

SUPERIOR TESTERS
RR #1, Box-295B, Great Bend, Kansas

Date 10-28-84 Location 4 11^S 15^W Elevation 1891 K.B. County Russell

Company Energy III Number of Copies _____

Address P.O. Box 1505 Great Bend, Kansas 67530

Charts Mailed to P.O. Box 1505 Great Bend, Kansas 67530

Invoice Mailed to P.O. Box 1505 Great Bend, Kansas 67530

Lease Hackmeister Well No. #1 Formation Tested Lanning Test No. #1

Depth 3060' Tested from 3042' to 3060' Packer Size 6 3/4' Anchor Length 12'

Top Packer Depth 3037' ft. Bottom Packer Depth 3042' ft. Dual Packers yes

Tool Joint Size 4 1/2 F.H. Tool Size 5 1/2 O.D. Hole Size 7 7/8 Did Packer Hold yes

Drilling Contractor Big Three Drilling

Length Drill Pipe 3021' I.D. Drill Pipe 3.40 Tool Joint Size 4 1/2 X.H.

Length Weight Pipe None I.D. Weight Pipe None Tool Joint Size -

Length Drill Collars None I.D. Drill Collars None Tool Joint Size -

Tool Open I.F.P. from 9:30 P.m to 10:00 P.m 30 min

Tool Closed I.C.I.P. from 10:00 P.m to 10:45 P.m 45 min

Tool Open F.F.P. from 10:45 P.m to 11:15 P.m 30 min

Tool Closed F.C.I.P. from 11:15 P.m to 12:15 P.m 60 min

from [B]	<u>32</u>	P.S.I. to [C]	<u>32</u>	P.S.I.
[D]	<u>155</u>			P.S.I.
from [E]	<u>40</u>	P.S.I. to [F]	<u>40</u>	P.S.I.
[G]	<u>180</u>			P.S.I.

Initial Hydrostatic Pressure [A] 1667 P.S.I. Final Hydrostatic Pressure [H] 1659 P.S.I. Maximum Temp 95 °F

Initial Blow Fair Blow - Building slowly 3" into water

Final Blow Weak Blow - Building very slowly 1" into water

Gas to Surface None Min. Oil to Surface None Min. Mut Weight 9 1/4 Viscosity 51

Gas Guaged None

Recovery 2" oil
40' slightly water at mud

Remarks _____

Extra Equipment-Jars None Safety Joint None Extra Packer None Straddle None Hook Wall None

Top Recorder No. 2186 Clock no. 23914 Depth 3054' Cir. Sub ← Sampler None

Bottom Recorder No. 1320P Clock No. 23915 Depth 3057' Chlorides - ppts _____ D.S.T. _____

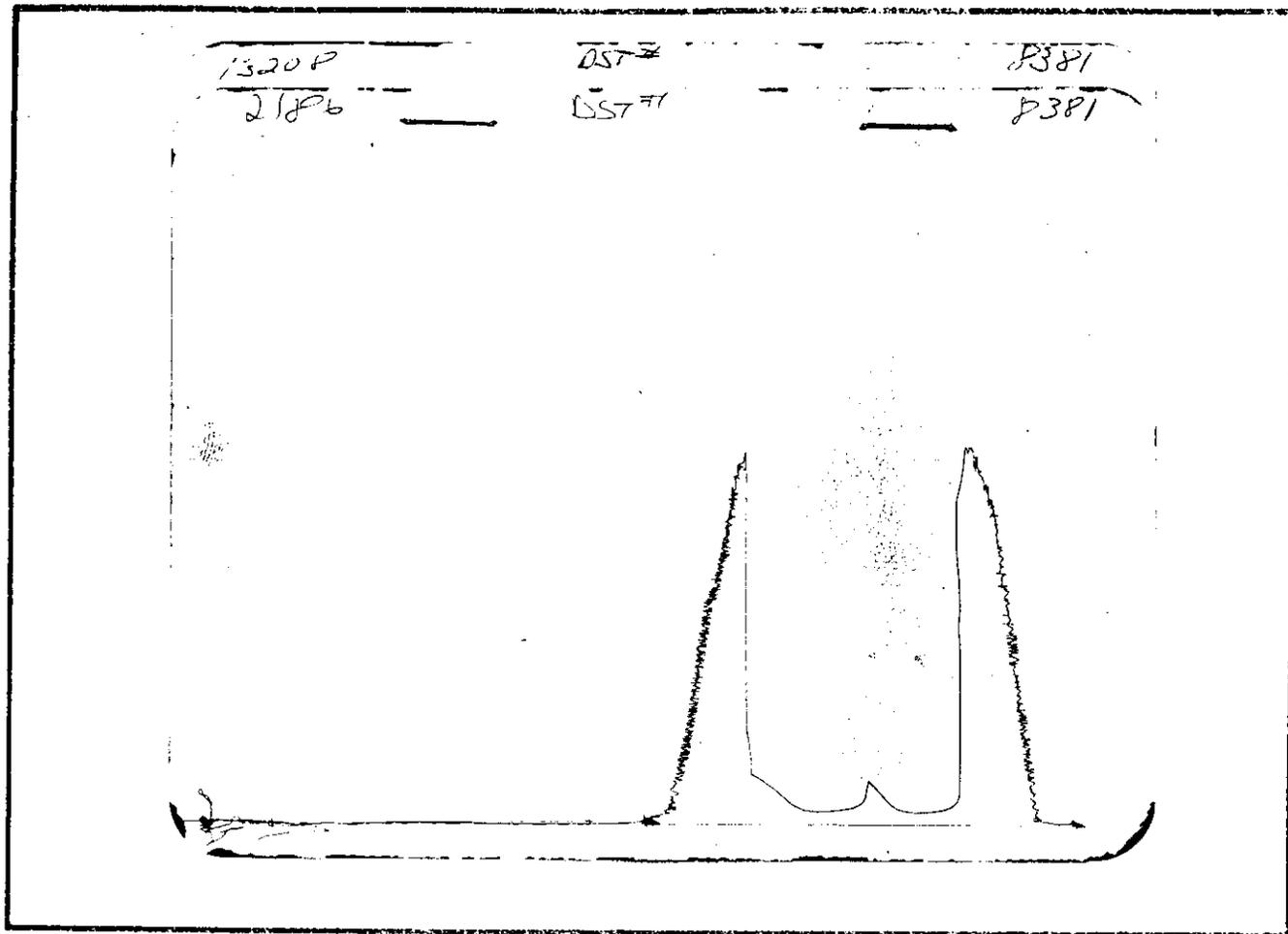
Price of Job 400.00

Tool Operator Don Supper

Approved By _____

SUPERIOR TESTERS, INC. SHALL NOT BE LIABLE FOR DAMAGE OF ANY KIND TO THE PROPERTY OR PERSONEL OF THE ONE FOR WHOM A TEST IS MADE, OF 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.

Ticket No 8381



This is an actual photograph of recorder chart.

POINT	PRESSURE		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	1667	1668	P.S.I.
(B) First Initial Flow Pressure	32	126	P.S.I.
(C) First Final Flow Pressure	32	56	P.S.I.
(D) Initial Closed-in Pressure	155	194	P.S.I.
(E) Second Initial Flow Pressure	40	111	P.S.I.
(F) Second Final Flow Pressure	40	59	P.S.I.
(G) Final Closed-in Pressure	188	223	P.S.I.
(H) Final Hydrostatic Mud	1659	1605	P.S.I.

SUPERIOR TESTERS ENTERPRISES, INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : ENERGY THREE
 DATE OF TEST : 10-28-84
 DEPTH : 3054.0

WELL NAME : HACHMEISTER #1
 LOCATION : 4-11S-15W
 SERIAL NO. : 2186

COMMENTS	TIME min	DEFL in	PRESSURE PSIG		
			----- CALC	CORR	CORRECTED
TEST NO.:1					
- 22:15	15.0	.075	63.57	-2.10	61.48
- 22:18	18.0	.081	68.49	-2.09	66.39
- 22:21	21.0	.090	75.86	-2.09	73.77
- 22:24	24.0	.105	88.15	-2.09	86.07
- 22:27	27.0	.122	102.08	-2.08	100.00
- 22:29	29.0	.145	120.93	-2.08	118.85
- 22:33	33.0	.167	138.96	-2.07	136.89
- 22:36	36.0	.190	157.80	-2.07	155.74
- 22:38	38.0	.212	175.83	-2.06	173.77
- 22:41	41.0	.230	190.58	-2.05	188.52
- 22:42	42.0	.237	196.31	-2.05	194.26
-22:42 1ST SHUT-IN	0.0	.237	196.31	-2.05	194.26
-22:42 2ND FLOW	0.0	.136	113.55	-2.08	111.48
- 22:45	3.0	.112	93.89	-2.09	91.80
- 22:51	9.0	.094	79.14	-2.09	77.05
- 22:55	13.0	.088	74.22	-2.09	72.13
- 23:00	18.0	.081	68.49	-2.09	66.39
- 23:04	22.0	.077	65.21	-2.10	63.11
- 23:09	27.0	.075	63.57	-2.10	61.48
- 23:11	29.0	.073	61.93	-2.10	59.84
-23:12 END FLOW	0.0	.073	61.93	-2.10	59.84
- 23:15	3.0	.072	61.11	-2.10	59.02
- 23:18	6.0	.072	61.11	-2.10	59.02
- 23:21	9.0	.073	61.93	-2.10	59.84
- 23:24	12.0	.073	61.93	-2.10	59.84
- 23:27	15.0	.075	63.57	-2.10	61.48
- 23:30	18.0	.080	67.67	-2.09	65.57
- 23:33	21.0	.087	73.40	-2.09	71.31
- 23:36	24.0	.095	79.96	-2.09	77.87
- 23:39	27.0	.107	89.79	-2.09	87.70
- 23:41	29.0	.120	100.44	-2.08	98.36
- 23:45	33.0	.138	115.19	-2.08	113.11
- 23:48	36.0	.155	129.12	-2.07	127.05
- 23:50	38.0	.174	144.69	-2.07	142.62
- 23:53	41.0	.190	157.80	-2.07	155.74
- 23:56	44.0	.205	170.09	-2.06	168.03
- 23:59	47.0	.217	179.93	-2.06	177.87
- 0:02	50.0	.233	193.04	-2.05	190.98
- 0:05	53.0	.248	205.33	-2.05	203.28
- 0:08	56.0	.258	213.52	-2.05	211.48

SUPERIOR TESTERS ENTERPRISES, INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : ENERGY THREE
DATE OF TEST : 10-28-84
DEPTH : 3054.0

WELL NAME : HACHMEISTER #1
LOCATION : 4-11S-15W
SERIAL NO. : 2186

COMMENTS	TIME min	DEFL in	----- PRESSURE PSIG -----		
			CALC	CORR	CORRECTED
TEST NO.:1					
- 0:11	59.0	.271	224.17	-2.04	222.13
- 0:12	60.0	.273	225.81	-2.04	223.77
-24:12 2ND SHUT-IN	0.0	.273	225.81	-2.04	223.77
-2ND HYDROSTATIC	0.0	1.955	1604.05	1.69	1605.74

SUPERIOR TESTERS ENTERPRISES, INC.

ERROR IN SUMMARY CALCULATIONS

***** CAUTION; DATA INCOMPLETE
DATA SUMMARY

COMPANY : ENERGY THREE
DATE OF TEST : 10-28-84

WELL NAME : HACHMEISTER #1
LOCATION : 4-11S-15W

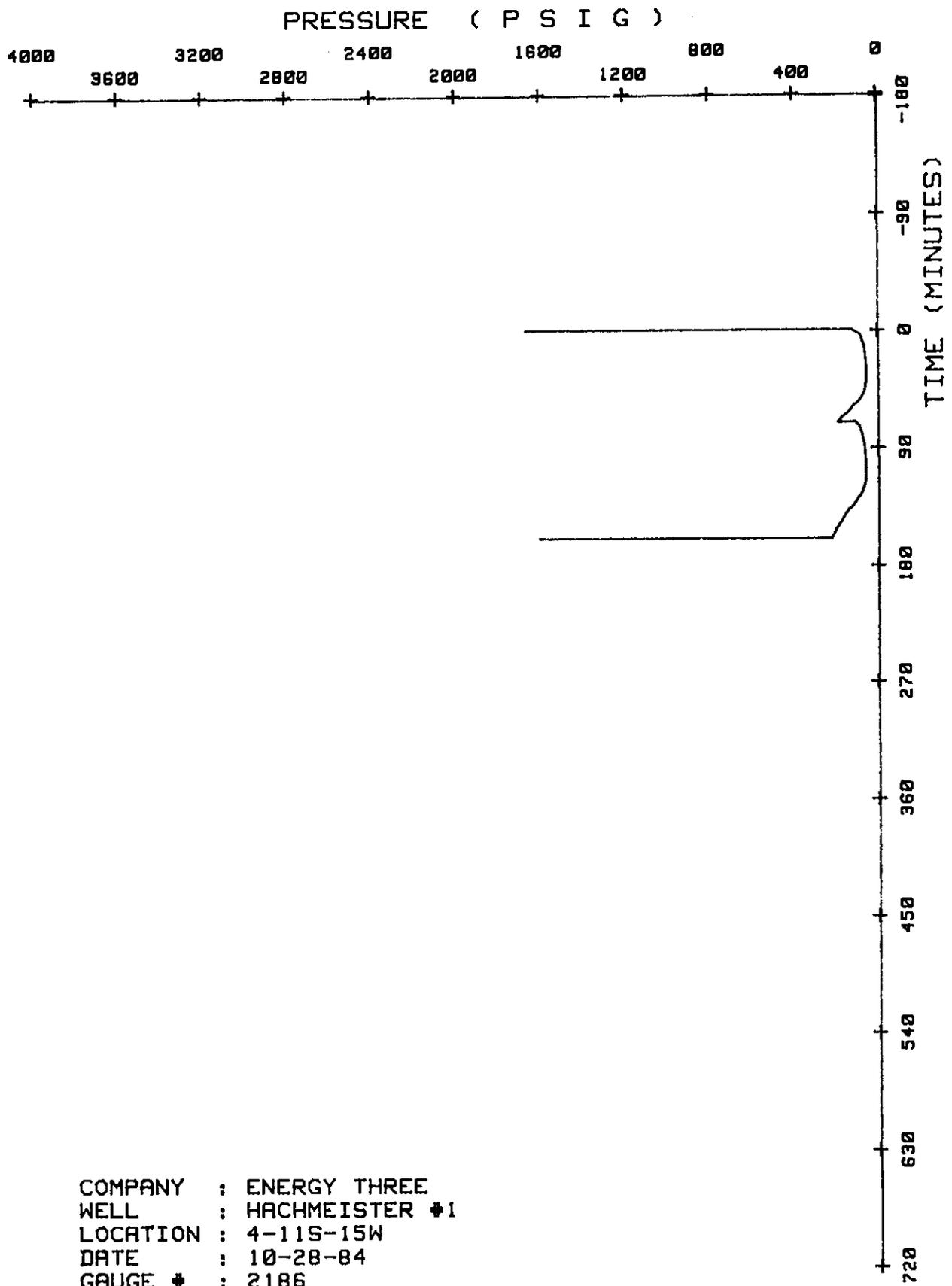
RECOVERY INFORMATION

LIQUID RECOVERY Total Fluid Recovered : 40
Recovered 40 feet of SLIGHTLY WATER CUT MUD

GAS RECOVERY Measured With : Riser :
(Reading Surface Choke (in.) Cubic feet/day
Time (min.)

FLUID PROPERTIES

Oil Viscosity (cp) Compressibility (psi-1) Pore Space Saturation
Gas
Water



COMPANY : ENERGY THREE
 WELL : HACHMEISTER #1
 LOCATION : 4-11S-15W
 DATE : 10-28-84
 GAUGE # : 2186

SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : ENERGY THREE
DATE OF TEST : 10-28-84
DST. NO : 1

WELL NAME : HACHMEISTER #1
LOCATION : 4-11S-15W
SHUT-IN PERIOD :

INTERPRETIVE DATA

TRANSMISSIBILITY

Oil (md.ft/cp): 0.00
Gas (md.ft/cp): 0.00

EFFECTIVE PERMEABILITY

Oil (md): 0.00
Gas (md): 0.00

TOTAL MOBILITY (md/cp): 0.00

TOTAL COMPRESSIBILITY (psi⁻¹): 0.00E+00

ESTIMATED DAMAGE RATIO: 0.00

CALCULATED DAMAGE RATIO: 0.00

Reservoir Temperature (F): 95.00
Formation Porosity : 0.00
Formation Thickness (ft): 18.00
Wellbore Radius (in): 3.94
Reservoir Compressibility (psi⁻¹): 0.00E+00
Calculated Skin Factor : 0.00

PRODUCTION WITH DAMAGE REMOVED : 0.00

PRODUCTIVITY INDEX : 0.00

Final Flow Pressure (psi): 59.00

APPROXIMATE RADIUS OF INVESTIGATION (ft): 0.00

Total Flowing Time (min): 0.00

EXTRAPOLATED RESERVOIR PRESSURE (psi): 0.00

Slope of Build-up Curve (psi/log cycle): 0.00
Effective Producing Time (min): 0.00

WITNESSED BY :

TOOL OPERATOR : IVAN SUPPES

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS

RR #1, Box 295B, Great Bend, Kansas

Date 10-29-84 Location 4 11^s 15^w Elevation 1291 KB. County Russell

Company Energy III Number of Copies _____

Address PO Box 1505 Great Bend, Kansas 67530

Charts Mailed to P.O. Box 1505 Great Bend, Kansas 67530

Invoice Mailed to P.O. Box 1505 Great Bend, Kansas 67530

Lease Hackmaster Well No. #1 Formation Tested Lansing Test No. #2

Depth 3252' Tested from 3211' to 3252' Packer Size 6 3/4 Anchor Length 41'

Top Packer Depth 3206' ft. Bottom Packer Depth 3211' ft. Dual Packers yes

Tool Joint Size 4 1/2 F.H. Tool Size 5' 20.0 Hole Size 7 7/8 Did Packer Hold yes

Drilling Contractor Big Three Drilling

Length Drill Pipe 3190' I.D. Drill Pipe 3.80 Tool Joint Size 4 1/2 X.H.

Length Weight Pipe None I.D. Weight Pipe - Tool Joint Size -

Length Drill Collars None I.D. Drill Collars - Tool Joint Size -

Tool Open I.F.P. from 10:30 P.m to 11:00 A.m 30 min

Tool Closed I.C.I.P. from 11:00 P.m to 11:45 P.m 45 min

Tool Open F.F.P. from 11:45 P.m to 12:30 A.m 40 min

Tool Closed F.C.I.P. from 12:30 A.m to 2:00 A.m 90 min

from [B]	<u>65</u>	P.S.I. to [C]	<u>65</u>	P.S.I.
[D]	<u>360</u>			P.S.I.
from [E]	<u>81</u>	P.S.I. to [F]	<u>81</u>	P.S.I.
[G]	<u>377</u>			P.S.I.

Initial Hydrostatic Pressure [A] 1752 P.S.I. Final Hydrostatic Pressure [H] 1740 P.S.I. Maximum Temp _____ °F

Initial Blow Fair Blow - Building 6" into water

Final Blow Fair Blow - Building 6" into water

Gas to Surface None Min. Oil to Surface None Min. Mut Weight 99 Viscosity 46

Gas Guaged None

Recovery 60' Gas in Pipe

30' slightly oil cut mud 45% mud 15% water 20% oil 23% gas

60' slightly oil cut muddy water 70% mud 20% water 10% oil

Remarks _____

Extra Equipment-Jars None Safety Joint None Extra Packer None Straddle None Hook Wall None

Top Recorder No. 2186 Clock no. 23914 Depth 3247' Clr. Sub _____ Sampler None

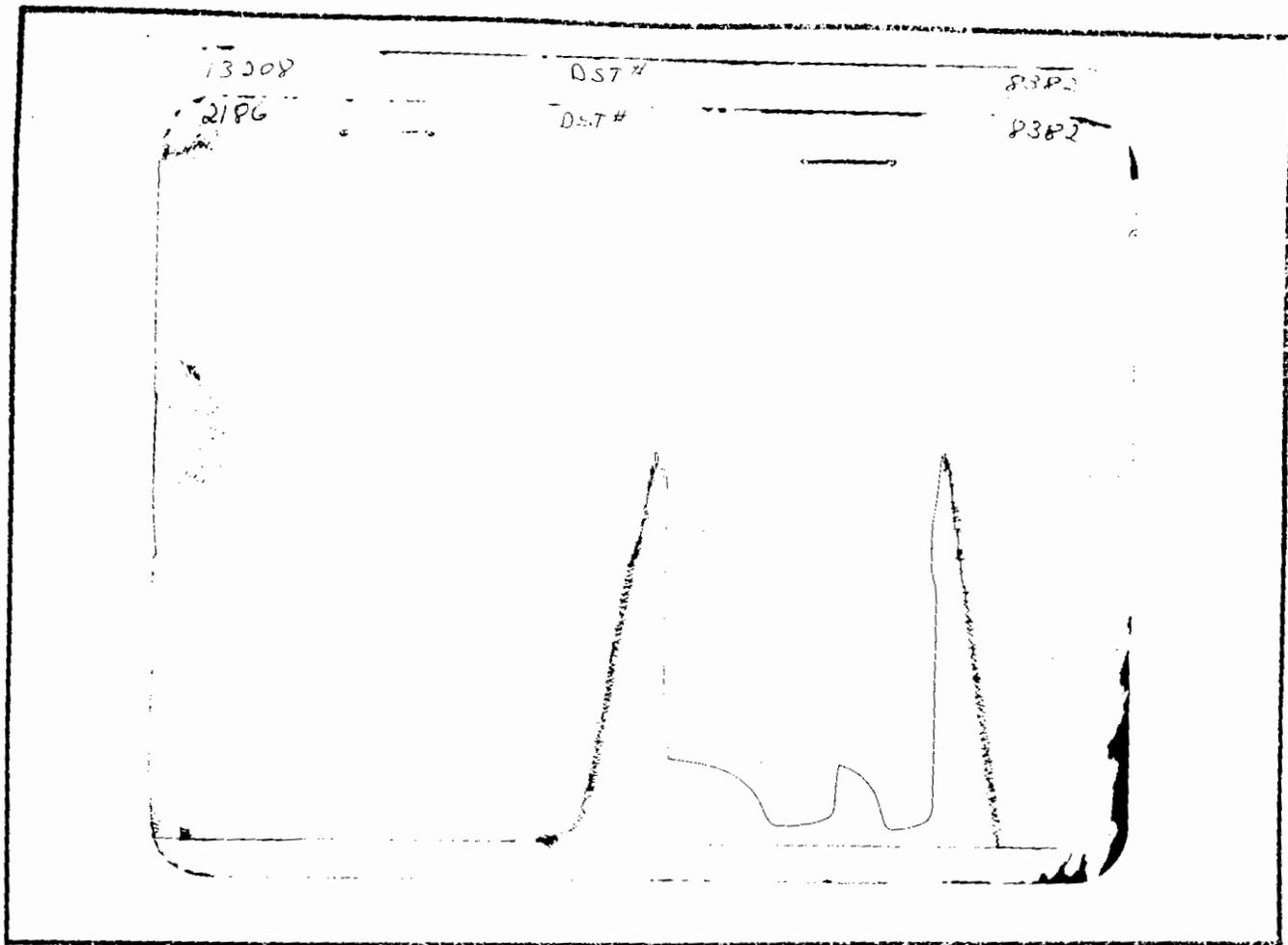
Bottom Recorder No. 1320P Clock No. 23915 Depth 3250' Chlorides - pits 42,000 D.S.T. 52,000

Price of Job \$600.00

Tool Operator Juan Lopez

Approved By _____

SUPERIOR TESTERS, INC. SHALL NOT BE LIABLE FOR DAMAGE OF ANY KIND TO THE PROPERTY OR PERSONEL OF THE ONE FOR WHOM A TEST IS MADE, OF 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.



This is an actual photograph of recorder chart.

POINT	PRESSURE		P.S.I.
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	<u>1757</u>	<u>1723</u>	P.S.I.
(B) First Initial Flow Pressure	<u>65</u>	<u>163</u>	P.S.I.
(C) First Final Flow Pressure	<u>65</u>	<u>74</u>	P.S.I.
(D) Initial Closed-in Pressure	<u>360</u>	<u>358</u>	P.S.I.
(E) Second Initial Flow Pressure	<u>81</u>	<u>163</u>	P.S.I.
(F) Second Final Flow Pressure	<u>81</u>	<u>85</u>	P.S.I.
(G) Final Closed-in Pressure	<u>377</u>	<u>375</u>	P.S.I.
(H) Final Hydrostatic Mud	<u>1740</u>	<u>1670</u>	P.S.I.

SUPERIOR TESTERS ENTERPRISES, INC.

WELL IDENTIFICATION DATA

COMPANY : ENERGY THREE	WELL NAME : HACHMEISTER #1
ADDRESS : P.O. BOX 1505, GREAT BEND	LOCATION : 4-11S-15W
STATE & COUNTY : KANSAS, RUSSELL	FIELD :
TEST INT. KB : 3211 to 3252	TEST DATE : 10-29-84
ELEV. (GR) : (KB) : 1891	TOTAL INTERVAL (ft) K.B. : 41.00

EQUIPMENT AND HOLE DATA

TYPE OF TEST : CONVENTIONAL	DRILL PIPE LENGTH (ft) : 3190
TOTAL DEPTH (ft-kb) : 3252	DRILL PIPE I.D. (in) : 3.80
MAIN HOLE/CASING SIZE (in) : 7 7/8	DRILL COLLAR LENGTH (ft) : NONE
RAT HOLE/LINER SIZE (in) :	DRILL COLLAR I.D. (in) : NONE
FORMATION TESTED : LANSING	TOP PACKER DEPTH (kb) : 3206
PACKER SIZE (in) : 6 3/4	BOTTOM PACKER DEPTH (kb) : 3211
DUAL PACKERS : YES	PACKER HOLD : YES
TOOL SIZE : 5 1/2 O.D.	TOOL JOINT SIZE : 4 1/2 F.H.
MUD VISCOSITY : 46	MUD WEIGHT : 9.9
WEIGHT PIPE LENGTH (FT) : NONE	WEIGHT PIPE ID : NONE
EXTRA EQUIPMENT : NONE	ANCHOR LENGTH (FT) : 41
SURFACE CHOKE : 3/4	BOTTOM CHOKE : 3/4
REVERSED OUT : NO	

SUBSURFACE PRESSURE MEASUREMENTS

ELEMENT SERIAL NO. : 2186
 RANGE : 0 - 3275
 CAL. EQU. : 819.40 * Defl. + 2.12
 CLOCK RANGE : 12 HOURS

COMMENTS	TIME min	DEFL in	PRESSURE PSIG		
			CALC	CORR	CORRECTED
TEST NO.: 2					
Depth : 3247.0 ft-kb					
- 0:00	0.0	2.099	1722.05	1.73	1723.77
- 0:00	0.0	2.090	1714.67	1.72	1716.39
-1ST HYDROSTATIC	0.0	2.099	1722.05	1.73	1723.77
-22:30 1ST FLOW	0.0	.200	166.00	-2.06	163.93
- 22:34	4.0	.140	116.83	-2.08	114.75
- 22:39	9.0	.122	102.08	-2.08	100.00
- 22:43	13.0	.111	93.07	-2.09	90.98
- 22:47	17.0	.102	85.70	-2.09	83.61
- 22:51	21.0	.096	80.78	-2.09	78.69
- 22:56	26.0	.092	77.50	-2.09	75.41
- 22:59	29.0	.091	76.68	-2.09	74.59
- 22:59	29.0	.091	76.68	-2.09	74.59
-22:59 END FLOW	0.0	.091	76.68	-2.09	74.59
- 23:02	3.0	.092	77.50	-2.09	75.41

REMARKS :

1ST BLOW: FAIR BUILDING SLOWLY 6 INCHES INTO WATER
 2ND BLOW: FAIR BUILDING SLOWLY 6 INCHES INTO WATER

WITNESSED BY : TOOL OPERATOR : IVAN SUPPES

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES INC.

SUPERIOR TESTERS ENTERPRISES, INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : ENERGY THREE
 DATE OF TEST : 10-29-84
 DEPTH : 3247.0

WELL NAME : HACHMEISTER #1
 LOCATION : 4-11S-15W
 SERIAL NO. : 2186

COMMENTS	TIME min	DEFL in	PRESSURE PSIG		
			----- CALC	CORR	CORRECTED
TEST NO.:2					
- 23:05	6.0	.105	88.15	-2.09	86.07
- 23:08	9.0	.140	116.83	-2.08	114.75
- 23:10	11.0	.218	180.75	-2.06	178.69
- 23:13	14.0	.273	225.81	-2.04	223.77
- 23:16	17.0	.304	251.21	-2.03	249.18
- 23:19	20.0	.334	275.80	-2.03	273.77
- 23:22	23.0	.356	293.82	-2.02	291.80
- 23:25	26.0	.378	311.85	-2.01	309.84
- 23:28	29.0	.392	323.32	-2.01	321.31
- 23:30	31.0	.405	333.97	-2.01	331.97
- 23:33	34.0	.413	340.53	-2.01	338.52
- 23:36	37.0	.421	347.09	-2.00	345.08
- 23:39	40.0	.430	354.46	-2.00	352.46
- 23:42	43.0	.437	360.20	-2.00	358.20
-23:42 1ST SHUT-IN	0.0	.437	360.20	-2.00	358.20
-23:42 2ND FLOW	0.0	.199	165.18	-2.06	163.11
- 23:46	4.0	.152	126.67	-2.08	124.59
- 23:51	9.0	.138	115.19	-2.08	113.11
- 23:55	13.0	.128	107.00	-2.08	104.92
- 23:59	17.0	.120	100.44	-2.08	98.36
- 0:03	21.0	.115	96.35	-2.09	94.26
- 0:08	26.0	.110	92.25	-2.09	90.16
- 0:12	30.0	.108	90.61	-2.09	88.52
- 0:16	34.0	.105	88.15	-2.09	86.07
- 0:21	39.0	.104	87.33	-2.09	85.25
- 0:25	43.0	.104	87.33	-2.09	85.25
- 0:26	44.0	.104	87.33	-2.09	85.25
-24:26 END FLOW	0.0	.104	87.33	-2.09	85.25
- 0:29	3.0	.108	90.61	-2.09	88.52
- 0:32	6.0	.122	102.08	-2.08	100.00
- 0:35	9.0	.151	125.85	-2.08	123.77
- 0:37	11.0	.194	161.08	-2.06	159.02
- 0:40	14.0	.232	192.22	-2.05	190.16
- 0:43	17.0	.265	219.26	-2.04	217.21
- 0:46	20.0	.293	242.20	-2.04	240.16
- 0:49	23.0	.313	258.59	-2.03	256.56
- 0:52	26.0	.330	272.52	-2.03	270.49
- 0:55	29.0	.345	284.81	-2.02	282.79
- 0:57	31.0	.360	297.10	-2.02	295.08
- 1:00	34.0	.373	307.75	-2.02	305.74

SUPERIOR TESTERS ENTERPRISES, INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : ENERGY THREE
 DATE OF TEST : 10-29-84
 DEPTH : 3247.0

WELL NAME : HACHMEISTER #1
 LOCATION : 4-11S-15W
 SERIAL NO. : 2186

COMMENTS	TIME min	DEFL in	PRESSURE PSIG		
			----- CALC	CORR	CORRECTED
TEST NO.:2					
- 1:03	37.0	.384	316.77	-2.01	314.75
- 1:06	40.0	.393	324.14	-2.01	322.13
- 1:09	43.0	.401	330.70	-2.01	328.69
- 1:12	46.0	.407	335.61	-2.01	333.61
- 1:15	49.0	.414	341.35	-2.01	339.34
- 1:17	51.0	.419	345.45	-2.00	343.44
- 1:20	54.0	.425	350.36	-2.00	348.36
- 1:23	57.0	.429	353.64	-2.00	351.64
- 1:26	60.0	.434	357.74	-2.00	355.74
- 1:29	63.0	.437	360.20	-2.00	358.20
- 1:32	66.0	.440	362.65	-2.00	360.66
- 1:35	69.0	.443	365.11	-2.00	363.11
- 1:38	72.0	.446	367.57	-2.00	365.57
- 1:40	74.0	.449	370.03	-2.00	368.03
- 1:43	77.0	.452	372.49	-1.99	370.49
- 1:46	80.0	.454	374.13	-1.99	372.13
- 1:49	83.0	.456	375.76	-1.99	373.77
- 1:51	85.0	.458	377.40	-1.99	375.41
-01:51 2ND SHUT-IN	0.0	.458	377.40	-1.99	375.41
-2ND HYDROSTATIC	0.0	2.034	1668.78	1.71	1670.49

SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : ENERGY THREE
DATE OF TEST : 10-29-84

WELL NAME : HACHMEISTER #1
LOCATION : 4-11S-15W

RECOVERY INFORMATION

LIQUID RECOVERY

Total Fluid Recovered : 90

Recovered 60 feet of GAS IN PIPE
Recovered 30 feet of SLIGHTLY OIL CUT MUD
Recovered 60 feet of SLIGHTLY OIL CUT MUDDY WATER

GAS RECOVERY	Measured With :		Riser :
Time (min.)	()	
	Reading	Surface Choke (in.)	Cubic feet/day

FLUID PROPERTIES

	Viscosity (cp)	Compressibility (psi ⁻¹)	Pore Space Saturation
Oil	.8	7.7E-6	.42
Gas			
Water	.45	3.1E-6	.5

CALCULATED RECOVERY ANALYSIS

DST Number: 2

Test ticket number: 8382

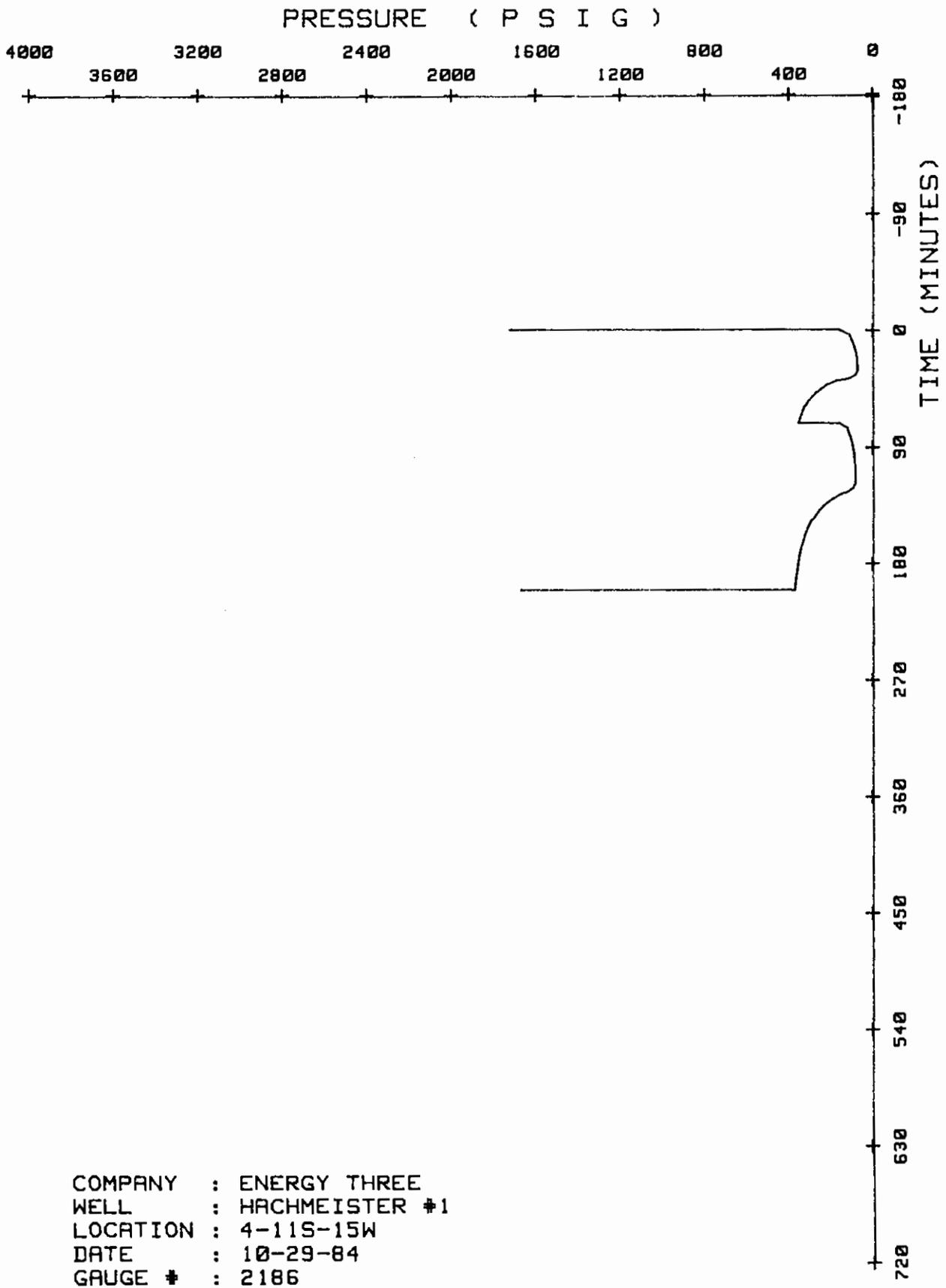
Sample #	Total Feet	***** Gas %	***** Gas Feet	***** Oil %	***** Oil Feet	***** Mud %	***** Mud Feet
1	30	23.00	6.90	22.00	6.60	45.00	13.50
2	60	0.00	0.00	10.00	6.00	70.00	42.00
TOTAL	90	7.67	6.90	14.00	12.60	61.67	55.50

Sample #	Total Feet	**** WATER %	**** WATER Feet	Chlorides (ppm)	Resistivity (ohms)	Temperature (deg)
1	30	10.00	3.00	0.00	0.00	0.00
2	60	20.00	12.00	0.00	0.00	0.00
TOTAL	90	16.67	15.00			

WITNESSED BY :

TOOL OPERATOR : IVAN SUPPES

INTERPRETATION BY : SUPERIOR TESTERS INC.



COMPANY : ENERGY THREE
 WELL : HACHMEISTER #1
 LOCATION : 4-11S-15W
 DATE : 10-29-84
 GAUGE # : 2186

SUPERIOR TESTERS ENTERPRISES, INC.

HORNER ANALYSIS

COMPANY : ENERGY THREE
 WELL NAME : HACHMEISTER #1
 LOCATION : 4-11S-15W
 STATE & COUNTY : KANSAS, RUSSELL
 DATE OF TEST : 10-29-84
 TEST INT. KB : 3211 to 3252
 TOTAL INTERVAL (ft) K.B. : 41.00
 ELEV. (GR) : (KB) : 1891
 FIELD :

ELEMENT SERIAL NO. : 2186
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG	-----
Refer. depth :	3247.0	ft-kb		
-22:59 END FLOW	0.00	0.00	74.59	
	3.00	10.67	75.41	
	6.00	5.83	86.07	
	9.00	4.22	114.75	
	11.00	3.64	178.69	
	14.00	3.07	223.77	
	17.00	2.71	249.18	
	20.00	2.45	273.77	
	23.00	2.26	291.80	
	26.00	2.12	309.84	
	29.00	2.00	321.31	
	31.00	1.94	331.97	
	34.00	1.85	338.52	
	37.00	1.78	345.08	
	40.00	1.73	352.46	
	43.00	1.67	358.20	
-23:42 1ST SHUT-IN	0.00	0.00	358.20	

WITNESSED BY :

TOOL OPERATOR : IVAN SUPPES

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

D A T A S U M M A R Y

COMPANY : ENERGY THREE
DATE OF TEST : 10-29-84
DST. NO : 2

WELL NAME : HACHMEISTER #1
LOCATION : 4-115-15W
SHUT-IN PERIOD : 1

INTERPRETIVE DATA (OIL)

EXTRAPOLATED RESERVOIR PRESSURE (psi):	479.00
Slope of Build-up Curve (psi/log cycle):	526.42
Effective Producing Time (min):	29.00

WITNESSED BY : TOOL OPERATOR : IVAN SUPPES

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

HORNER ANALYSIS

COMPANY : ENERGY THREE
 WELL NAME : HACHMEISTER #1
 LOCATION : 4-11S-15W
 STATE & COUNTY : KANSAS, RUSSELL
 DATE OF TEST : 10-29-84
 TEST INT. KB : 3211 to 3252
 TOTAL INTERVAL (ft) K.B. : 41.00
 ELEV. (GR) : (KB) : 1891
 FIELD :

ELEMENT SERIAL NO. : 2186
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG	-----
Refer. depth :	3247.0 ft-kb			
-24:26 END FLOW	0.00	0.00	85.25	
	3.00	25.33	88.52	
	6.00	13.17	100.00	
	9.00	9.11	123.77	
	11.00	7.64	159.02	
	14.00	6.21	190.16	
	17.00	5.29	217.21	
	20.00	4.65	240.16	
	23.00	4.17	256.56	
	26.00	3.81	270.49	
	29.00	3.52	282.79	
	31.00	3.35	295.08	
	34.00	3.15	305.74	
	37.00	2.97	314.75	
	40.00	2.83	322.13	
	43.00	2.70	328.69	
	46.00	2.59	333.61	
	49.00	2.49	339.34	
	51.00	2.43	343.44	
	54.00	2.35	348.36	

WITNESSED BY :

TOOL OPERATOR : IVAN SUPPES

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

HORNER ANALYSIS

COMPANY : ENERGY THREE
 DATE OF TEST : 10-29-84
 REFERENCE DEPTH : 3247.0

WELL NAME : HACHMEISTER #1
 LOCATION : 4-11S-15W
 SERIAL NO. : 2186

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG	-----
	57.00	2.28	351.64	
	60.00	2.22	355.74	
	63.00	2.16	358.20	
	66.00	2.11	360.66	
	69.00	2.06	363.11	
	72.00	2.01	365.57	
	74.00	1.99	368.03	
	77.00	1.95	370.49	
	80.00	1.91	372.13	
	83.00	1.88	373.77	
	85.00	1.86	375.41	
-01:51 2ND SHUT-IN	0.00	0.00	375.41	

SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : ENERGY THREE
DATE OF TEST : 10-29-84
DST. NO : 2

WELL NAME : HACHMEISTER #1
LOCATION : 4-11S-15W
SHUT-IN PERIOD : 2

INTERPRETIVE DATA (OIL)

EXTRAPOLATED RESERVOIR PRESSURE (psi):	459.00
Slope of Build-up Curve (psi/log cycle):	303.67
Effective Producing Time (min):	73.00

WITNESSED BY :

TOOL OPERATOR : IVAN SUPPES

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : ENERGY THREE
 DATE OF TEST : 10-29-84
 DST. NO : 2

WELL NAME : HACHMEISTER #1
 LOCATION : 4-11S-15W
 SHUT-IN PERIOD : 2

INTERPRETIVE DATA (OIL)

TRANSMISSIBILITY

Oil (md.ft/cp):	1.89
Gas (md.ft/cp):	0.00

EFFECTIVE PERMEABILITY

Oil (md):04
Gas (md):	0.00

TOTAL MOBILITY (md/cp):11
-------------------------------	-----

TOTAL COMPRESSIBILITY (psi ⁻¹):	5.26E-06
---	----------

ESTIMATED DAMAGE RATIO:27
-------------------------------	-----

CALCULATED DAMAGE RATIO:43
--------------------------------	-----

Reservoir Temperature (F):	0.00
----------------------------------	------

Formation Porosity :20
----------------------------	-----

Formation Thickness (ft):	41.00
---------------------------------	-------

Wellbore Radius (in):	3.94
-----------------------------	------

Reservoir Compressibility (psi ⁻¹):	4.80E-07
---	----------

Calculated Skin Factor :	-1.86
--------------------------------	-------

PRODUCTION WITH DAMAGE REMOVED (bbl/D):	1.53
---	------

PRODUCTIVITY INDEX (bbl/psi):01
-------------------------------------	-----

Final Flow Pressure (psi):	85.00
----------------------------------	-------

APPROXIMATE RADIUS OF INVESTIGATION (ft):	11.56
---	-------

Total Flowing Time (min):	73.00
---------------------------------	-------

EXTRAPOLATED RESERVOIR PRESSURE (psi):	459.00
--	--------

Slope of Build-up Curve (psi/log cycle):	303.67
--	--------

Effective Producing Time (min):	73.00
---------------------------------------	-------

WITNESSED BY :

TOOL OPERATOR : IVAN SUPPES

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS
RR #1, Box 295B, Great Bend, Kansas

Date 10-30-84 Location 4 11^s 15^w Elevation 1891 K.B. County Russell

Company Energy III Number of Copies _____

Address P.O. Box 1505 Great Bend, Kansas 67530

Charts Mailed to P.O. Box 1505 Great Bend, Kansas 67530

Invoice Mailed to P.O. Box 1505 Great Bend, Kansas 67530

Lease Hackmeister Well No. #1 Formation Tested Arkumbl Test No. #3

Depth 3366' Tested from 3352' to 3366' Packer Size 6 3/4 Anchor Length 14'

Top Packer Depth 3347' ft. Bottom Packer Depth 3352' ft. Dual Packers yes

Tool Joint Size 4 1/2 F.H. Tool Size 5 1/2 O.D. Hole Size 7 1/2 Did Packer Hold yes

Drilling Contractor Big Three Drilling

Length Drill Pipe 3331' I.D. Drill Pipe 3.80 Tool Joint Size 4 1/2 X.H.

Length Weight Pipe None I.D. Weight Pipe - Tool Joint Size -

Length Drill Collars None I.D. Drill Collars - Tool Joint Size -

Tool Open I.F.P. from 7:30 A.m to 8:00 P.m 30 min

Tool Closed I.C.I.P. from 8:00 P.m to 9:00 P.m 60 min

Tool Open F.F.P. from 9:00 P.m to 9:45 P.m 45 min

Tool Closed F.C.I.P. from 9:45 P.m to 11:15 P.m 90 min

from [B]	<u>49</u>	P.S.I. to [C]	<u>49</u>	P.S.I.
[D]	<u>847</u>			P.S.I.
from [E]	<u>57</u>	P.S.I. to [F]	<u>57</u>	P.S.I.
[G]	<u>789</u>			P.S.I.

Initial Hydrostatic Pressure [A] 1872 P.S.I. Final Hydrostatic Pressure [H] 1855 P.S.I. Maximum Temp 97 °F

Initial Blow Weak to Fair Blow - Building slowly 3" into water

Final Blow Weak Blow - Building slowly 1 1/2" into water

Gas to Surface None Min. Oil to Surface None Min. Mud Weight 9.8 Viscosity 50

Gas Guaged None

Recovery 15' Gas in Pipe

45' oil cut Mud 70% mud 5% water 19% oil 16% Gas

Remarks _____

Extra Equipment-Jars None Safety Joint None Extra Packer None Straddle None Hook Wall None

Top Recorder No. 2186 Clock no. 23915 Depth 3360' Ctr. Sub _____ Sampler None

Bottom Recorder No. 1320P Clock No. 27914 Depth 3363' Chlorides - pits _____ D.S.T. _____

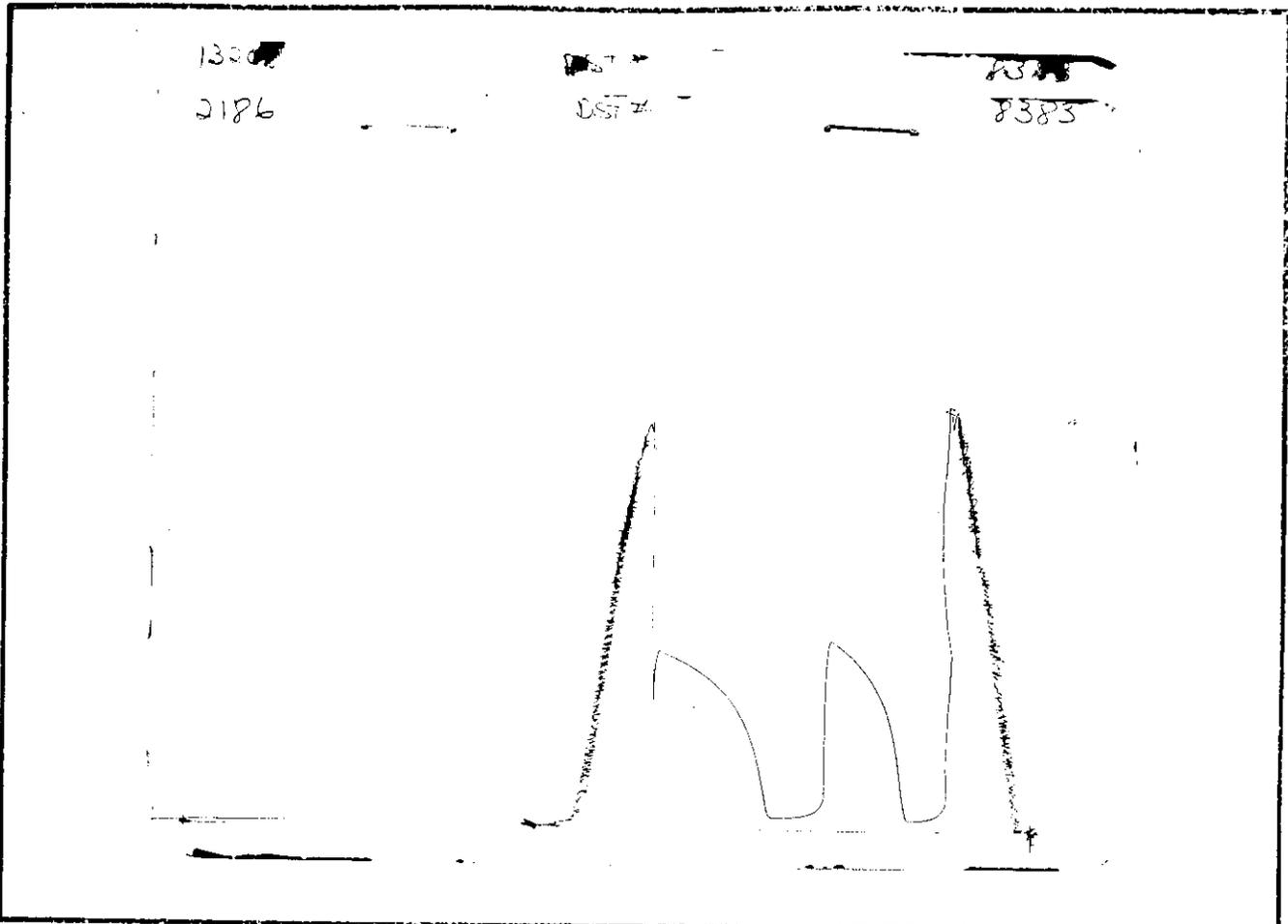
Price of Job \$600.00

Tool Operator Jim Snyder

Approved By _____

SUPERIOR TESTERS, INC. SHALL NOT BE LIABLE FOR DAMAGE OF ANY KIND TO THE PROPERTY OR PERSONEL OF THE ONE FOR WHOM A TEST IS MADE, OF 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.

Ticket No 8383



This is an actual photograph of recorder chart.

POINT	PRESSURE		P.S.I.
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	1872	1850	P.S.I.
(B) First Initial Flow Pressure	49	118	P.S.I.
(C) First Final Flow Pressure	49	42	P.S.I.
(D) Initial Closed-in Pressure	847	839	P.S.I.
(E) Second Initial Flow Pressure	57	134	P.S.I.
(F) Second Final Flow Pressure	57	50	P.S.I.
(G) Final Closed-in Pressure	789	788	P.S.I.
(H) Final Hydrostatic Mud	1855	1801	P.S.I.

SUPERIOR TESTERS ENTERPRISES, INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : ENERGY THREE
 DATE OF TEST : 10-30-84
 DEPTH : 3360.0

WELL NAME : HACHMEISTER #1
 LOCATION : 4-11S-15W
 SERIAL NO. : 2186

COMMENTS	TIME min	DEFL in	PRESSURE PSIG		
			----- CALC	CORR	----- CORRECTED
TEST NO.:3					
- 8:13	14.0	.550	452.79	-1.97	450.82
- 8:16	17.0	.616	506.87	-1.90	504.97
- 8:19	20.0	.671	551.94	-1.44	550.50
- 8:22	23.0	.712	585.53	-1.09	584.44
- 8:25	26.0	.755	620.77	-.73	620.03
- 8:28	29.0	.785	645.35	-.48	644.87
- 8:31	32.0	.818	672.39	-.20	672.19
- 8:34	35.0	.846	695.33	.03	695.36
- 8:37	38.0	.872	716.64	.25	716.89
- 8:39	40.0	.894	734.66	.44	735.10
- 8:42	43.0	.916	752.69	.62	753.31
- 8:45	46.0	.935	768.26	.78	769.04
- 8:48	49.0	.953	783.01	.93	783.94
- 8:51	52.0	.969	796.12	1.07	797.19
- 8:54	55.0	.984	808.41	1.19	809.60
- 8:57	58.0	1.001	822.34	1.34	823.68
- 8:59	60.0	1.013	832.17	1.44	833.61
- 9:01	62.0	1.020	837.91	1.50	839.40
- 9:01	62.0	1.020	837.91	1.50	839.40
-09:01 1ST SHUT-IN	0.0	1.020	837.91	1.50	839.40
-09:01 2ND FLOW	0.0	.164	136.50	-2.07	134.43
- 9:05	4.0	.109	91.43	-2.09	89.34
- 9:10	9.0	.088	74.22	-2.09	72.13
- 9:14	13.0	.078	66.03	-2.10	63.93
- 9:18	17.0	.071	60.29	-2.10	58.20
- 9:23	22.0	.067	57.02	-2.10	54.92
- 9:27	26.0	.064	54.56	-2.10	52.46
- 9:31	30.0	.064	54.56	-2.10	52.46
- 9:36	35.0	.063	53.74	-2.10	51.64
- 9:40	39.0	.062	52.92	-2.10	50.82
- 9:41	40.0	.062	52.92	-2.10	50.82
-09:41 END FLOW	0.0	.062	52.92	-2.10	50.82
- 9:44	3.0	.076	64.39	-2.10	62.30
- 9:47	6.0	.166	138.14	-2.07	136.07
- 9:50	9.0	.266	220.08	-2.04	218.03
- 9:52	11.0	.347	286.45	-2.02	284.43
- 9:55	14.0	.427	352.00	-2.00	350.00
- 9:58	17.0	.485	399.53	-1.99	397.54
- 10:01	20.0	.533	438.86	-1.97	436.89
- 10:04	23.0	.580	477.37	-1.96	475.41

SUPERIOR TESTERS ENTERPRISES, INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : ENERGY THREE
 DATE OF TEST : 10-30-84
 DEPTH : 3360.0

WELL NAME : HACHMEISTER #1
 LOCATION : 4-11S-15W
 SERIAL NO. : 2186

COMMENTS	TIME min	DEFL in	PRESSURE PSIG		
			----- CALC	CORR	CORRECTED
TEST NO.:3					
- 10:07	26.0	.612	503.59	-1.94	501.66
- 10:10	29.0	.650	534.73	-1.62	533.11
- 10:13	32.0	.673	553.57	-1.42	552.15
- 10:16	35.0	.704	578.98	-1.16	577.81
- 10:18	37.0	.723	594.55	-1.00	593.54
- 10:21	40.0	.746	613.39	-.81	612.58
- 10:24	43.0	.765	628.96	-.65	628.31
- 10:27	46.0	.786	646.17	-.47	645.70
- 10:30	49.0	.800	657.64	-.35	657.28
- 10:33	52.0	.817	671.57	-.21	671.36
- 10:36	55.0	.831	683.04	-.09	682.95
- 10:39	58.0	.845	694.51	.02	694.54
- 10:41	60.0	.858	705.16	.13	705.30
- 10:44	63.0	.870	715.00	.23	715.23
- 10:47	66.0	.882	724.83	.34	725.17
- 10:50	69.0	.893	733.84	.43	734.27
- 10:53	72.0	.904	742.86	.52	743.38
- 10:56	75.0	.915	751.87	.61	752.48
- 10:59	78.0	.924	759.25	.69	759.93
- 11:02	81.0	.932	765.80	.76	766.56
- 11:05	84.0	.941	773.18	.83	774.01
- 11:08	87.0	.950	780.55	.91	781.46
- 11:11	90.0	.958	787.11	.97	788.08
-11:11 2ND SHUT-IN	0.0	.958	787.11	.97	788.08
-2ND HYDROSTATIC	0.0	2.194	1799.89	1.75	1801.64

SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : ENERGY THREE
DATE OF TEST : 10-30-84

WELL NAME : HACHMEISTER #1
LOCATION : 4-11S-15W

RECOVERY INFORMATION

LIQUID RECOVERY

Total Fluid Recovered : 45

Recovered 15 feet of GAS IN PIPE
Recovered 45 feet of OIL CUT MUD

GAS RECOVERY	Measured With :		Riser :
Time (min.)	()	
	Reading	Surface Choke (in.)	Cubic feet/day

FLUID PROPERTIES

	Viscosity (cp)	Compressibility (psi ⁻¹)	Pore Space Saturation
Oil	.8	7.7E-6	.42
Gas			
Water	.45	3.1E-6	.5

CALCULATED RECOVERY ANALYSIS

DST Number: 3

Test ticket number: 8383

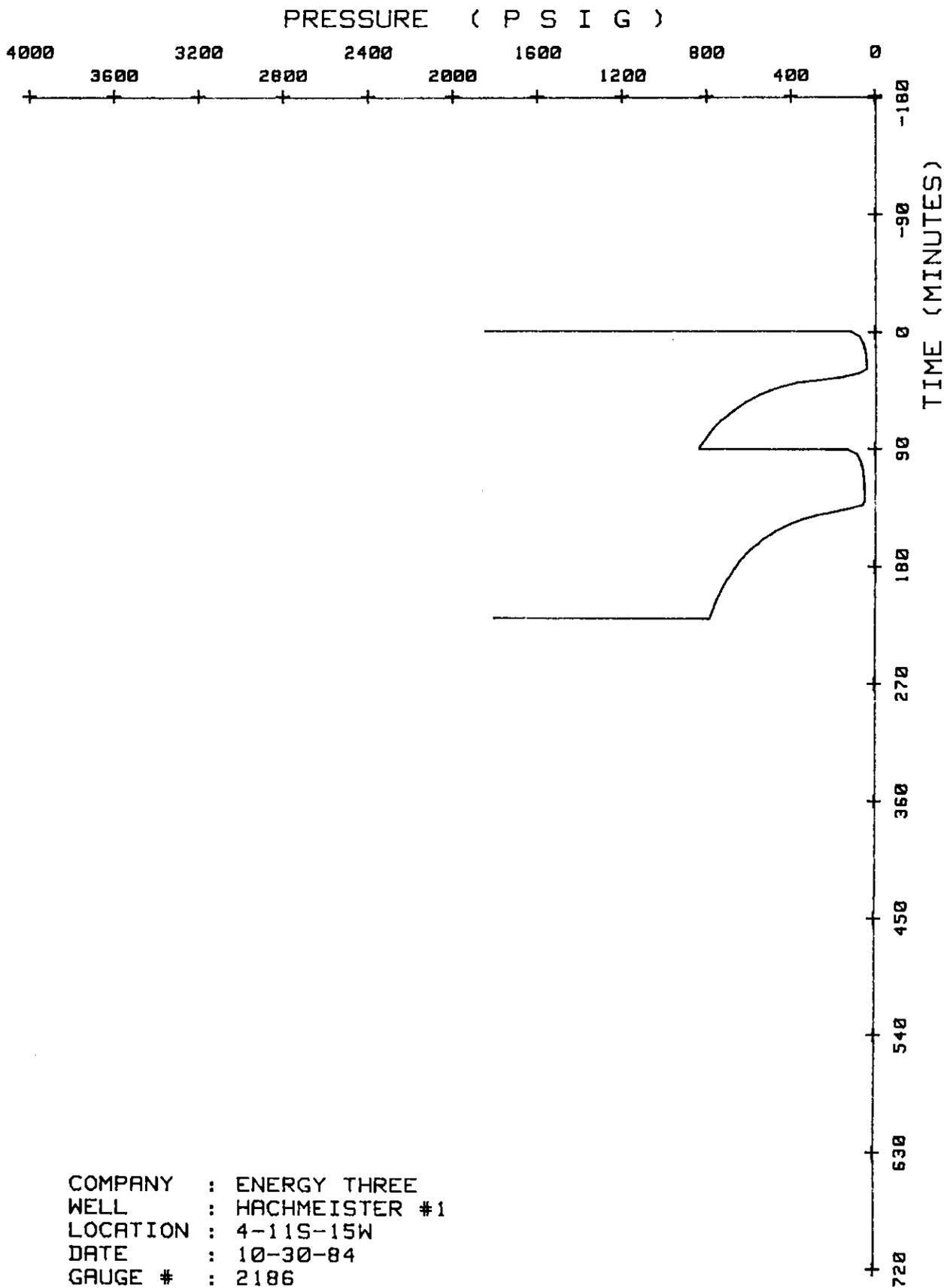
Sample #	Total Feet	***** Gas %	***** Gas Feet	***** Oil %	***** Oil Feet	***** Mud %	***** Mud Feet
1	45	16.00	7.20	19.00	8.55	60.00	27.00
TOTAL	45	16.00	7.20	19.00	8.55	60.00	27.00

Sample #	Total Feet	**** WATER %	**** WATER Feet	Chlorides (ppm)	Resistivity (ohms)	Temperature (deg)
1	45	5.00	2.25	0.00	0.00	0.00
TOTAL	45	5.00	2.25			

WITNESSED BY :

TOOL OPERATOR : IVAN SUPPES

INTERPRETATION BY : SUPERIOR TESTERS INC.

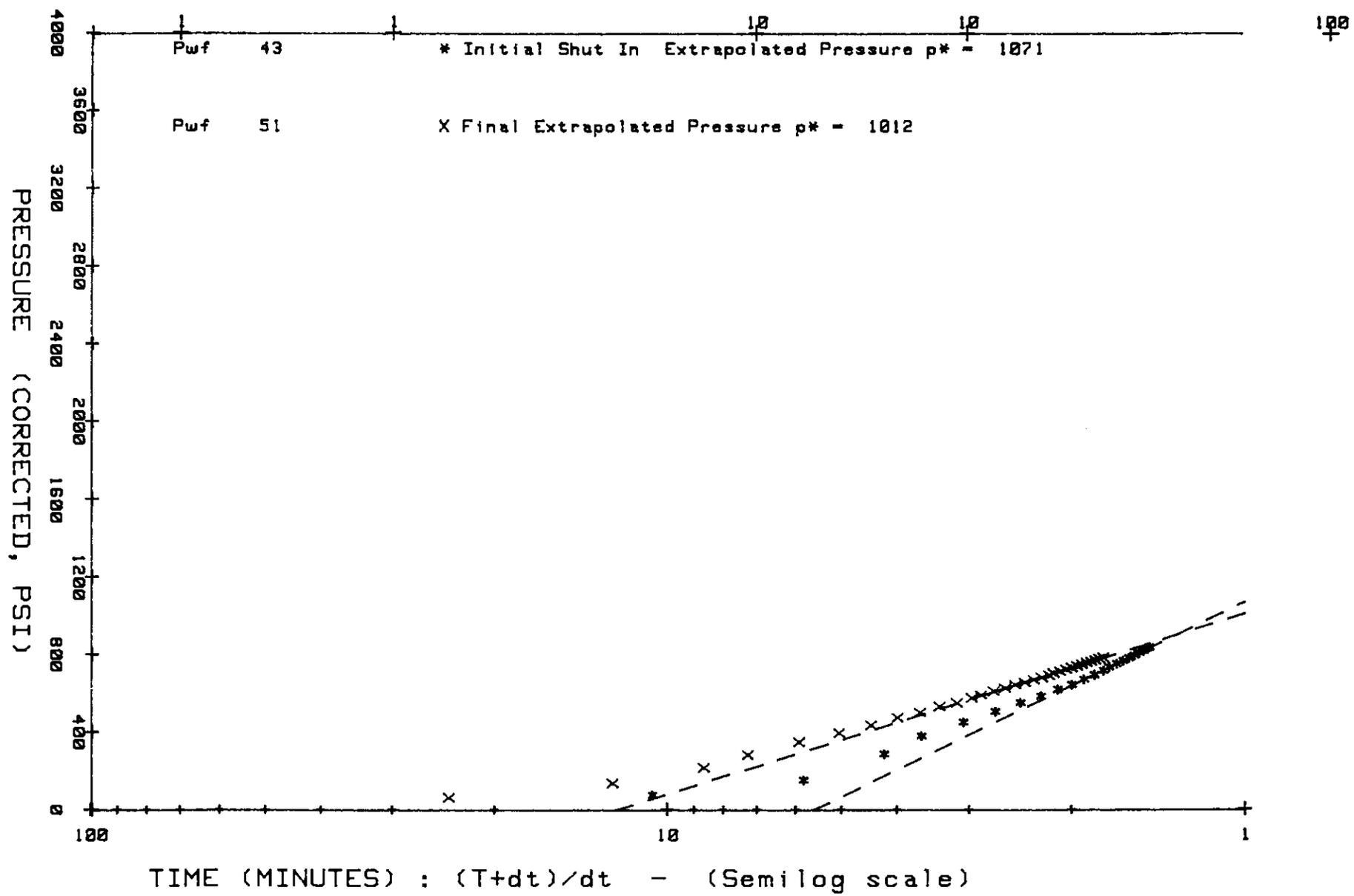


COMPANY : ENERGY THREE
 WELL : HACHMEISTER #1
 LOCATION : 4-11S-15W
 DATE : 10-30-84
 GAUGE # : 2186

LOCATION : 4-11S-15W

DATE : 10-30-84

GAUGE # : 2186



SUPERIOR TESTERS ENTERPRISES, INC.

HORNER ANALYSIS

COMPANY : ENERGY THREE
 WELL NAME : HACHMEISTER #1
 LOCATION : 4-11S-15W
 STATE & COUNTY : KANSAS, RUSSELL
 DATE OF TEST : 10-30-84
 TEST INT. KB : 3352 to 3366
 TOTAL INTERVAL (ft) K.B. : 14.00
 ELEV.(GR) : (KB) : 1891
 FIELD :

ELEMENT SERIAL NO. : 2186
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG	-----
Refer. depth :	3360.0	ft-kb		
-07:59 END FLOW	0.00	0.00	42.62	
	3.00	10.67	74.59	
	6.00	5.83	152.46	
	9.00	4.22	286.07	
	11.00	3.64	380.33	
	14.00	3.07	450.82	
	17.00	2.71	504.92	
	20.00	2.45	550.00	
	23.00	2.26	583.61	
	26.00	2.12	618.85	
	29.00	2.00	643.44	
	32.00	1.91	670.49	
	35.00	1.83	693.44	
	38.00	1.76	714.75	
	40.00	1.73	732.79	
	43.00	1.67	750.82	
	46.00	1.63	766.39	
	49.00	1.59	781.15	
	52.00	1.56	794.26	
	55.00	1.53	806.56	

WITNESSED BY :

TOOL OPERATOR : IVAN SUPPES

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

HORNER ANALYSIS

COMPANY : ENERGY THREE
 DATE OF TEST : 10-30-84
 REFERENCE DEPTH : 3360.0

WELL NAME : HACHMEISTER #1
 LOCATION : 4-11S-15W
 SERIAL NO. : 2186

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG	-----
	58.00	1.50	820.49	
	60.00	1.48	830.33	
	62.00	1.47	836.07	
	62.00	1.47	836.07	
-09:01 1ST SHUT-IN	0.00	0.00	836.07	

SUPERIOR TESTERS ENTERPRISES, INC.

D A T A S U M M A R Y

COMPANY : ENERGY THREE
DATE OF TEST : 10-30-84
DST. NO : 3

WELL NAME : HACHMEISTER #1
LOCATION : 4-11S-15W
SHUT-IN PERIOD : 1

INTERPRETIVE DATA (OIL)

EXTRAPOLATED RESERVOIR PRESSURE (psi):	1071.00
Slope of Build-up Curve (psi/log cycle):	1435.06
Effective Producing Time (min):	29.00

WITNESSED BY :

TOOL OPERATOR : IVAN SUPPES

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

HORNER ANALYSIS

COMPANY : ENERGY THREE
 WELL NAME : HACHMEISTER #1
 LOCATION : 4-119-15W
 STATE & COUNTY : KANSAS, RUSSELL
 DATE OF TEST : 10-30-84
 TEST INT. KB : 3352 to 3366
 TOTAL INTERVAL (ft) K.B. : 14.00
 ELEV.(GR) : (KB) : 1891
 FIELD :

ELEMENT SERIAL NO. : 2186
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG -----
Refer. depth : 3360.0 ft-kb			
-09:41 END FLOW	0.00	0.00	50.82
	3.00	24.00	62.30
	6.00	12.50	136.07
	9.00	8.67	218.03
	11.00	7.27	284.43
	14.00	5.93	350.00
	17.00	5.06	397.54
	20.00	4.45	436.89
	23.00	4.00	475.41
	26.00	3.65	501.64
	29.00	3.38	532.79
	32.00	3.16	551.64
	35.00	2.97	577.05
	37.00	2.86	592.62
	40.00	2.73	611.48
	43.00	2.60	627.05
	46.00	2.50	644.26
	49.00	2.41	655.74
	52.00	2.33	669.67
	55.00	2.25	681.15

WITNESSED BY :

TOOL OPERATOR : IVAN SUPPES

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

HORNER ANALYSIS

COMPANY : ENERGY THREE
 DATE OF TEST : 10-30-84
 REFERENCE DEPTH : 3360.0

WELL NAME : HACHMEISTER #1
 LOCATION : 4-11S-15W
 SERIAL NO. : 2186

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG	-----
	58.00	2.19	692.62	
	60.00	2.15	703.28	
	63.00	2.10	713.11	
	66.00	2.05	722.95	
	69.00	2.00	731.97	
	72.00	1.96	740.98	
	75.00	1.92	750.00	
	78.00	1.88	757.38	
	81.00	1.85	763.93	
	84.00	1.82	771.31	
	87.00	1.79	778.69	
	90.00	1.77	785.25	
-11:11 2ND SHUT-IN	0.00	0.00	785.25	

SUPERIOR TESTERS ENTERPRISES, INC.

D A T A S U M M A R Y

COMPANY : ENERGY THREE
DATE OF TEST : 10-30-84
DST. NO : 3

WELL NAME : HACHMEISTER #1
LOCATION : 4-11S-15W
SHUT-IN PERIOD : 2

INTERPRETIVE DATA (OIL)

EXTRAPOLATED RESERVOIR PRESSURE (psi):	1012.00
Slope of Build-up Curve (psi/log cycle):	928.51
Effective Producing Time (min):	69.00

WITNESSED BY : TOOL OPERATOR : IVAN SUPPES

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : ENERGY THREE
 DATE OF TEST : 10-30-84
 DST. NO : 3

WELL NAME : HACHMEISTER #1
 LOCATION : 4-11S-15W
 SHUT-IN PERIOD : 2

INTERPRETIVE DATA (OIL)

TRANSMISSIBILITY

Oil (md.ft/cp):44
Gas (md.ft/cp):	0.00

EFFECTIVE PERMEABILITY

Oil (md):03
Gas (md):	0.00

TOTAL MOBILITY (md/cp):05
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TOTAL COMPRESSIBILITY (psi ⁻¹):	5.26E-06
---	----------

ESTIMATED DAMAGE RATIO:23
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CALCULATED DAMAGE RATIO:42
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Reservoir Temperature (F):	97.00
Formation Porosity :20
Formation Thickness (ft):	14.00
Wellbore Radius (in):	3.94
Reservoir Compressibility (psi ⁻¹):	4.80E-07
Calculated Skin Factor :	-1.63

PRODUCTION WITH DAMAGE REMOVED (bbl/D):	1.07
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PRODUCTIVITY INDEX (bbl/psi):	0.00
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Final Flow Pressure (psi):	51.00
----------------------------------	-------

APPROXIMATE RADIUS OF INVESTIGATION (ft):	7.31
---	------

Total Flowing Time (min):	69.00
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EXTRAPOLATED RESERVOIR PRESSURE (psi):	1012.00
--	---------

Slope of Build-up Curve (psi/log cycle):	928.51
Effective Producing Time (min):	69.00

WITNESSED BY :

TOOL OPERATOR : IVAN SUPPES

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS
RR #1, Box 295B, Great Bend, Kansas

Date 10-31-84 Location 4 11^s 15^w Elevation 1891 X.B. County Russell

Company Energy III Number of Copies _____

Address P.O. Box 1505 Great Bend, Kansas 67530

Charts Mailed to P.O. Box 1505 Great Bend, Kansas 67530

Invoice Mailed to P.O. Box 1505 Great Bend, Kansas 67530

Lease Hackmataw Well No. #1 Formation Tested Arkumbl Test No. #4

Depth 3371' Tested from 3350' to 3371' Packer Size 6 3/4 Anchor Length 19'

Top Packer Depth 3347' ft. Bottom Packer Depth 3352' ft. Dual Packers yes

Tool Joint Size 4 1/2 X.H. Tool Size 5 1/2 O.D. Hole Size 2 7/8 Did Packer Hold yes

Drilling Contractor Big Three Drilling

Length Drill Pipe 3331' I.D. Drill Pipe 3.70 Tool Joint Size 4 1/2 X.H.

Length Weight Pipe None I.D. Weight Pipe - Tool Joint Size -

Length Drill Collars None I.D. Drill Collars - Tool Joint Size -

Tool Open I.F.P. from 8:30 A.M. to 9:00 A.M. 30 min

Tool Closed I.C.I.P. from 9:00 A.M. to 10:00 A.M. 60 min

Tool Open F.F.P. from 10:02 A.M. to 10:45 A.M. 45 min

Tool Closed F.C.I.P. from 10:45 A.M. to 12:15 P.M. 90 min

from [B]	<u>49</u>	P.S.I. to [C]	<u>49</u>	P.S.I.
[D]	<u>864</u>			P.S.I.
from [E]	<u>57</u>	P.S.I. to [F]	<u>57</u>	P.S.I.
[G]	<u>814</u>			P.S.I.

Initial Hydrostatic Pressure [A] 1872 P.S.I. Final Hydrostatic Pressure [H] 1842 P.S.I. Maximum Temp 97° °F

Initial Blow Weak to Fair Blow - Building slowly 4" into water

Final Blow Weak Blow - Building slowly 2" into water

Gas to Surface None Min. Oil to Surface None Min. Mut Weight 98 Viscosity 50

Gas Guaged None

Recovery 15' Heavy Oil Cut Mud 32% Mud 15% water 53% oil
60' Oil Cut Mud 65% Mud 10% water 25% oil

Remarks _____

Extra Equipment-Jars None Safety Joint None Extra Packer None Straddle None Hook Wall None

Top Recorder No. 2186 Clock no. 2394 Depth 3365' Clr. Sub _____ Sampler None

Bottom Recorder No. 13202 Clock No. 2395 Depth 3362' Chlorides - pits _____ D.S.T. _____

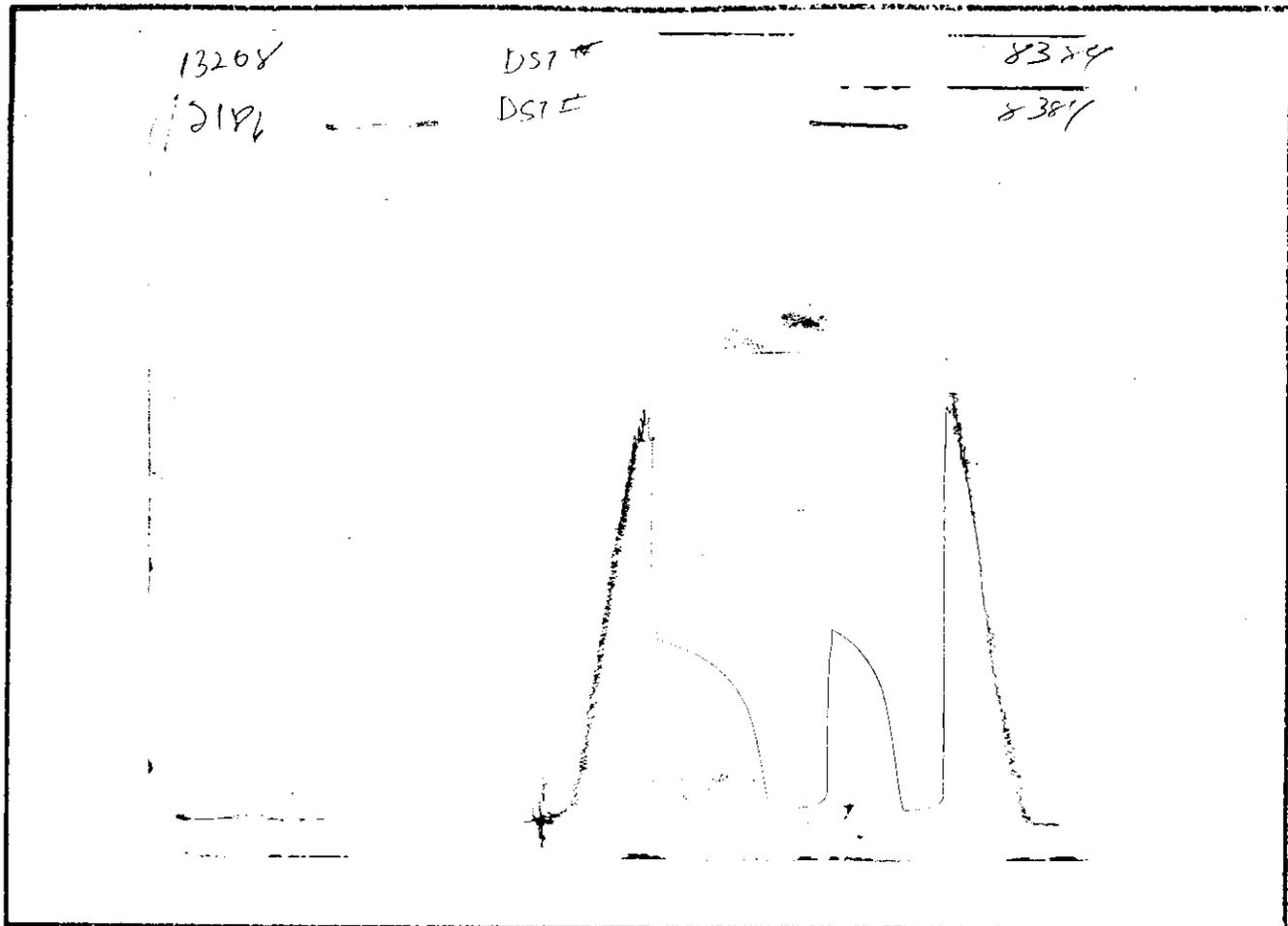
Price of Job \$600.00

Tool Operator John Supper

Approved By _____

SUPERIOR TESTERS, INC. SHALL NOT BE LIABLE FOR DAMAGE OF ANY KIND TO THE PROPERTY OR PERSONEL OF THE ONE FOR WHOM A TEST IS MADE, OF 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.

Ticket N^o 8384



This is an actual photograph of recorder chart.

POINT	PRESSURE		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	1872	1847	P.S.I.
(B) First Initial Flow Pressure	49	114	P.S.I.
(C) First Final Flow Pressure	49	58	P.S.I.
(D) Initial Closed-in Pressure	864	861	P.S.I.
(E) Second Initial Flow Pressure	57	129	P.S.I.
(F) Second Final Flow Pressure	57	63	P.S.I.
(G) Final Closed-in Pressure	814	812	P.S.I.
(H) Final Hydrostatic Mud	1847	1864	P.S.I.

SUPERIOR TESTERS ENTERPRISES, - INC.

WELL IDENTIFICATION DATA

COMPANY : ENERGY THREE, INC. WELL NAME : HACHMEISTER #1
 ADDRESS : P.O. BOX 1505, GREAT BEND LOCATION : 4-119-15W
 STATE & COUNTY : KANSAS, RUSSELL FIELD :
 TEST INT. KB : 3352 to 3371 TEST DATE : 10-31-84
 ELEV. (GR) : (KB) : 1891 TOTAL INTERVAL (ft) K.B. : 19.00

EQUIPMENT AND HOLE DATA

TYPE OF TEST : CONVENTIONAL DRILL PIPE LENGTH (ft) : 3331
 TOTAL DEPTH (ft-kb) : 3371 DRILL PIPE I.D. (in) : 3.80
 MAIN HOLE/CASING SIZE (in) : 7 7/8 DRILL COLLAR LENGTH (ft) : NONE
 RAT HOLE/LINER SIZE (in) : DRILL COLLAR I.D. (in) : NONE
 FORMATION TESTED : ARBUCKLE TOP PACKER DEPTH (kb) : 3347
 PACKER SIZE (in) : 6 3/4 BOTTOM PACKER DEPTH (kb) : 3352
 DUAL PACKERS : YES PACKER HOLD : YES
 TOOL SIZE : 5 1/2 O.D. TOOL JOINT SIZE : 4 1/2 F.H.
 MUD VISCOSITY : 50 MUD WEIGHT : 9.8
 WEIGHT PIPE LENGTH (FT) : NONE WEIGHT PIPE ID : NONE
 EXTRA EQUIPMENT : NONE ANCHOR LENGTH (FT) : 19
 SURFACE CHOKE : 3/4 BOTTOM CHOKE : 3/4
 REVERSED OUT : NO

SUBSURFACE PRESSURE MEASUREMENTS

ELEMENT SERIAL NO. : 2186
 RANGE : 0 - 3275 CLOCK RANGE : 12 HOURS
 CAL. EQU. : 819.40 * Defl. + 2.12

COMMENTS	TIME min	DEFL in	PRESSURE PSIG		
			----- CALC	CORR	CORRECTED
TEST NO.: 4					
Depth : 3365.0 ft-kb					
-1ST HYDROSTATIC	0.0	2.250	1845.78	1.77	1847.54
-08:30 1ST FLOW	0.0	.140	116.83	-2.08	114.75
- 8:34	4.0	.104	87.33	-2.09	85.25
- 8:39	9.0	.092	77.50	-2.09	75.41
- 8:43	13.0	.083	70.13	-2.09	68.03
- 8:47	17.0	.077	65.21	-2.10	63.11
- 8:52	22.0	.073	61.93	-2.10	59.84
- 8:56	26.0	.071	60.29	-2.10	58.20
- 8:59	29.0	.071	60.29	-2.10	58.20
- 9:00	30.0	.071	60.29	-2.10	58.20
-09:00 END FLOW	0.0	.071	60.29	-2.10	58.20
- 9:03	3.0	.141	117.65	-2.08	115.57
- 9:06	6.0	.246	203.69	-2.05	201.64
- 9:09	9.0	.394	324.96	-2.01	322.95

REMARKS :

1ST BLOW: WEAK TO FAIR -BUILDING SLOWLY 4 INCHES INTO WATER
 2ND BLOW: WEAK -BUILDING SLOWLY 2 INCHES INTO WATER

WITNESSED BY : TOOL OPERATOR : IVAN SUPPES

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES INC.

SUPERIOR TESTERS ENTERPRISES, INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : ENERGY THREE, INC.
 DATE OF TEST : 10-31-84
 DEPTH : 3365.0

WELL NAME : HACHMEISTER #1
 LOCATION : 4-11S-15W
 SERIAL NO. : 2186

COMMENTS	TIME min	DEFL in	PRESSURE PSIG		
			----- CALC	CORR	----- CORRECTED
TEST NO.:4					
- 9:12	12.0	.513	422.47	-1.98	420.49
- 9:14	14.0	.622	511.79	-1.85	509.93
- 9:17	17.0	.701	576.52	-1.19	575.33
- 9:20	20.0	.759	624.04	-.70	623.34
- 9:23	23.0	.802	659.28	-.34	658.94
- 9:26	26.0	.836	687.14	-.05	687.09
- 9:29	29.0	.871	715.82	.24	716.06
- 9:32	32.0	.898	737.94	.47	738.41
- 9:35	35.0	.921	756.79	.66	757.45
- 9:38	38.0	.945	776.45	.87	777.32
- 9:41	41.0	.965	792.84	1.03	793.87
- 9:44	44.0	.983	807.59	1.18	808.77
- 9:46	46.0	1.000	821.52	1.33	822.85
- 9:49	49.0	1.013	832.17	1.44	833.61
- 9:52	52.0	1.027	843.64	1.55	845.20
- 9:55	55.0	1.038	852.66	1.65	854.30
- 9:58	58.0	1.047	860.03	1.72	861.75
-09:58 1ST SHUT-IN	0.0	1.047	860.03	1.72	861.75
-09:58 2ND FLOW	0.0	.158	131.58	-2.07	129.51
- 10:02	4.0	.114	95.53	-2.09	93.44
- 10:07	9.0	.101	84.88	-2.09	82.79
- 10:11	13.0	.092	77.50	-2.09	75.41
- 10:15	17.0	.086	72.58	-2.09	70.49
- 10:20	22.0	.083	70.13	-2.09	68.03
- 10:24	26.0	.080	67.67	-2.09	65.57
- 10:28	30.0	.079	66.85	-2.09	64.75
- 10:33	35.0	.079	66.85	-2.09	64.75
- 10:37	39.0	.079	66.85	-2.09	64.75
- 10:42	44.0	.078	66.03	-2.10	63.93
-10:42 END FLOW	0.0	.078	66.03	-2.10	63.93
- 10:45	3.0	.156	129.94	-2.07	127.87
- 10:48	6.0	.244	202.05	-2.05	200.00
- 10:51	9.0	.365	301.20	-2.02	299.18
- 10:54	12.0	.462	380.68	-1.99	378.69
- 10:56	14.0	.536	441.32	-1.97	439.34
- 10:59	17.0	.600	493.76	-1.96	491.80
- 11:02	20.0	.643	528.99	-1.67	527.32
- 11:05	23.0	.674	554.39	-1.41	552.98
- 11:08	26.0	.709	583.07	-1.12	581.95
- 11:11	29.0	.735	604.38	-.90	603.48

SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : ENERGY THREE, INC.
DATE OF TEST : 10-31-84

WELL NAME : HACHMEISTER #1
LOCATION : 4-11S-15W

RECOVERY INFORMATION

LIQUID RECOVERY

Total Fluid Recovered : 75

Recovered 15 feet of HEAVY OIL CUT MUD
Recovered 60 feet of OIL CUT MUD

GAS RECOVERY	Measured With :		Riser :
Time (min.)	()	
	Reading	Surface Choke (in.)	Cubic feet/day

FLUID PROPERTIES

	Viscosity (cp)	Compressibility (psi ⁻¹)	Pore Space Saturation
Oil	.8	7.7E-6	.65
Gas			
Water	.45	3.1E-6	.35

CALCULATED RECOVERY ANALYSIS

DST Number: 4

Test ticket number: 8384

Sample #	Total Feet	***** Gas %	***** Gas Feet	***** Oil %	***** Oil Feet	***** Mud %	***** Mud Feet
1	15	0.00	0.00	53.00	7.95	32.00	4.80
2	60	0.00	0.00	25.00	15.00	65.00	39.00
TOTAL	75	0.00	0.00	30.60	22.95	58.40	43.80

Sample #	Total Feet	**** WATER %	**** WATER Feet	Chlorides (ppm)	Resistivity (ohms)	Temperature (deg)
1	15	15.00	2.25	0.00	0.00	0.00
2	60	10.00	6.00	0.00	0.00	0.00
TOTAL	75	11.00	8.25			

WITNESSED BY :

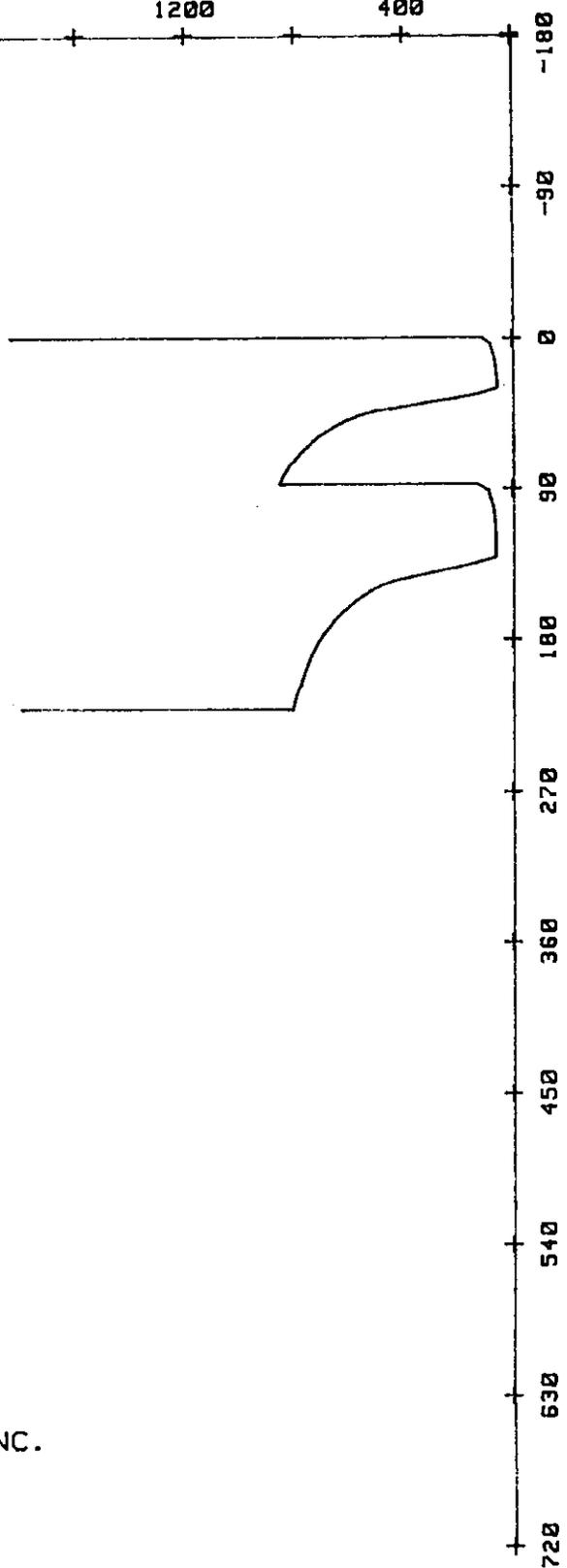
TOOL OPERATOR : IVAN SUPPES

INTERPRETATION BY : SUPERIOR TESTERS INC.

PRESSURE (P S I G)

4000 3600 3200 2800 2400 2000 1600 1200 800 400 0

TIME (MINUTES)

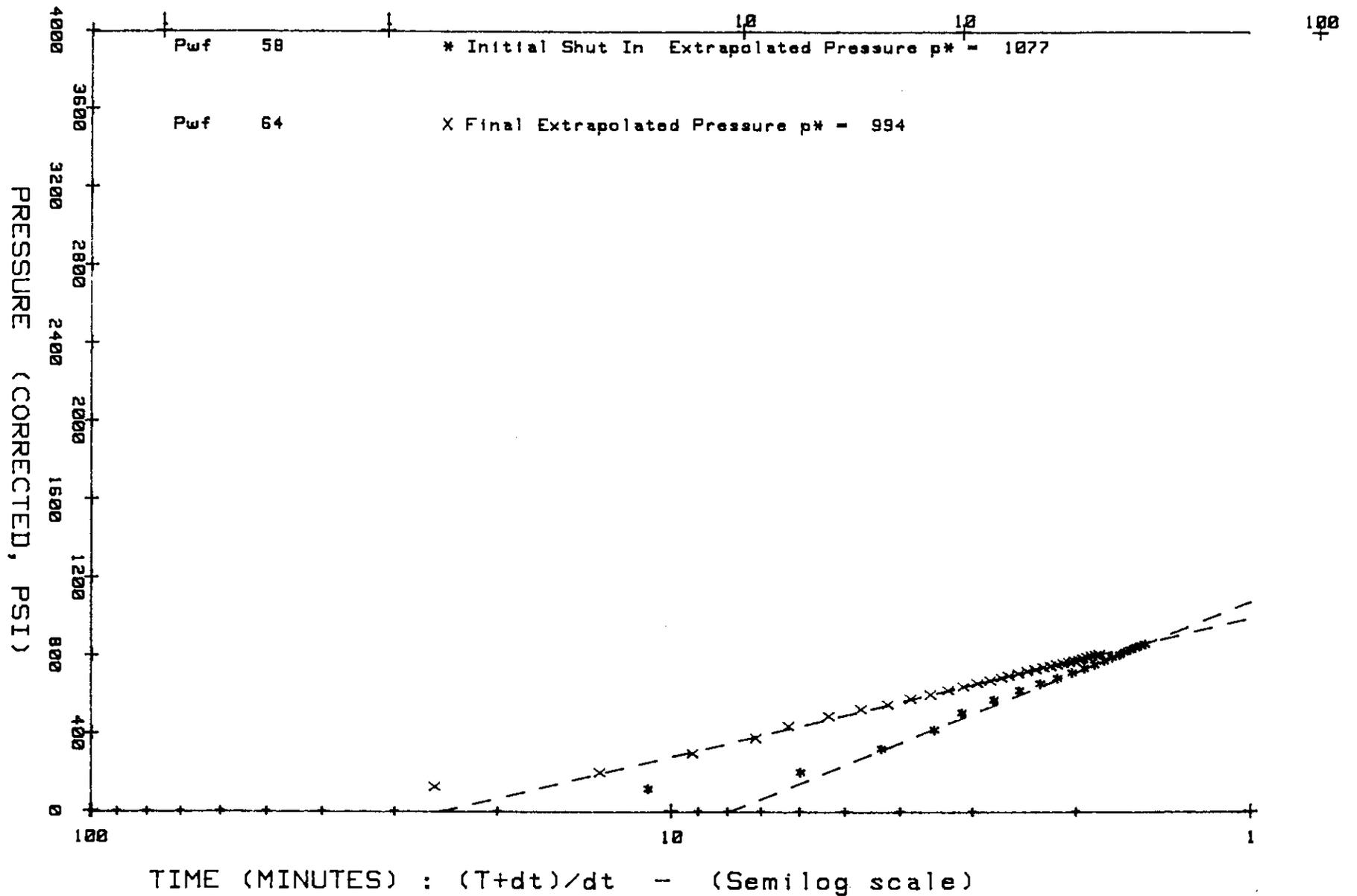


COMPANY : ENERGY THREE, INC.
WELL : HACHMEISTER #1
LOCATION : 4-11S-15W
DATE : 10-31-84
GAUGE # : 2186

LOCATION : 4-11S-15W

DATE : 10-31-84

GAUGE # : 2186



SUPERIOR TESTERS ENTERPRISES, INC.

HORNER ANALYSIS

COMPANY : ENERGY THREE, INC.
 WELL NAME : HACHMEISTER #1
 LOCATION : 4-11S-15W
 STATE & COUNTY : KANSAS, RUSSELL
 DATE OF TEST : 10-31-84
 TEST INT. KB : 3352 to 3371
 TOTAL INTERVAL (ft) K.B. : 19.00
 ELEV.(GR) : (KB) : 1891
 FIELD :

ELEMENT SERIAL NO. : 2186
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG	-----
Refer. depth :	3365.0 ft-kb			
-09:00 END FLOW	0.00	0.00	58.20	
	3.00	11.00	115.57	
	6.00	6.00	201.64	
	9.00	4.33	322.95	
	12.00	3.50	420.49	
	14.00	3.14	509.84	
	17.00	2.76	574.59	
	20.00	2.50	622.13	
	23.00	2.30	657.38	
	26.00	2.15	685.25	
	29.00	2.03	713.93	
	32.00	1.94	736.07	
	35.00	1.86	754.92	
	38.00	1.79	774.59	
	41.00	1.73	790.98	
	44.00	1.68	805.74	
	46.00	1.65	819.67	
	49.00	1.61	830.33	
	52.00	1.58	841.80	
	55.00	1.55	850.82	

WITNESSED BY :

TOOL OPERATOR : IVAN SUPPES

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

HORNER ANALYSIS

COMPANY : ENERGY THREE, INC.
DATE OF TEST : 10-31-84
REFERENCE DEPTH : 3365.0

WELL NAME : HACHMEISTER #1
LOCATION : 4-115-15W
SERIAL NO. : 2186

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG	-----
	58.00	1.52	858.20	
-09:58 1ST SHUT-IN	0.00	0.00	858.20	

SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : ENERGY THREE, INC.
DATE OF TEST : 10-31-84
DST. NO : 4

WELL NAME : HACHMEISTER #1
LOCATION : 4-11S-15W
SHUT-IN PERIOD : 1

INTERPRETIVE DATA (OIL)

EXTRAPOLATED RESERVOIR PRESSURE (psi):	1077.00
Slope of Build-up Curve (psi/log cycle):	1196.28
Effective Producing Time (min):	30.00

WITNESSED BY :

TOOL OPERATOR : IVAN SUPPES

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

HORNER ANALYSIS

COMPANY : ENERGY THREE, INC.
 WELL NAME : HACHMEISTER #1
 LOCATION : 4-11S-15W
 STATE & COUNTY : KANSAS, RUSSELL
 DATE OF TEST : 10-31-84
 TEST INT. KB : 3352 to 3371
 TOTAL INTERVAL (ft) K.B. : 19.00
 ELEV. (GR) : (KB) : 1891
 FIELD :

ELEMENT SERIAL NO. : 2186
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG -----
Refer. depth :	3365.0	ft-kb	
-10:42 END FLOW	0.00	0.00	63.93
	3.00	25.67	127.87
	6.00	13.33	200.00
	9.00	9.22	299.18
	12.00	7.17	378.69
	14.00	6.29	439.34
	17.00	5.35	491.80
	20.00	4.70	527.05
	23.00	4.22	552.46
	26.00	3.85	581.15
	29.00	3.55	602.46
	32.00	3.31	624.59
	35.00	3.11	643.44
	38.00	2.95	660.66
	41.00	2.80	674.59
	44.00	2.68	689.34
	46.00	2.61	699.18
	49.00	2.51	711.48
	52.00	2.42	722.95
	55.00	2.35	731.97

WITNESSED BY :

TOOL OPERATOR : IVAN SUPPES

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

HORNER ANALYSIS

COMPANY : ENERGY THREE, INC.
 DATE OF TEST : 10-31-84
 REFERENCE DEPTH : 3365.0

WELL NAME : HACHMEISTER #1
 LOCATION : 4-11S-15W
 SERIAL NO. : 2186

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG	-----
	58.00	2.28	742.62	
	61.00	2.21	749.18	
	64.00	2.16	756.56	
	67.00	2.10	763.93	
	70.00	2.06	769.67	
	73.00	2.01	776.23	
	76.00	1.97	781.15	
	78.00	1.95	788.52	
	81.00	1.91	795.90	
	84.00	1.88	800.82	
	87.00	1.85	805.74	
	90.00	1.82	809.02	
-12:12 2ND SHUT-IN	0.00	0.00	809.02	

SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : ENERGY THREE, INC.
DATE OF TEST : 10-31-84
DST. NO : 4

WELL NAME : HACHMEISTER #1
LOCATION : 4-11S-15W
SHUT-IN PERIOD : 2

INTERPRETIVE DATA (OIL)

EXTRAPOLATED RESERVOIR PRESSURE (psi):	994.00
Slope of Build-up Curve (psi/log cycle):	710.71
Effective Producing Time (min):	74.00

WITNESSED BY :

TOOL OPERATOR : IVAN SUPPES

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : ENERGY THREE, INC.
 DATE OF TEST : 10-31-84
 DST. NO : 4

WELL NAME : HACHMEISTER #1
 LOCATION : 4-11S-15W
 SHUT-IN PERIOD : 2

INTERPRETIVE DATA (OIL)

TRANSMISSIBILITY

Oil (md.ft/cp):	1.45
Gas (md.ft/cp):	0.00

EFFECTIVE PERMEABILITY

Oil (md):14
Gas (md):	0.00

TOTAL MOBILITY (md/cp):23
-------------------------------	-----

TOTAL COMPRESSIBILITY (psi ⁻¹):	6.57E-06
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ESTIMATED DAMAGE RATIO:29
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CALCULATED DAMAGE RATIO:40
--------------------------------	-----

Reservoir Temperature (F):	97.00
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Formation Porosity :12
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Formation Thickness (ft):	10.00
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Wellbore Radius (in):	3.94
-----------------------------	------

Reservoir Compressibility (psi ⁻¹):	4.80E-07
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Calculated Skin Factor :	-2.28
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PRODUCTION WITH DAMAGE REMOVED (bbl/D):	2.52
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PRODUCTIVITY INDEX (bbl/psi):01
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Final Flow Pressure (psi):	64.00
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APPROXIMATE RADIUS OF INVESTIGATION (ft):	19.32
---	-------

Total Flowing Time (min):	74.00
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EXTRAPOLATED RESERVOIR PRESSURE (psi):	994.00
--	--------

Slope of Build-up Curve (psi/log cycle):	710.71
--	--------

Effective Producing Time (min):	74.00
---------------------------------------	-------

WITNESSED BY :

TOOL OPERATOR : IVAN SUPPES

INTERPRETATION BY : SUPERIOR TESTERS INC.