

SUPERIOR TESTERS ENTERPRISES, INC.

WELL IDENTIFICATION DATA

COMPANY : SAGE DRILLING CO., INC. WELL NAME : LEE #1
ADDRESS : 202 ST.FRANCIS, WICHITA LOCATION : 23-219-25W
STATE & COUNTY : KANSAS, HODGEMAN FIELD :
ELEV.(GR) : (KB) : TEST DATE : 4-23-85

EQUIPMENT AND HOLE DATA

FORMATION TESTED : MISSISSIPPI DRILL PIPE LENGTH(ft) : 3966
TEST INT. KB : 4524 to 4537 DRILL PIPE O.D.(in) : 3.82
ANCHOR LENGTH(ft) : 13 WEIGHT PIPE LENGTH(ft) : NONE
TYPE OF TEST : Conventional WEIGHT PIPE ID : NONE
TOTAL DEPTH(ft-kb) : 4537 DRILL COLLAR LENGTH(ft) : 530
MAIN HOLE SIZE(in) : 7 7/8 DRILL COLLAR I.D.(in) : 2.259
MUD WEIGHT : 9.1 TOP PACKER DEPTH(kb) : 4519
MUD VISCOSITY : 37 BOTTOM PACKER DEPTH(kb) : 4524
MUD CHLORIDES : 9000 DUAL PACKERS : YES
SURFACE CHOKE : 3/4 PACKER SIZE(in) : 6 3/4
BOTTOM CHOKE(in) : 3/4 PACKER HOLD : Yes
TOOL SIZE(O.D.) : 5 1/2 TOOL PLUG : No
TOOL JOINT SIZE(F.H.) : 4 1/2 REVERSED OUT : No
RESERVOIR TEMPERATURE(F) : 123 TEST TICKET NUMBER : 9373

EXTRA EQUIPMENT : -JARS -SAFETY JOINT
-INSURANCE

ELEMENT SERIAL NO. : 3875
RANGE : 0 - 4225 CLOCK RANGE : 12 HOURS
CAL. EQU. : 1060.93 * Defl. + 4.92

SURFACE BLOW

1st Opening : WEAK-BUILDING VERY SLOWLY 1 IN. INTO WATER
2nd Opening : WEAK-BUILDING VERY SLOWLY 1 IN. INTO WATER

RECOVERY

Recovered 70 feet of MUDDY WATER

REMARKS :

WITNESSED BY : CASEY

TOOL OPERATOR : IVAN SUPPES

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

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SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : SAGE DRILLING CO., INC. WELL NAME : LEE #1
 DATE OF TEST : 4-23-85 LOCATION : 23-21S-25W
 DEPTH : 4531.0 SERIAL NO. : 3875

COMMENTS	TIME min	DEFL in	----- CALC	PRESSURE PSIG CORR	----- CORRECTED
TEST NO.:2					
Depth : 4531.0 ft-kb					
-1ST HYDROSTATIC	0.0	2.220	2360.19	4.22	2364.41
-14:10 1ST FLOW	0.0	.035	42.05	-4.66	37.39
- 14:15	5.0	.030	36.75	-4.69	32.05
- 14:19	9.0	.030	36.75	-4.69	32.05
- 14:23	13.0	.030	36.75	-4.69	32.05
- 14:28	18.0	.030	36.75	-4.69	32.05
- 14:32	22.0	.031	37.81	-4.69	33.12
- 14:37	27.0	.032	38.87	-4.68	34.19
-14:37 END FLOW	0.0	.032	38.87	-4.68	34.19
- 14:40	3.0	.991	1056.30	2.21	1058.51
- 14:43	6.0	1.095	1166.64	2.51	1169.15
- 14:46	9.0	1.115	1187.86	2.57	1190.43
- 14:49	12.0	1.140	1214.38	2.64	1217.02
- 14:52	15.0	1.159	1234.54	2.70	1237.23
- 14:55	18.0	1.173	1249.39	2.74	1252.13
- 14:58	21.0	1.184	1261.06	2.77	1263.83
- 15:01	24.0	1.194	1271.67	2.80	1274.47
- 15:04	27.0	1.202	1280.16	2.82	1282.98
- 15:07	30.0	1.208	1286.52	2.84	1289.36
- 15:10	33.0	1.214	1292.89	2.85	1295.74
- 15:13	36.0	1.219	1298.19	2.87	1301.06
- 15:16	39.0	1.224	1303.50	2.88	1306.38
- 15:19	42.0	1.229	1308.80	2.90	1311.70
- 15:22	45.0	1.232	1311.99	2.91	1314.89
-15:22 1ST SHUT-IN	0.0	1.232	1311.99	2.91	1314.89
-15:22 2ND FLOW	0.0	.056	64.33	-4.50	59.83
- 15:27	5.0	.051	59.03	-4.54	54.49
- 15:31	9.0	.051	59.03	-4.54	54.49
- 15:35	13.0	.051	59.03	-4.54	54.49
- 15:40	18.0	.051	59.03	-4.54	54.49
- 15:44	22.0	.051	59.03	-4.54	54.49
- 15:49	27.0	.052	60.09	-4.53	55.56
- 15:52	30.0	.052	60.09	-4.53	55.56
-15:52 END FLOW	0.0	.052	60.09	-4.53	55.56
- 15:55	3.0	.889	948.09	1.70	949.79
- 15:58	6.0	1.027	1094.50	2.31	1096.81
- 16:01	9.0	1.073	1143.30	2.45	1145.74
- 16:04	12.0	1.099	1170.88	2.52	1173.40
- 16:07	15.0	1.107	1179.37	2.54	1181.91
- 16:10	18.0	1.130	1203.77	2.61	1206.38

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 DEPTH : 4531.0 SERIAL NO. : 3875

COMMENTS	TIME min	DEFL in	----- CALC	----- PRESSURE PSIG CORR	----- CORRECTED
TEST NO.:2					
- 16:13	21.0	1.142	1216.50	2.65	1219.15
- 16:16	24.0	1.151	1226.05	2.67	1228.72
- 16:19	27.0	1.160	1235.60	2.70	1238.30
- 16:22	30.0	1.168	1244.09	2.72	1246.81
- 16:25	33.0	1.173	1249.39	2.74	1252.13
- 16:28	36.0	1.178	1254.70	2.75	1257.45
- 16:31	39.0	1.183	1260.00	2.76	1262.77
- 16:34	42.0	1.188	1265.31	2.78	1268.09
- 16:37	45.0	1.192	1269.55	2.79	1272.34
- 16:38	46.0	1.193	1270.61	2.79	1273.40
-16:38 2ND SHUT-IN	0.0	1.193	1270.61	2.79	1273.40
-2ND HYDROSTATIC	0.0	2.202	2341.09	4.25	2345.34

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DATA SUMMARY

COMPANY : SAGE DRILLING CO., INC. WELL NAME : LEE #1
DATE OF TEST : 4-23-85 LOCATION : 23-21S-25W

RECOVERY INFORMATION

LIQUID RECOVERY Total Fluid Recovered : 70

Recovered 70 feet of 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			
Gas			
Water			

CALCULATED RECOVERY ANALYSIS

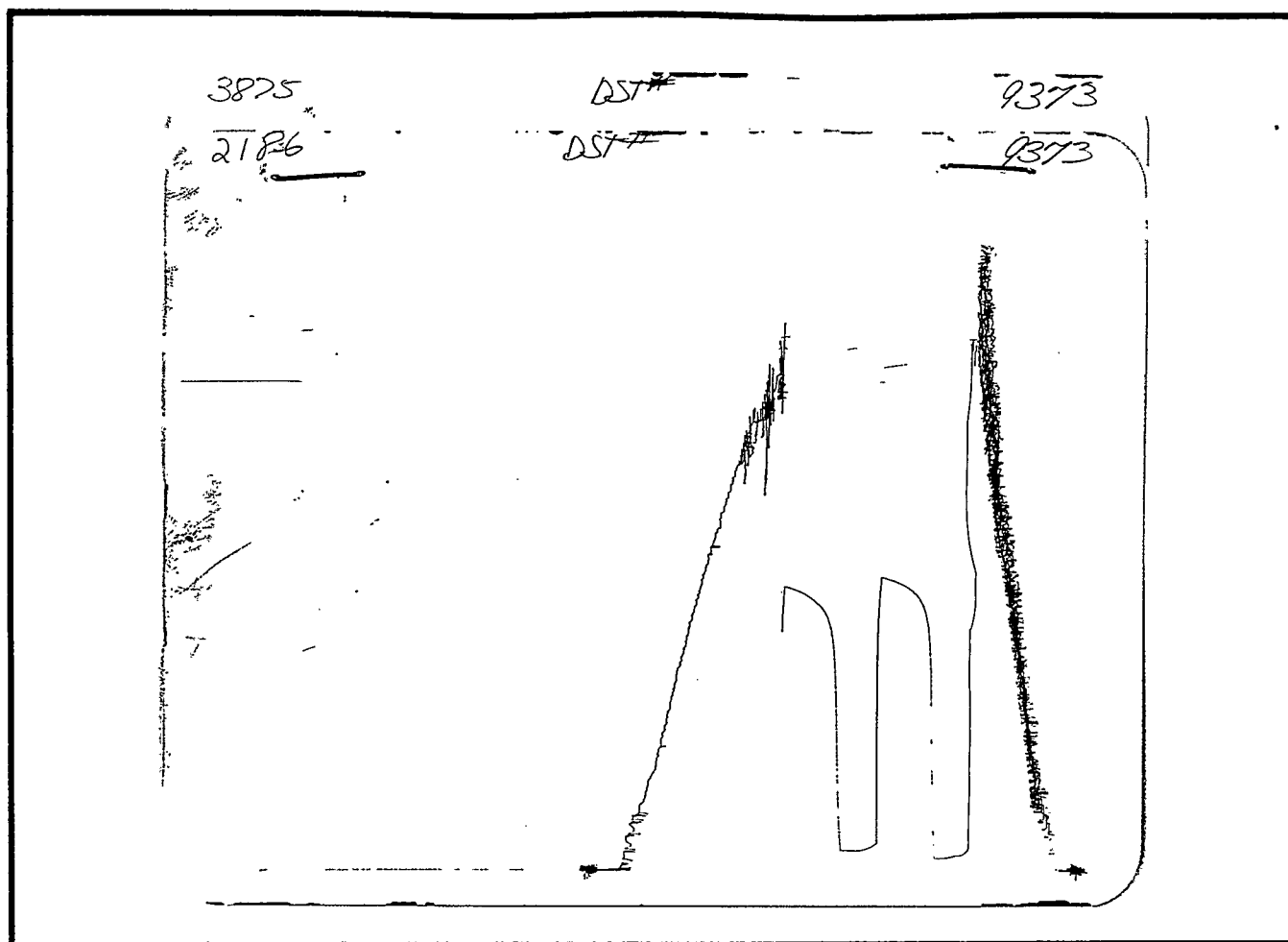
DST Number:2

Test ticket number:9373

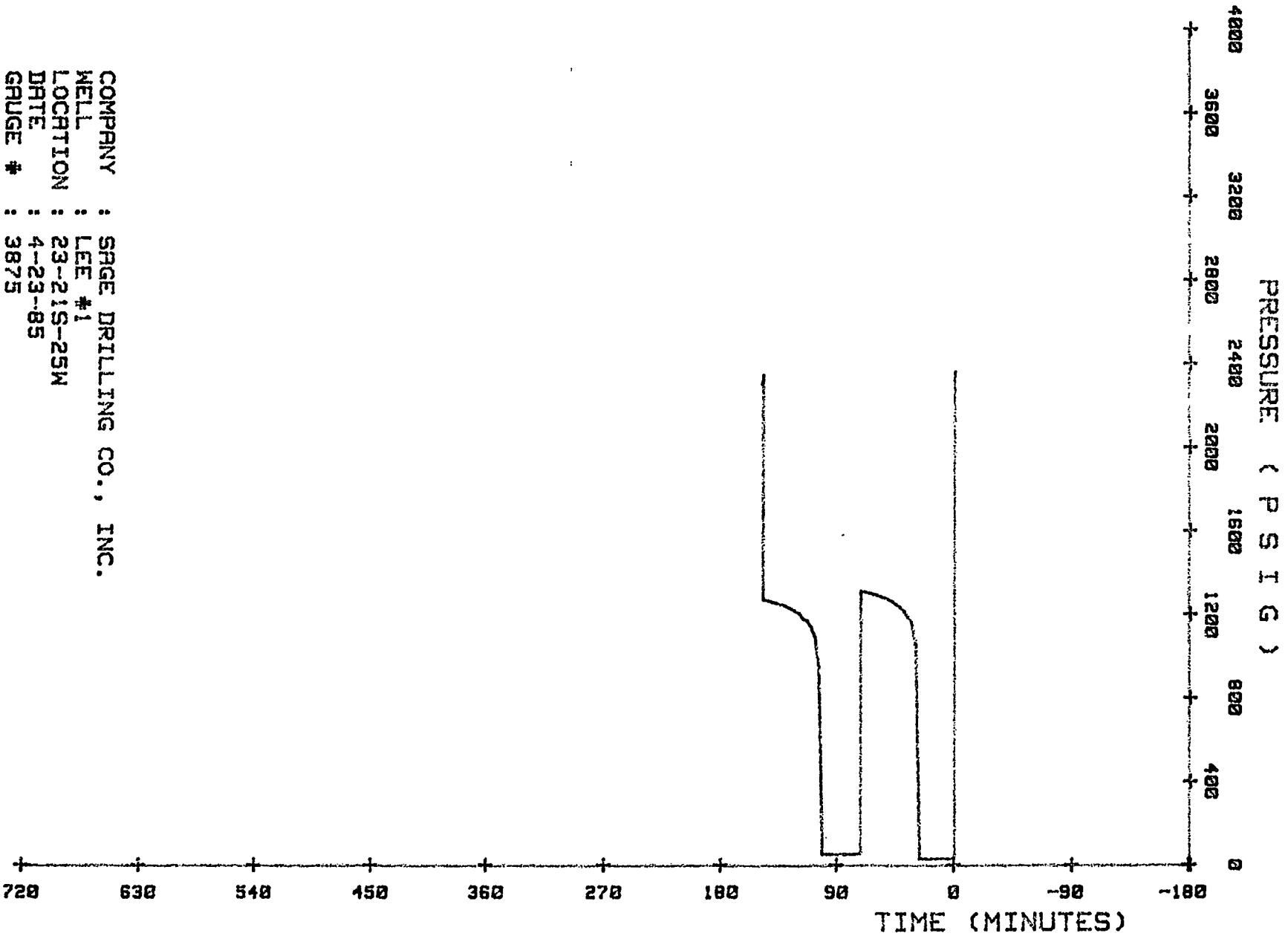
Sample #	Total Feet	***** Gas *****	***** Oil *****	***** Mud *****
		% Feet	% Feet	% Feet
1	70	0.00 0.00	0.00 0.00	15.00 10.50
TOTAL	70	0.00 0.00	0.00 0.00	15.00 10.50

Sample #	Total Feet	**** WATER ****	Chlorides (ppm)	Resistivity (ohms)	Temperature (deg)
		% Feet			
1	70	85.00 59.50	0.00	0.00	0.00
TOTAL	70	85.00 59.50			

INTERPRETATION BY : SUPERIOR TESTERS INC.



POINT	PRESSURE		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	<u>2361</u>	<u>2364</u>	P.S.I.
(B) First Initial Flow Pressure	<u>21</u>	<u>37</u>	P.S.I.
(C) First Final Flow Pressure	<u>31</u>	<u>34</u>	P.S.I.
(D) Initial Closed-in Pressure	<u>1320</u>	<u>1314</u>	P.S.I.
(E) Second Initial Flow Pressure	<u>42</u>	<u>59</u>	P.S.I.
(F) Second Final Flow Pressure	<u>63</u>	<u>55</u>	P.S.I.
(G) Final Closed-in Pressure	<u>1257</u>	<u>1273</u>	P.S.I.
(H) Final Hydrostatic Mud	<u>2340</u>	<u>2345</u>	P.S.I.

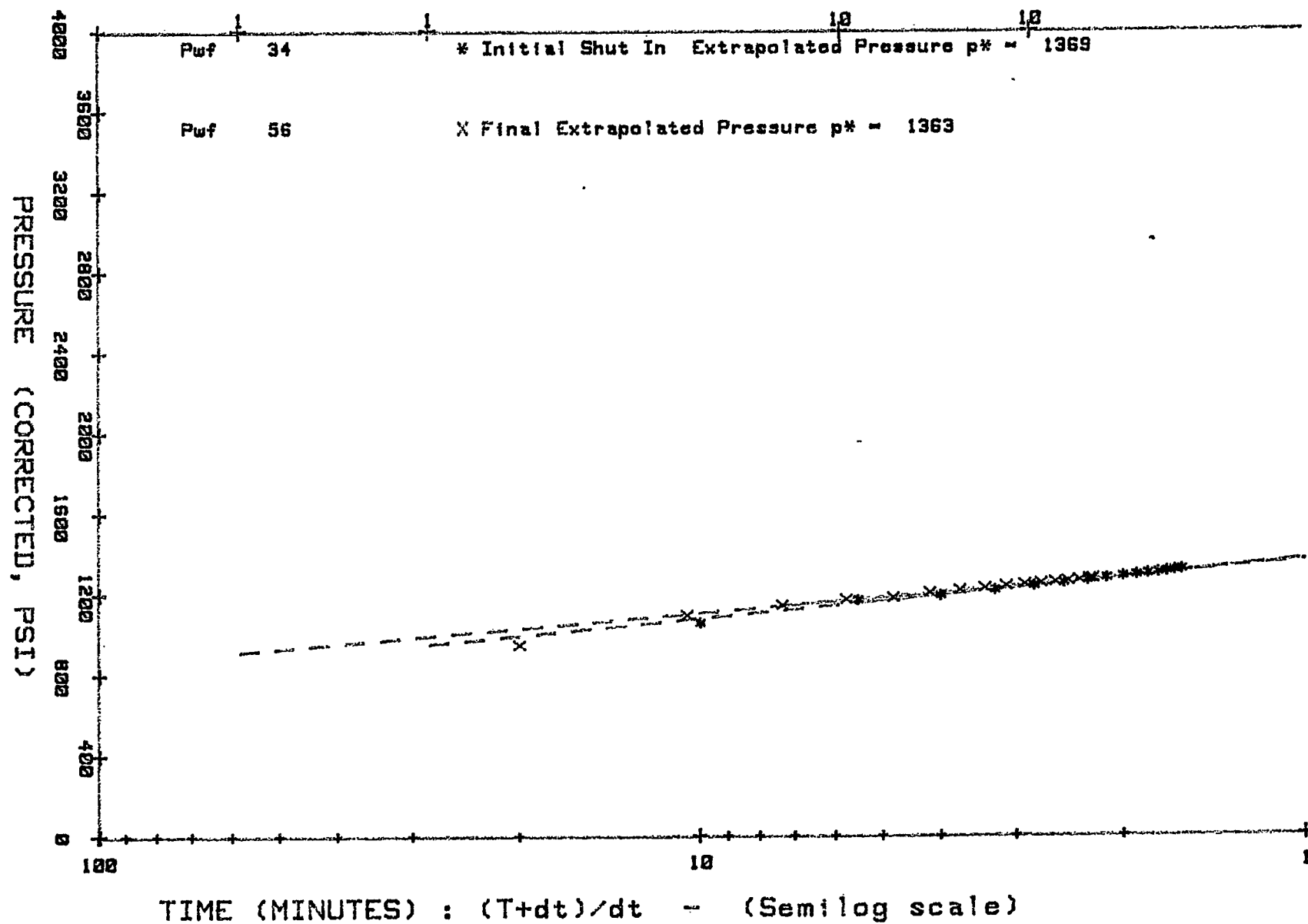


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LOCATION : 23-21S-25W
DATE : 4-23-85
GAUGE # : 3875

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HORNER ANALYSIS

COMPANY : SAGE DRILLING CO., INC.
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 LOCATION : 23-21S-25W
 STATE & COUNTY : KANSAS, HODGEMAN
 DATE OF TEST : 4-23-85
 TEST INT. KB : 4524 to 4537
 TOTAL INTERVAL (ft) K.B. : 13.00
 ELEV.(GR) : (KB) :
 FIELD :

ELEMENT SERIAL NO. : 3875
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG -----
Refer. depth : 4531.0 ft-kb			
-14:37 END FLOW	0.00	0.00	34.19
	3.00	10.00	1058.76
	6.00	5.50	1169.87
	9.00	4.00	1191.24
	12.00	3.25	1217.95
	15.00	2.80	1238.25
	18.00	2.50	1253.21
	21.00	2.29	1264.96
	24.00	2.13	1275.64
	27.00	2.00	1284.19
	30.00	1.90	1290.60
	33.00	1.82	1297.01
	36.00	1.75	1302.35
	39.00	1.69	1307.69
	42.00	1.64	1313.03
	45.00	1.60	1316.24
-15:22 1ST SHUT-IN	0.00	0.00	1316.24

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DATA SUMMARY

COMPANY : SAGE DRILLING CO., INC. WELL NAME : LEE #1
DATE OF TEST : 4-23-85 LOCATION : 23-21S-25W
DST. NO : 2 SHUT-IN PERIOD : 1

INTERPRETIVE DATA (OIL)

EXTRAPOLATED RESERVOIR PRESSURE (psi):	1369.00
Slope of Build-up Curve (psi/log cycle):	285.79
Effective Producing Time (min):	27.00

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 STATE & COUNTY : KANSAS, HODGEMAN
 DATE OF TEST : 4-23-85
 TEST INT. KB : 4524 to 4537
 TOTAL INTERVAL (ft) K.B. : 13.00
 ELEV. (GR) : (KB) :
 FIELD :

ELEMENT SERIAL NO. : 3875
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG
Refer. depth :	4531.0 ft-kb		
-15:52 END FLOW	0.00	0.00	55.56
	3.00	20.00	949.79
	6.00	10.50	1097.22
	9.00	7.33	1146.37
	12.00	5.75	1174.15
	15.00	4.80	1182.69
	18.00	4.17	1207.26
	21.00	3.71	1220.09
	24.00	3.38	1229.70
	27.00	3.11	1239.32
	30.00	2.90	1247.86
	33.00	2.73	1253.21
	36.00	2.58	1258.55
	39.00	2.46	1263.89
	42.00	2.36	1269.23
	45.00	2.27	1273.50
	46.00	2.24	1274.57
-16:38 2ND SHUT-IN	0.00	0.00	1274.57

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DST. NO : 2	SHUT-IN PERIOD : 2

INTERPRETIVE DATA (OIL)

EXTRAPOLATED RESERVOIR PRESSURE (psi):	1363.00
Slope of Build-up Curve (psi/log cycle):	252.50
Effective Producing Time (min):	57.00

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 DST. NO : 2 SHUT-IN PERIOD : 2

INTERPRETIVE DATA (OIL)

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:	1.18
CALCULATED DAMAGE RATIO:	0.00
Reservoir Temperature (F):	123.00
Formation Porosity :	0.00
Formation Thickness (ft):	0.00
Wellbore Radius (in):	3.94
Reservoir Compressibility (psi ⁻¹):	0.00E+00
Calculated Skin Factor :	0.00
PRODUCTION WITH DAMAGE REMOVED (bbl/D):	0.00
PRODUCTIVITY INDEX (bbl/psi):	0.00
Final Flow Pressure (psi):	55.56
APPROXIMATE RADIUS OF INVESTIGATION (ft):	0.00
Total Flowing Time (min):	57.00
EXTRAPOLATED RESERVOIR PRESSURE (psi):	1363.00
Slope of Build-up Curve (psi/log cycle):	252.50
Effective Producing Time (min):	57.00

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