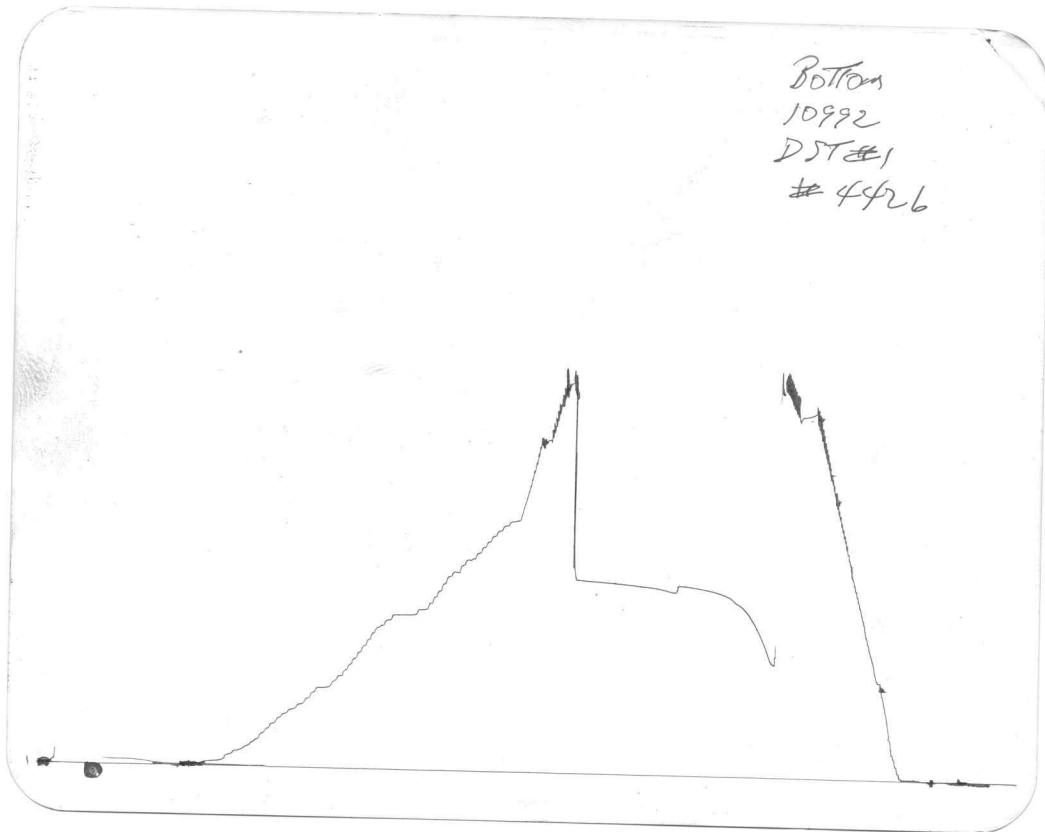


Bottom
10992
DST#1
4926



CRUDE OIL TESTING, INC.

DATE 7/20/84

TEST TICKET NO. 4426

Company: A. Scott Ritchie
 Company Address: 125 N. Market Suite 950 Wichita KS 67202
 Location: Sec. 6 Twp. 19S Range 23W Co. Ness State KS
 Well Name & Number: #1 Pfannenstiel Code E9

ENGINEERING DATA	Elevation 2241 KB	Drill Pipe Length 4113	ID 3.8 "
	Mud Viscosity 41	Weight Pipe Length	
	Mud Weight 9.6	Drill Collar Length 114	ID 2.25"
	Water Loss 12.8	Top Packer Depth 4243	
	Type of Mud Starch	Bottom Packer Depth 4248	
	Anchor Length 24	Tool Joint Size 4.5	FH
	Hole Size 7 7/8	Test Tool Size 5 1/2	
	Casing Size 8 5/8	Packer Size 6 3/4	
	Surface Choke 3/4	Reversed Out No	
	Bottom Choke 3/4	Recorder # 10993	
	Extra Equipment	None	

REMARKS DST #1
 Pit sample 26000 ppm.

FORMATION Cherokee Zone Sand Test Type Conventional
 Interval 4248 To 4272 Total Depth 4272
 Open 30 Shut In 45 Open 30 Shut In 45
 Packer(s) Set 08:47AM Started Off Bottom 11:20AM
 Blow 1st Opening Strong off bottom of bucket in 1-1/2 min.
 2nd Opening Strong steady blow decreasing after 15 min.

RECOVERY Total Feet 2887
 Recovered 2670 feet of Clean gassy oil
 Recovered 217 feet of Mud cut gassy oil

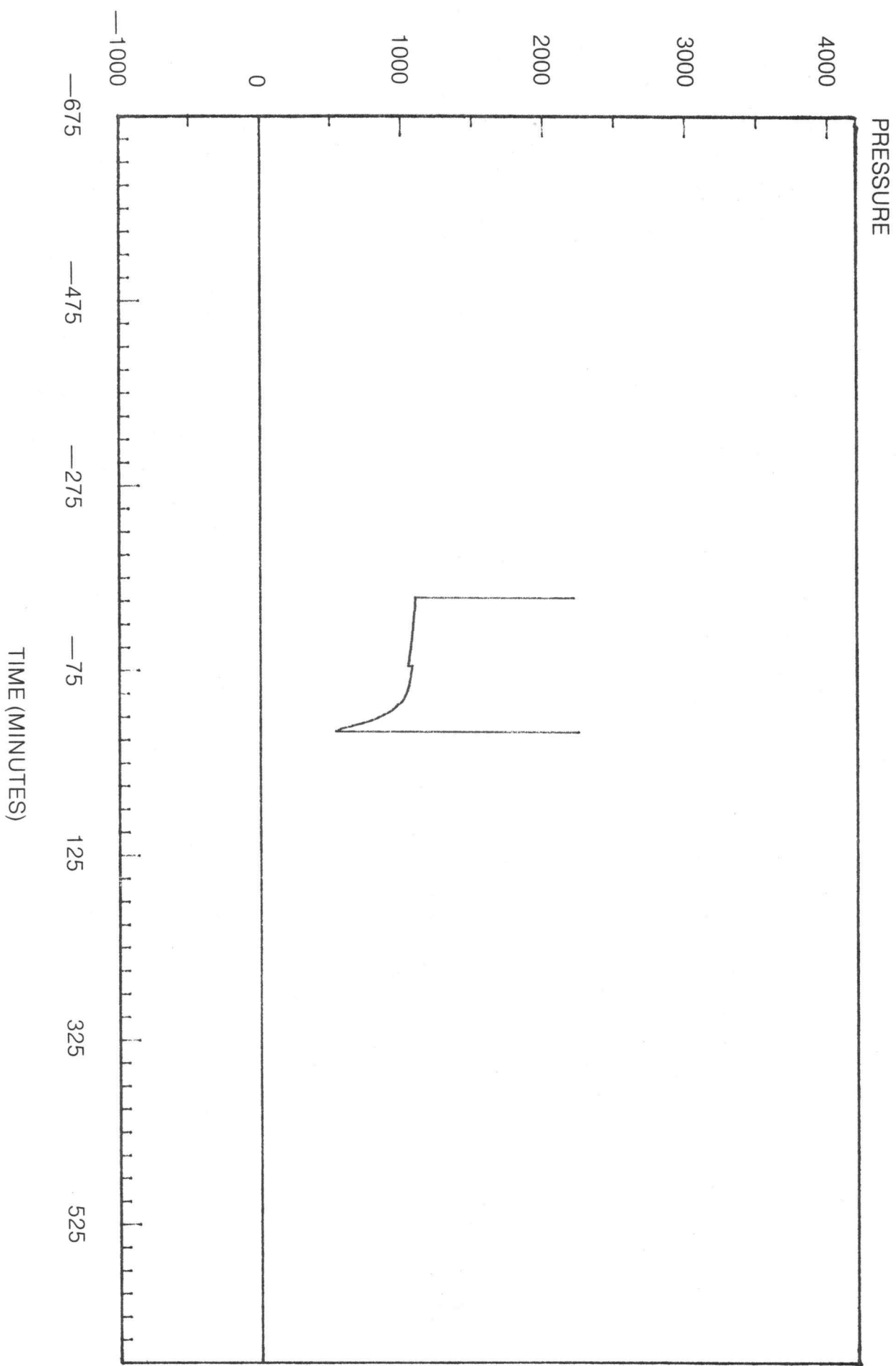
CALCULATED Gas 288.7 Oil 2533.2 Water Mud 65.1
 RECOVERY Gravity (Oil) 37 Test Water Chlorides PPM
 Test Area Temperature 121F Mud System Chlorides 29,000 PPM

	FIELD READING	OFFICE READING	
PRESSURE (A) Initial Hydrostatic Mud	2229	2235	PSI
(B) First Initial Flow Pressure	532	518	PSI
(C) First Final Flow Pressure	963	957	PSI
(D) Initial Closed-In Pressure	1049	1058	PSI
(E) Second Initial Flow Pressure	1049	1029	PSI
(F) Second Final Flow Pressure	1049	1055	PSI
(G) Final Closed-In Pressure	1060	1082	PSI
(H) Final Hydrostatic Mud	2218	2202	PSI

CRUDE OIL TESTING INC.

FOR: A. Scott Ritchie Test 4426

DST 1 07/20/84



PRESSURE BREAKDOWN

TEST TICKET NO. 4426

DST Number: 1 Recorder Number: 10993 Clock Number: 25108

First Flow Pressure	Initial Shut-In	Second Flow Pressure	Final Shut-In
Mins. Press.	Mins. Press.	Mins. Press.	Mins. Press.
0 518	0 956	0 1028	0 1054
3 556	3 984	3 1032	3 1056
6 634	6 998	6 1035	6 1058
9 711	9 1008	9 1037	9 1062
12 772	12 1016	12 1040	12 1063
15 819	15 1024	15 1043	15 1064
18 859	18 1029	18 1047	18 1067
21 896	21 1036	21 1048	21 1068
24 924	24 1039	24 1050	24 1069
27 944	27 1043	27 1053	27 1071
29 956	30 1047	30 1054	30 1075
	33 1050		33 1077
	36 1053		36 1078
	39 1055		39 1078
	42 1057		42 1080
			45 1081

CRUDE OIL TESTING INC TEST 4426 DST 1.

FOR: A. Scott Ritchie

7/20/84

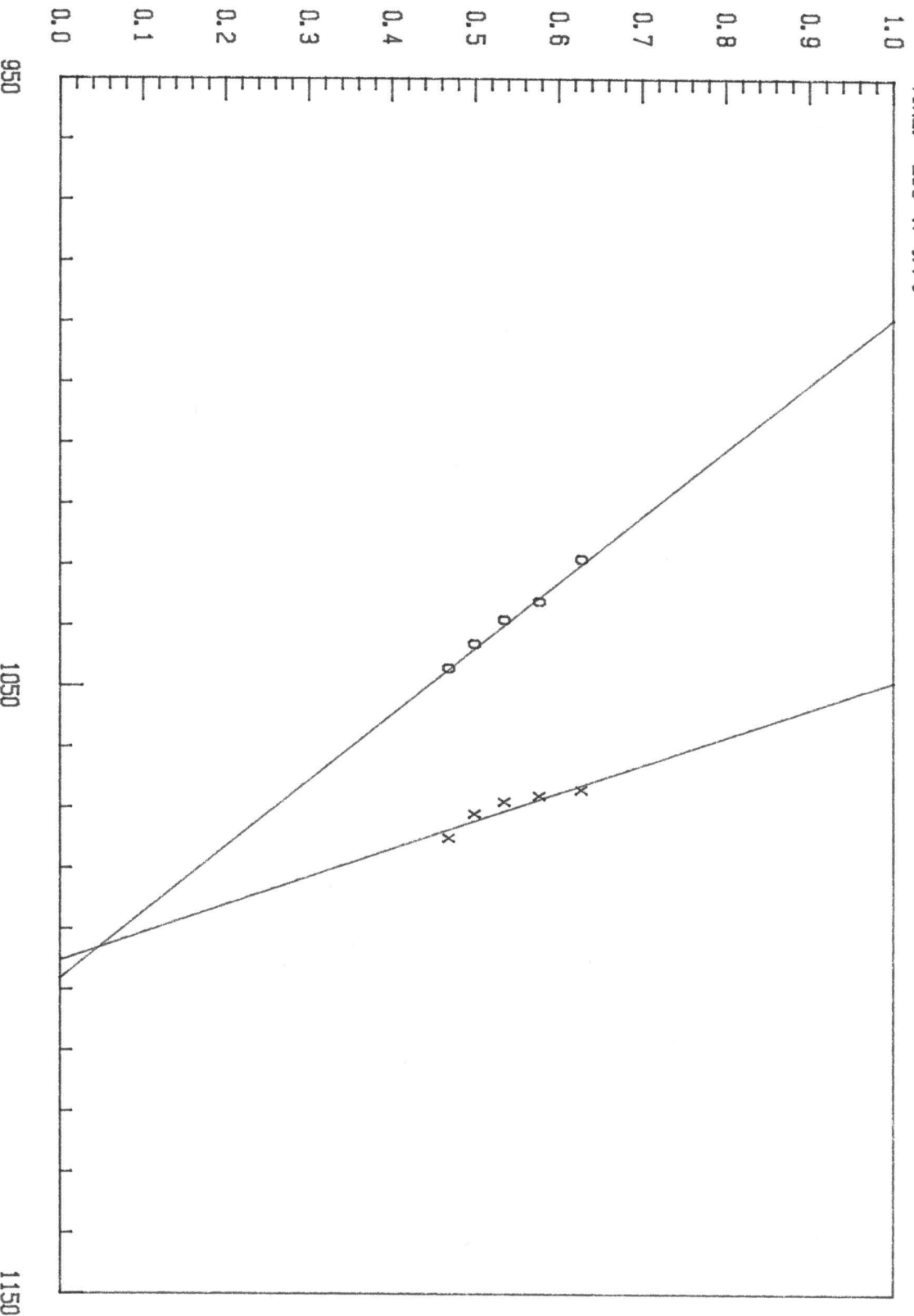
TIME: LOG (T+t)/t

o = Initial
Shut-In

0000

x = Final
Shut-In

xxxx



ZONE EVALUATION - Page 1

DST NUMBER 1

TEST TICKET NO. 4426

Company: A. Scott Ritchie

Date: 7/20/84

Drill Collar Feet	ID	Weight Pipe Feet	ID	Drill Pipe Feet	ID	Average ID	Gals/ Foot
114	2.250	0	0.000	2419	3.800	3.7302	0.568

Bbls Recovered/Test = 34.8220 Est Bbls/Day = 849.8919 T = 59

Initial Shut-In					
PRESS.	TIME	T/t	(T+t)/t	LOG T/t	LOG (T+t)/t
1047	30	1.967	2.967	0.29373	0.47227
1043	27	2.185	3.185	0.33949	0.50313
1039	24	2.458	3.458	0.39064	0.53887
1036	21	2.810	3.810	0.44863	0.58087
1029	18	3.278	4.278	0.51558	0.63122

Final Shut-In					
Press.	Time	T/t	(T+t)/t	Log T/t	Log (T+t)/t
1075	30	1.967	2.967	0.29373	0.47227
1071	27	2.185	3.185	0.33949	0.50313
1069	24	2.458	3.458	0.39064	0.53887
1068	21	2.810	3.810	0.44863	0.58087
1067	18	3.278	4.278	0.51558	0.63122

Time Option is Log (T+t)/t								
IP(0)	IP(1)	FP(0)	FP(1)	M	Kh/B	DR	Q1	Pts
1103.7	983.6	1117.5	1027.5	90.1	1533.892	1.026	872.334	1,3
1103.5	983.6	1116.7	1027.5	89.2	1549.200	1.027	872.558	1-3
1094.4	993.0	1103.3	1041.2	62.1	2226.960	1.038	882.475	1-4
1098.1	989.3	1095.2	1049.0	46.2	2991.911	1.052	893.667	1-5

Graph Data For Points

Initial		Final	
Time	Pressure	Time	Pressure
0.4722	1047	0.4722	1075
0.5031	1043	0.5031	1071
0.5388	1039	0.5388	1069
0.5808	1036	0.5808	1068
0.6312	1029	0.6312	1067

Graph Data For Lines

0	1098.12	0	1095.19
1	989.33	1	1049.00

EQUIPMENT DATA
 ZONE EVALUATION - Page 2
 TOOL SEQUENCE REPORT

DST Number 1

TEST TICKET NO. 4426

Company: A. Scott Ritchie

WELL LOCATION Date: 7/20/84

P.S.I. Slope Cycle (From Log $\frac{T + t}{t}$)		I.D.	O.D.
1	Drill Pipe 5"	4.13	4.50
4	Drill Collar 5"	1.14	6.00
8	Circulating Sub	1.00	5.00
9	Shut-In Tool	5.45	5.00
	Damage Ratio: 1.00	1.00	5.00
14	Packer	5.35	6.75
14	Packer	5.35	6.75
6	Anchor	20.00	5.00
15	Recorder Carrier	1.00	5.00
16	Bull Plug	2.00	5.00

Effective Pay:

$$\frac{Kh}{B} = \frac{162.6}{M} \frac{Q}{M}$$

2991.91 Md. Ft.

Theoretical Potential With
 Damage Removed (for DR greater than 1):

$$Q_1 = Q \text{ DR}$$

893.67 Bbls/Day

Production:

$$Q = \frac{1440}{T} \frac{R}{T}$$

34.82 Bbls/Hour
 849.89 Bbls/Day

These calculations are based upon information furnished by you and taken from drill stem test pressure charts and are furnished for your information. In furnishing such calculations and evaluations, Crude Oil Testing Inc. is merely expressing an opinion. You agree that Crude Oil Testing Inc. makes no warranty as to the accuracy of such calculations or opinions, and Crude Oil Testing Inc. shall not be liable for any loss or damage, whether due to negligence or otherwise in connection with such calculations and opinions.

EQUIPMENT DATA

TOOL SEQUENCE REPORT

DST Number: 1

TEST TICKET NO. 4426

WELL NAME: #1 Pfannenstiel

WELL LOCATION: 6-19S-23W

Tool #	Tool	Length	I.D.	O.D.
1	Drill Pipe - 4.5"	4113.00	3.826	4.50
4	Drill Collar - 6"	114.00	2.250	6.00
8	Circulating Sub	1.00	3.000	5.00
9	Shut-In Tool	5.45	0.870	5.00
10	Hydraulic Tool	5.60	1.000	5.00
14	Packer	5.35	1.530	6.75
14	Packer	5.35	1.530	6.75
6	Anchor	20.00	2.750	5.00
15	Recorder Carrier	1.00		5.00
16	Bull Plug	2.00		5.00
	Total Depth	4272.75		

CALCULATED RECOVERY ANALYSIS

DST Number: 1

TEST TICKET NO. 4426

Sample #	Total Feet	***** Gas ***** %	***** Feet	***** Oil ***** %	***** Feet	***** Mud ***** %	***** Feet
1	2670	10.00	267.00	90.00	2403.00	0.00	0.00
2	217	10.00	21.70	60.00	130.20	30.00	65.10
TOTAL	<u>2887</u>	10.00	<u>288.70</u>	87.75	<u>2533.20</u>	2.25	<u>65.10</u>

Sample #	**** Water **** %	*** Feet	Chlorides (PPM)	Resistivity (Ohms)	Temperature (Deg)
1	0.00	0.00			
2	0.00	0.00			
TOTAL	0.00	<u>0.00</u>			

CRUDE OIL TESTING, INC.

DATE 7/20/84

TEST TICKET NO. 4426

Company: A. Scott Ritchie
 Company Address: 125 N. Market Suite 950 Wichita KS 67202
 Location: Sec. 6 Twp. 19S Range 23W Co. Ness State KS
 Well Name & Number: #1 Pfannenstiel Code E9

ENGINEERING DATA	Elevation 2241 KB	Drill Pipe Length 4113	ID 3.8 "
	Mud Viscosity 41	Weight Pipe Length	
	Mud Weight 9.6	Drill Collar Length 114	ID 2.25"
	Water Loss 12.8	Top Packer Depth 4243	
	Type of Mud Starch	Bottom Packer Depth 4248	
	Anchor Length 24	Tool Joint Size 4.5	FH
	Hole Size 7 7/8	Test Tool Size 5 1/2	
	Casing Size 8 5/8	Packer Size 6 3/4	
	Surface Choke 3/4	Reversed Out No	
	Bottom Choke 3/4	Recorder # 10993	
	Extra Equipment	None	

REMARKS DST #1
 Pit sample 26000 ppm.

FORMATION	Cherokee Zone Sand	Test Type Conventional
	Interval 4248 To 4272	Total Depth 4272
	Open 30 Shut In 45	Open 30 Shut In 45
	Packer(s) Set 08:47AM	Started Off Bottom 11:20AM
	Blow 1st Opening Strong off bottom of bucket in 1-1/2 min.	
	2nd Opening Strong steady blow decreasing after 15 min.	

RECOVERY Total Feet 2887
 Recovered 2670 feet of Clean gassy oil
 Recovered 217 feet of Mud cut gassy oil

CALCULATED RECOVERY	Gas 288.7	Oil 2533.2	Water	Mud 65.1
	Gravity (Oil) 37		Test Water Chlorides	PPM
	Test Area Temperature 121F	Mud System Chlorides	29,000	PPM

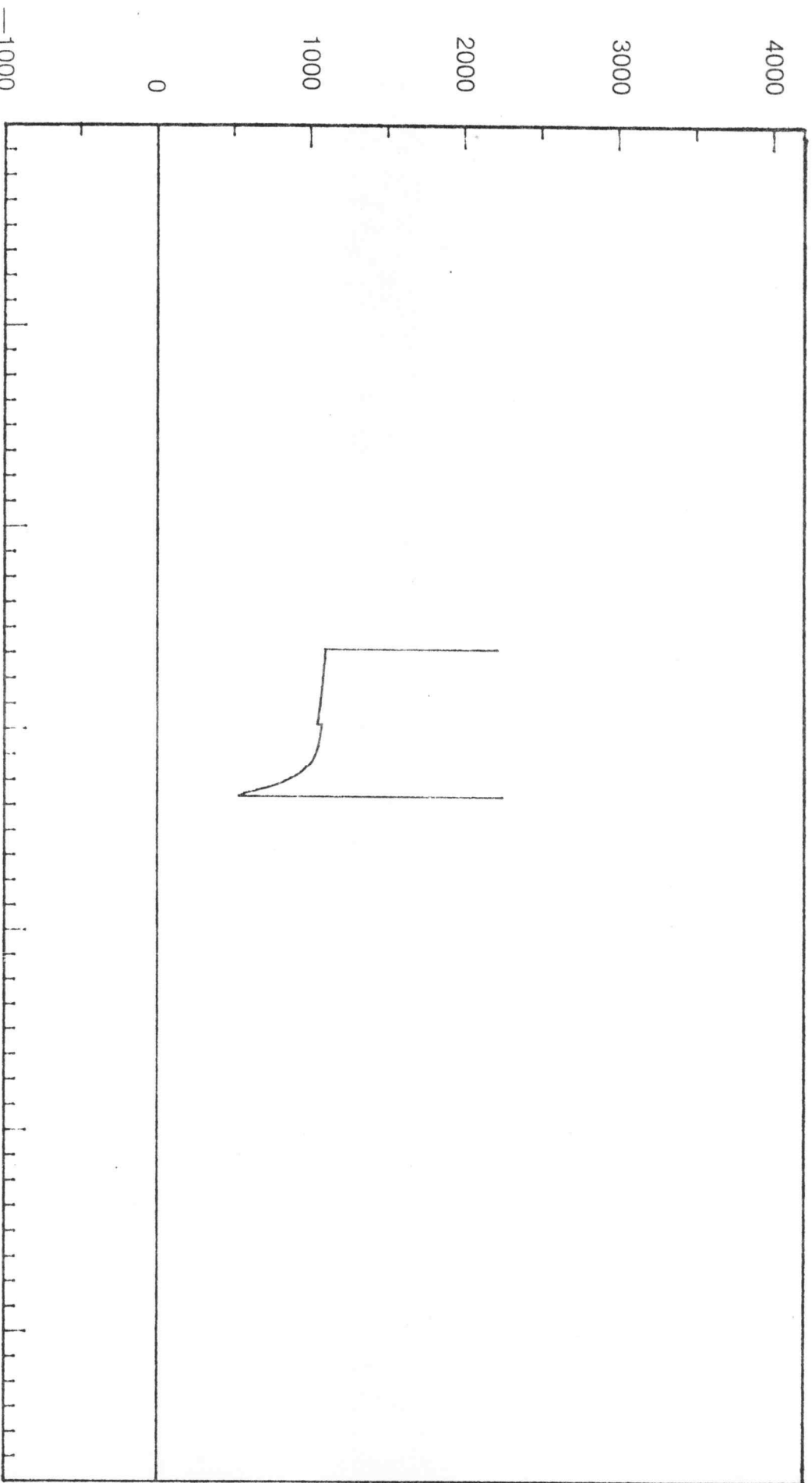
	FIELD READING	OFFICE READING	
PRESSURE (A) Initial Hydrostatic Mud	2229	2235	PSI
(B) First Initial Flow Pressure	532	518	PSI
(C) First Final Flow Pressure	963	957	PSI
(D) Initial Closed-In Pressure	1049	1058	PSI
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(G) Final Closed-In Pressure	1060	1082	PSI
(H) Final Hydrostatic Mud	2218	2202	PSI

CRUDE OIL TESTING INC.

FOR: A. Scott Ritchie Test 4426

DST 1 07/20/84

PRESSURE



TIME (MINUTES)

PRESSURE BREAKDOWN

TEST TICKET NO. 4426

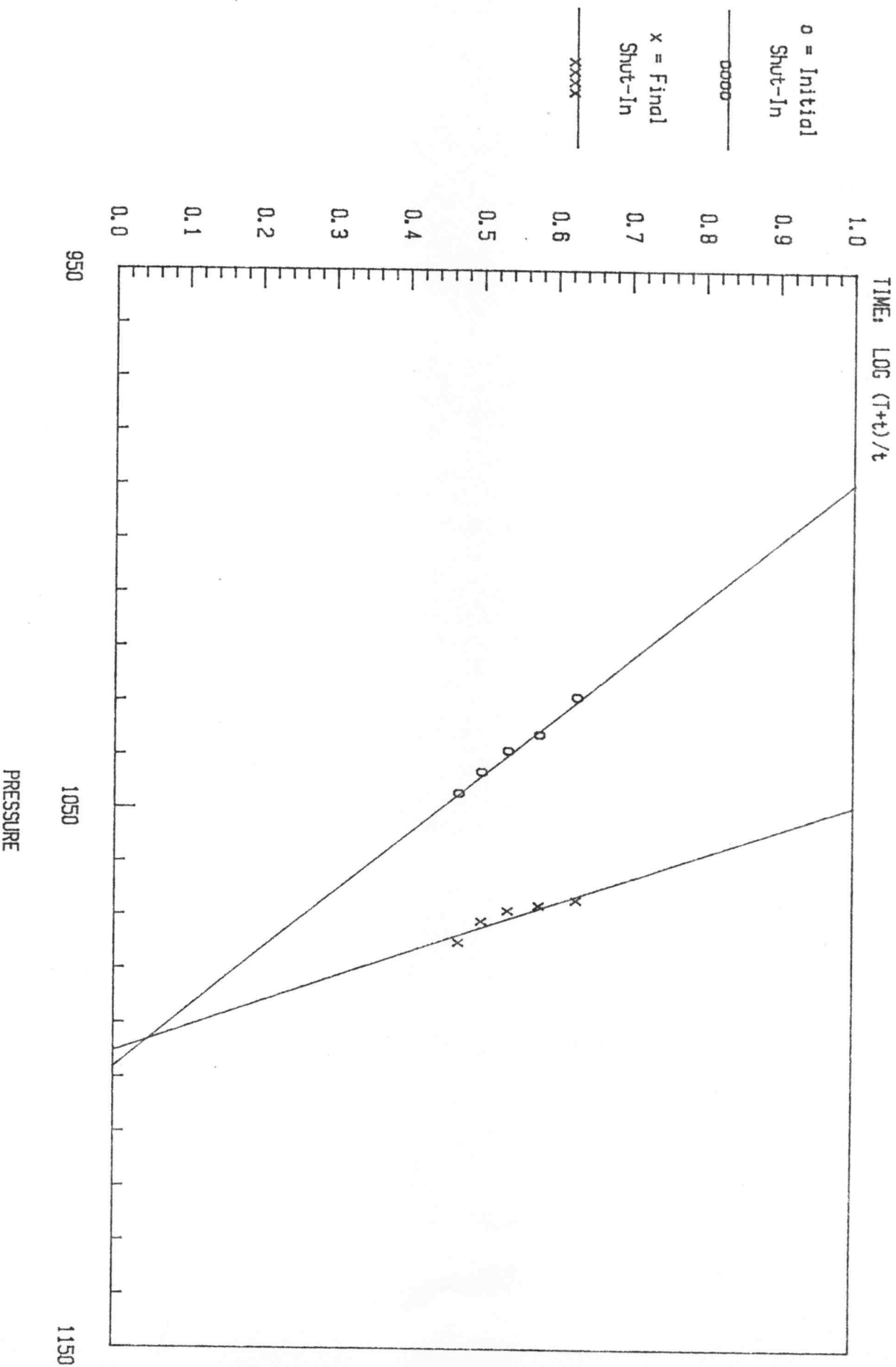
DST Number: 1 Recorder Number: 10993 Clock Number: 25108

First Flow Pressure	Initial Shut-In	Second Flow Pressure	Final Shut-In
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29 956	30 1047	30 1054	30 1075
	33 1050		33 1077
	36 1053		36 1078
	39 1055		39 1078
	42 1057		42 1080
			45 1081

CRUDE OIL TESTING INC TEST 4426 DST 1

FOR: A. Scott Ritchie

7/20/84



ZONE EVALUATION - Page 1

DST NUMBER 1

TEST TICKET NO. 4426

Company: A. Scott Ritchie

Date: 7/20/84

Drill Collar Feet	ID	Weight Pipe Feet	ID	Drill Pipe Feet	ID	Average ID	Gals/ Foot
114	2.250	0	0.000	2419	3.800	3.7302	0.568

Bbls Recovered/Test = 34.8220 Est Bbls/Day = 849.8919 T = 59

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Final Shut-In					
Press.	Time	T/t	(T+t)/t	Log T/t	Log (T+t)/t
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1068	21	2.810	3.810	0.44863	0.58087
1067	18	3.278	4.278	0.51558	0.63122

Time Option is Log (T+t)/t								
IP(0)	IP(1)	FP(0)	FP(1)	M	Kh/B	DR	Q1	Pts
1103.7	983.6	1117.5	1027.5	90.1	1533.892	1.026	872.334	1,3
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Graph Data For Points

Initial		Final	
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Graph Data For Lines

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1	989.33	1	1049.00