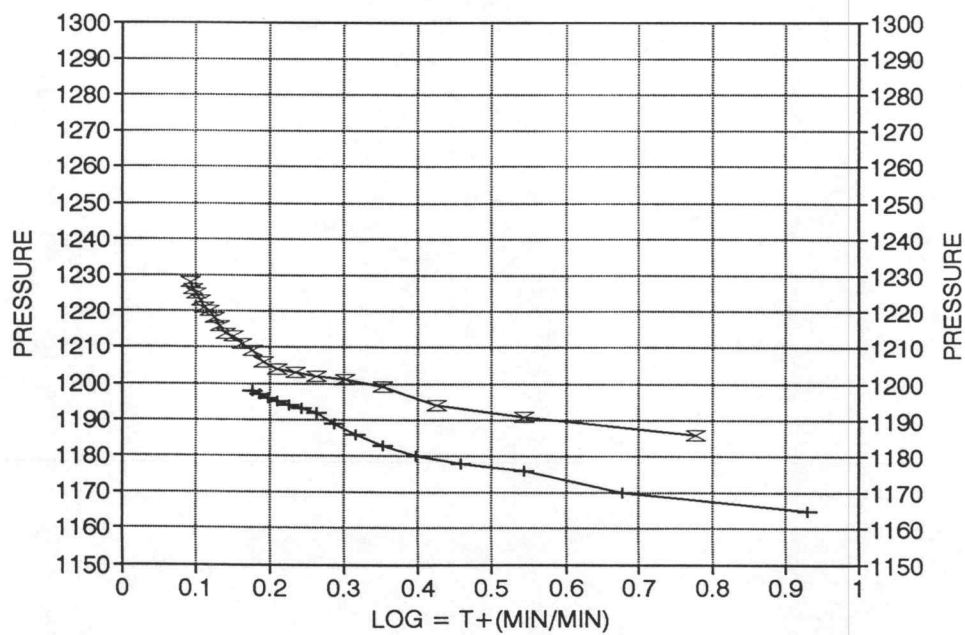
DST #2		-----			
SHUTIN					
45	TOTAL FLOW TIME	Slope	29191.97	psi/cycle	
		P *	1210	psi	

		Log	<>		
	Pws (psi)	Horn T	PRESSURE		Horn T
		-----	-----		-----
	6	1164.9	0.929	1164.9	9
	12	1169.9	0.677	5.0	5
	18	1175.9	0.544	6.0	4
	24	1177.9	0.459	2.0	3
	30	1179.9	0.398	2.0	3
	36	1182.9	0.352	3.0	2
	42	1186.0	0.316	3.1	2
	48	1188.9	0.287	2.9	2
X	54	1191.9	0.263	3.0	2
	60	1192.9	0.243	1.0	2
	66	1193.9	0.226	1.0	2
	72	1194.9	0.211	1.0	2
	78	1195.9	0.198	1.0	2
	84	1196.9	0.186	1.0	2
X	90	1197.9	0.176	1.0	2

THOMAS #1 / DST #2 DELTA T DELTA P



HORNER PLOT



GAS VOLUME REPORT

KENNETH S. WHITE

THOMAS #1

DST # 2

MIN	PSIG	ORIFICE	MCF/D	MIN	PSIG	ORIFICE	MCF/D
0		1.5		0		1.5	
5	70	1.5	4946	5	60	1.5	4349
10	80	1.5	5543	10	75	1.5	5245
15	85	1.5	5842	15	80	1.5	5543
				20	80	1.5	5543
				25	80	1.5	5543
				30	80	1.5	5543

Remarks: GAS TO SURFACE IN 1 MINUTE ON INTIAL FLOW
GAS SAMPLE TAKEN



GAS VOLUME REPORT

Kenneth S. White

OPERATOR

Thomas #1

WELL NAME AND NO.

2

DST NO.

Remarks: G.T.S. in 1 min IF

Gas sample Taken