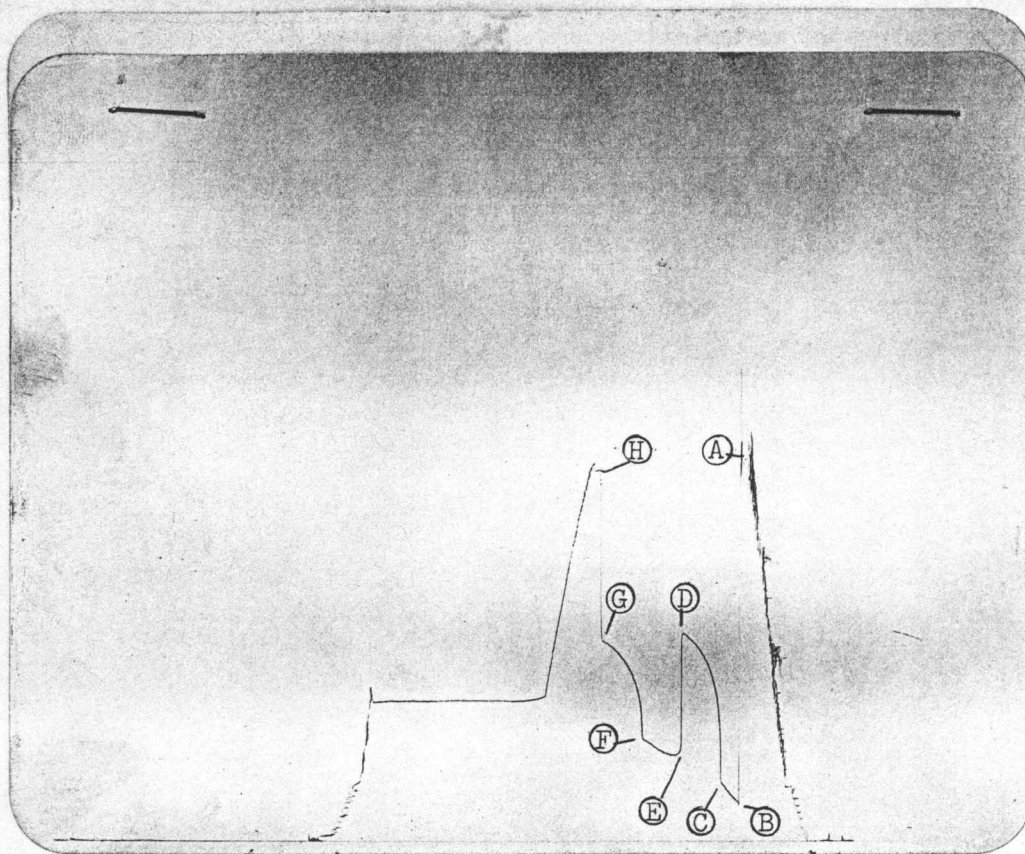




POINT	PRESSURE		P.S.I.
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	2121	2188	P.S.I.
(B) First Initial Flow Pressure	210	225	P.S.I.
(C) First Final Flow Pressure	320	334	P.S.I.
(D) Initial Closed-in Pressure	1188	1199	P.S.I.
(E) Second Initial Flow Pressure	497	518	P.S.I.
(F) Second Final Flow Pressure	585	591	P.S.I.
(G) Final Closed-in Pressure	1155	1154	P.S.I.
(H) Final Hydrostatic Mud	2121	2173	P.S.I.

SUPERIOR TESTERS ENTERPRISES, INC.

WELL IDENTIFICATION DATA

COMPANY : SAGE DRILLING CO. WELL NAME : WIELAND #2
ADDRESS : 202 S.ST.FRANCIS LOCATION : 16-21-22
STATE & COUNTY : KANSAS, HODGEMAN FIELD :
ELEV.(GR) : (KB) : TEST DATE : 11-19-85

EQUIPMENT AND HOLE DATA

FORMATION TESTED : MISSISSIPPI DRILL PIPE LENGTH(ft) : 3800
TEST INT. KB : 4378 to 4399 DRILL PIPE O.D.(in) : 3.82
ANCHOR LENGTH(ft) : 21 WEIGHT PIPE LENGTH(ft) : NONE
TYPE OF TEST : Conventional WEIGHT PIPE ID : 2.75
TOTAL DEPTH(ft-kb) : 4399 DRILL COLLAR LENGTH(ft) : 548
MAIN HOLE SIZE(in) : 7 7/8 DRILL COLLAR I.D.(in) : 2.259
MUD WEIGHT : 8.9 TOP PACKER DEPTH(kb) : 4373
MUD VISCOSITY : 50 BOTTOM PACKER DEPTH(kb) : 4378
MUD CHLORIDES : 6000 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 : YES
RESERVOIR TEMPERATURE(F) : 119 TEST TICKET NUMBER : 8497

EXTRA EQUIPMENT : -JARS -SAFETY JOINT -CIRC.SUB
-INSURANCE

ELEMENT SERIAL NO. : 11088
RANGE : 0 - 4400 CLOCK RANGE : 24 HOURS
CAL. EQU. : 1102.93 * Defl. + 4.88

SURFACE BLOW

1st Opening : WEAK BUILT TO BOTTOM OF 5 GAL.BUCKET 5 MIN.
2nd Opening : WEAK BUILT TO BOTTOM OF 5 GAL.BUCKET IN 8 MIN.

RECOVERY

Recovered 240 feet of GAS IN PIPE
Recovered 1228 feet of CLEAN GASSY OIL - GRAVITY 39 CORRECTED
Recovered 156 feet of 18% GAS-40% OIL-40% MUD-2% WATER
Recovered 156 feet of 30% GAS-50% OIL-20% MUD
Recovered 60 feet of 25% GAS-20% OIL-50% MUD-5% WATER

REMARKS :

WITNESSED BY : TOOL OPERATOR : GENE BUDIG

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

SUPERIOR TESTERS ENTERPRISES, INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : SAGE DRILLING CO.
DATE OF TEST : 11-19-85
DEPTH : 4396.0

WELL NAME : WIELAND #2
LOCATION : 16-21-22
SERIAL NO. : 11088

COMMENTS	TIME min	DEFL in	PRESSURE PSIG		
			CALC	CORR	CORRECTED
TEST NO.:1					
Depth : 4396.0 ft-kb					
-1ST HYDRSTATIC	0.0	1.979	2187.58	1.27	2188.85
- 0:00	0.0	1.979	2187.58	1.27	2188.85
-21:20 1ST FLOW	0.0	.202	227.67	-2.53	225.14
- 21:25	5.0	.210	236.50	-2.44	234.05
- 21:29	9.0	.224	251.94	-2.28	249.66
- 21:33	13.0	.239	268.48	-2.11	266.38
- 21:38	18.0	.258	289.44	-1.88	287.55
- 21:42	22.0	.282	315.91	-1.61	314.30
- 21:47	27.0	.300	335.76	-1.40	334.36
-21:47 END FLOW	0.0	.300	335.76	-1.40	334.36
- 21:50	3.0	.615	683.18	.85	684.03
- 21:52	5.0	.716	794.58	.78	795.36
- 21:55	8.0	.761	844.21	.76	844.97
- 21:58	11.0	.811	899.36	.72	900.08
- 22:00	13.0	.851	943.47	.70	944.17
- 22:04	17.0	.877	972.15	.68	972.83
- 22:07	20.0	.909	1007.44	.66	1008.10
- 22:10	23.0	.932	1032.81	.64	1033.45
- 22:12	25.0	.952	1054.87	.63	1055.50
- 22:15	28.0	.969	1073.62	.62	1074.24
- 22:18	31.0	.985	1091.27	.61	1091.88
- 22:22	35.0	1.002	1110.02	.60	1110.62
- 22:24	37.0	1.013	1122.15	.62	1122.77
- 22:27	40.0	1.027	1137.59	.65	1138.24
- 22:30	43.0	1.037	1148.62	.67	1149.29
- 22:33	46.0	1.046	1158.55	.68	1159.23
- 22:36	49.0	1.056	1169.57	.70	1170.28
- 22:39	52.0	1.065	1179.50	.72	1180.22
- 22:42	55.0	1.074	1189.43	.73	1190.16
- 22:45	58.0	1.082	1198.25	.75	1199.00
-22:46 1ST SHUT-IN	0.0	1.082	1198.25	.75	1199.00
-22:46 2ND FLOW	0.0	.465	517.74	.52	518.26
- 22:51	5.0	.456	507.82	.41	508.23
- 22:55	9.0	.451	502.30	.36	502.66
- 22:59	13.0	.451	502.30	.36	502.66
- 23:04	18.0	.452	503.40	.37	503.77
- 23:08	22.0	.456	507.82	.41	508.23
- 23:13	27.0	.463	515.54	.50	516.03
- 23:17	31.0	.471	524.36	.59	524.95
- 23:22	36.0	.481	535.39	.70	536.09

SUPERIOR TESTERS ENTERPRISES, INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : SAGE DRILLING CO.
DATE OF TEST : 11-19-85
DEPTH : 4396.0

WELL NAME : WIELAND #2
LOCATION : 16-21-22
SERIAL NO. : 11088

COMMENTS	TIME min	DEFL in	PRESSURE PSIG		
			----- CALC	CORR	CORRECTED
TEST NO.:1					
- 23:26	40.0	.493	548.62	.84	549.47
- 23:31	45.0	.503	559.65	.92	560.58
- 23:35	49.0	.513	570.68	.92	571.60
- 23:39	53.0	.521	579.51	.91	580.42
- 23:44	58.0	.531	590.54	.90	591.44
-23:44 END FLOW	0.0	.531	590.54	.90	591.44
- 23:47	3.0	.679	753.77	.81	754.58
- 23:50	6.0	.755	837.59	.76	838.35
- 23:53	9.0	.786	871.78	.74	872.52
- 23:56	12.0	.828	918.11	.71	918.82
- 23:59	15.0	.849	941.27	.70	941.97
- 0:02	18.0	.876	971.05	.68	971.73
- 0:05	21.0	.893	989.80	.67	990.47
- 0:08	24.0	.911	1009.65	.66	1010.31
- 0:11	27.0	.930	1030.61	.65	1031.25
- 0:14	30.0	.943	1044.94	.64	1045.58
- 0:17	33.0	.955	1058.18	.63	1058.81
- 0:20	36.0	.969	1073.62	.62	1074.24
- 0:23	39.0	.982	1087.96	.61	1088.57
- 0:26	42.0	.993	1100.09	.60	1100.69
- 0:29	45.0	1.001	1108.91	.60	1109.51
- 0:31	47.0	1.011	1119.94	.62	1120.56
- 0:34	50.0	1.017	1126.56	.63	1127.19
- 0:37	53.0	1.027	1137.59	.65	1138.24
- 0:40	56.0	1.032	1143.10	.66	1143.76
- 0:43	59.0	1.037	1148.62	.67	1149.29
- 0:46	62.0	1.042	1154.13	.68	1154.81
-00:46 2ND SHUT-IN	0.0	1.042	1154.13	.68	1154.81
-2ND HYDROSTATIC	0.0	1.965	2172.14	1.28	2173.42

SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : SAGE DRILLING CO. WELL NAME : WIELAND #2
DATE OF TEST : 11-19-85 LOCATION : 16-21-22

RECOVERY INFORMATION

LIQUID RECOVERY Total Fluid Recovered : 1600

Recovered 240 feet of GAS IN THE PIPE
Recovered 1228 feet of CLEAN GASSY OIL - GRAVITY 39 CORRECTED
Recovered 156 feet of 18% GAS-40% OIL-40% MUD-2% WATER
Recovered 156 feet of 30% GAS-50% OIL-20% MUD
Recovered 60 feet of 25% GAS-20% OIL-50% MUD-5% 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	.67
Gas			.24
Water	.45	3.1E-6	

CALCULATED RECOVERY ANALYSIS

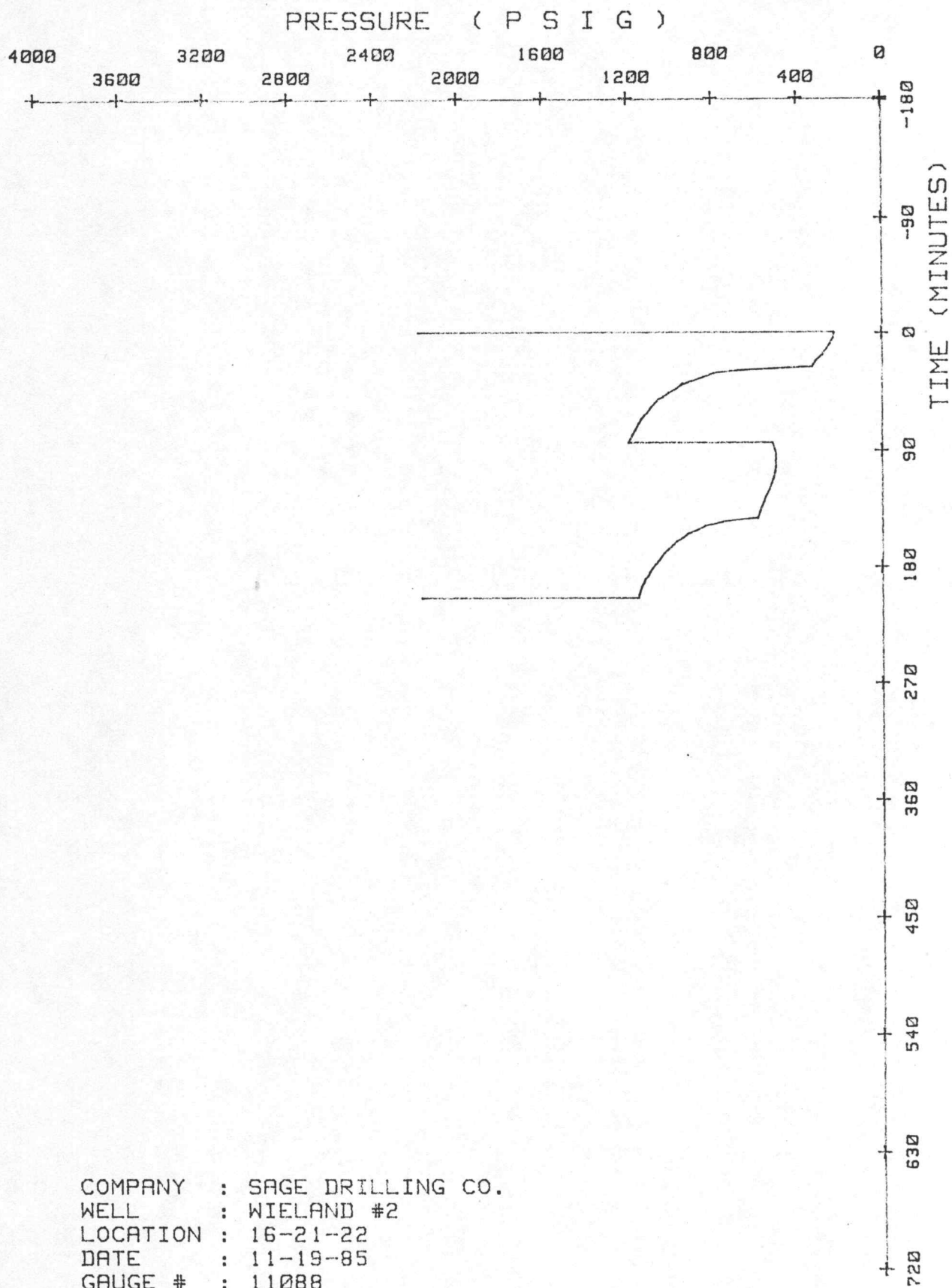
DST Number:1

Test ticket number:8497

Sample #	Total Feet	***** Gas ***** %	Feet	***** Oil ***** %	Feet	***** Mud ***** %	Feet
1	1228	25.00	307.00	75.00	921.00	0.00	0.00
2	156	18.00	28.08	40.00	62.40	40.00	62.40
3	156	20.00	31.20	50.00	78.00	20.00	31.20
4	60	25.00	15.00	20.00	12.00	50.00	30.00
TOTAL	1600	23.83	381.28	67.09	1073.40	7.73	123.60

Sample #	Total Feet	***** WATER ***** %	Feet	Chlorides (ppm)	Resistivity (ohms)	Temperature (deg)
1	1228	0.00	0.00	0.00	0.00	0.00
2	156	2.00	3.12	0.00	0.00	0.00
3	156	0.00	0.00	0.00	0.00	0.00
4	60	5.00	3.00	0.00	0.00	0.00
TOTAL	1600	.38	6.12			

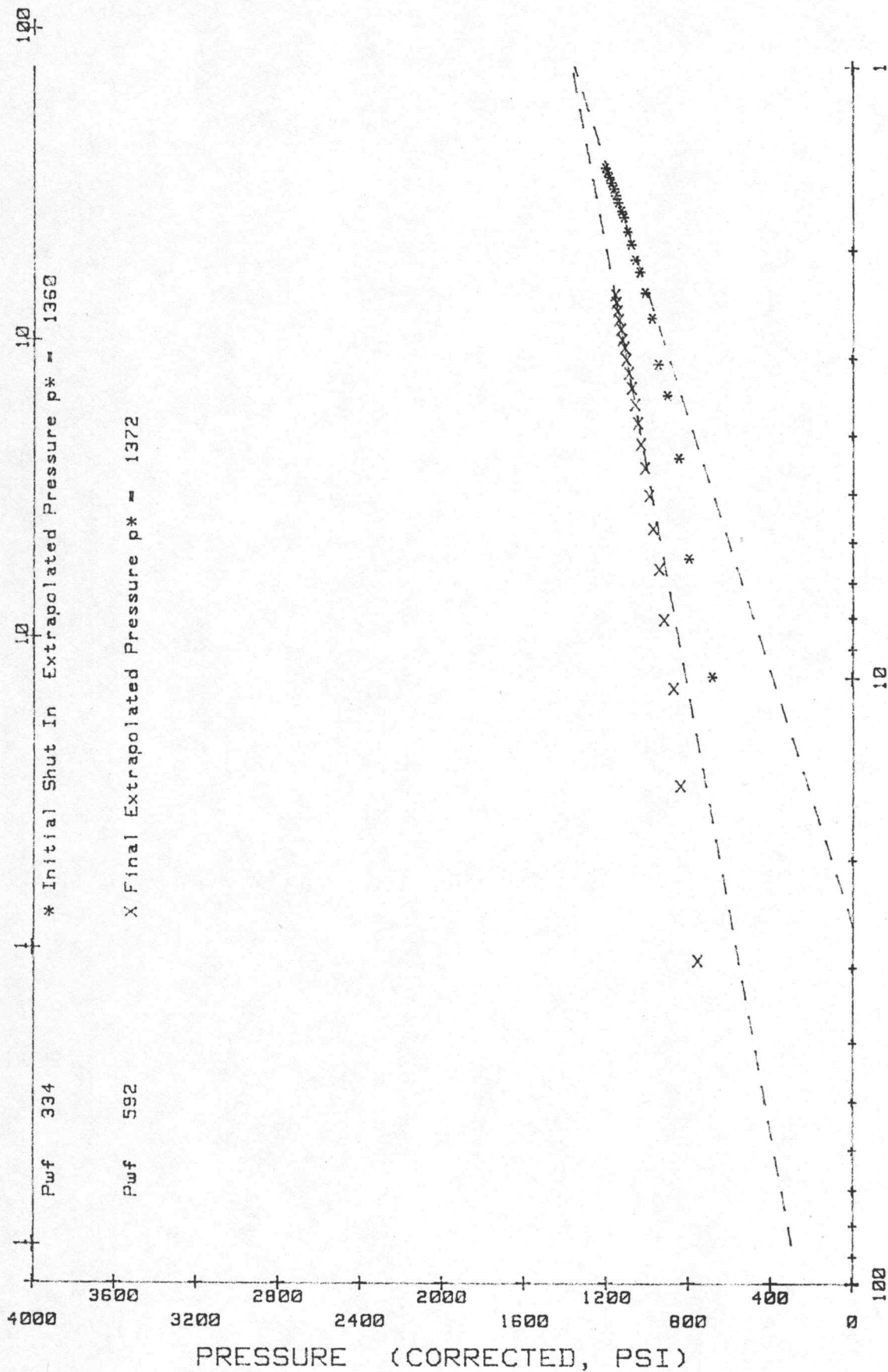
INTERPRETATION BY : SUPERIOR TESTERS INC.



LOCATION : 16-21-22

DATE : 11-19-85

GAUGE # : 11088



SUPERIOR TESTERS ENTERPRISES, INC.

HORNER ANALYSIS

COMPANY : SAGE DRILLING CO.
 WELL NAME : WIELAND #2
 LOCATION : 16-21-22
 STATE & COUNTY : KANSAS, HODGEMAN
 DATE OF TEST : 11-19-85
 TEST INT. KB : 4378 to 4399
 TOTAL INTERVAL (ft) K.B. : 21.00
 ELEV.(GR) : (KB) :
 FIELD :

ELEMENT SERIAL NO. : 11088
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG	-----
Refer. depth : 4396.0 ft-kb				
-21:47 END FLOW	0.00	0.00	334.36	
	3.00	10.00	685.44	
	5.00	6.40	798.01	
	8.00	4.38	848.16	
	11.00	3.45	903.89	
	13.00	3.08	948.47	
	17.00	2.59	977.45	
	20.00	2.35	1013.12	
	23.00	2.17	1038.75	
	25.00	2.08	1061.04	
	28.00	1.96	1079.99	
	31.00	1.87	1097.82	
	35.00	1.77	1116.77	
	37.00	1.73	1129.03	
	40.00	1.68	1144.63	
	43.00	1.63	1155.78	
	46.00	1.59	1165.81	
	49.00	1.55	1176.95	
	52.00	1.52	1186.99	
	55.00	1.49	1197.02	
	58.00	1.47	1205.93	
-22:46 1ST SHUT-IN	0.00	0.00	1205.93	

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : SAGE DRILLING CO.
DATE OF TEST : 11-19-85
DST. NO : 1

WELL NAME : WIELAND #2
LOCATION : 16-21-22
SHUT-IN PERIOD : 1

INTERPRETIVE DATA (OIL)

EXTRAPOLATED RESERVOIR PRESSURE (psi):	1360.00
Slope of Build-up Curve (psi/log cycle):	965.37
Effective Producing Time (min):	27.00

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

HORNER ANALYSIS

COMPANY : SAGE DRILLING CO.
 WELL NAME : WIELAND #2
 LOCATION : 16-21-22
 STATE & COUNTY : KANSAS, HODGEMAN
 DATE OF TEST : 11-19-85
 TEST INT. KB : 4378 to 4399
 TOTAL INTERVAL (ft) K.B. : 21.00
 ELEV. (GR) : (KB) :
 FIELD :

ELEMENT SERIAL NO. : 11088
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG
Refer. depth : 4396.0 ft-kb			
-23:44 END FLOW	0.00	0.00	591.82
	3.00	29.33	756.77
	6.00	15.17	841.48
	9.00	10.44	876.03
	12.00	8.08	922.84
	15.00	6.67	946.24
	18.00	5.72	976.34
	21.00	5.05	995.28
	24.00	4.54	1015.35
	27.00	4.15	1036.52
	30.00	3.83	1051.01
	33.00	3.58	1064.39
	36.00	3.36	1079.99
	39.00	3.18	1094.48
	42.00	3.02	1106.74
	45.00	2.89	1115.65
	47.00	2.81	1126.80
	50.00	2.70	1133.49
	53.00	2.60	1144.63
	56.00	2.52	1150.21
	59.00	2.44	1155.78
	62.00	2.37	1161.35
-00:46 2ND SHUT-IN	0.00	0.00	1161.35

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : SAGE DRILLING CO.
DATE OF TEST : 11-19-85
DST. NO : 1

WELL NAME : WIELAND #2
LOCATION : 16-21-22
SHUT-IN PERIOD : 2

INTERPRETIVE DATA (OIL)

EXTRAPOLATED RESERVOIR PRESSURE (psi):	1372.00
Slope of Build-up Curve (psi/log cycle):	554.26
Effective Producing Time (min):	85.00

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : SAGE DRILLING CO. WELL NAME : WIELAND #2
 DATE OF TEST : 11-19-85 LOCATION : 16-21-22
 DST. NO : 1 SHUT-IN PERIOD : 2

INTERPRETIVE DATA (OIL)

TRANSMISSIBILITY

Oil (md.ft/cp): 68.79
 Gas (md.ft/cp): 0.00

EFFECTIVE PERMEABILITY

Oil (md): 6.71
 Gas (md): 0.00

TOTAL MOBILITY (md/cp): 8.41

TOTAL COMPRESSIBILITY (psi⁻¹): 5.64E-06

ESTIMATED DAMAGE RATIO:31

CALCULATED DAMAGE RATIO:30

Reservoir Temperature (F): 119.00

Formation Porosity :20

Formation Thickness (ft): 10.00

Wellbore Radius (in): 3.94

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

Calculated Skin Factor : -3.86

PRODUCTION WITH DAMAGE REMOVED (bbl/D): 69.32

PRODUCTIVITY INDEX (bbl/psi):30

Final Flow Pressure (psi): 591.82

APPROXIMATE RADIUS OF INVESTIGATION (ft): 104.88

Total Flowing Time (min): 85.00

EXTRAPOLATED RESERVOIR PRESSURE (psi): 1372.00

Slope of Build-up Curve (psi/log cycle): 554.26

Effective Producing Time (min): 85.00

INTERPRETATION BY : SUPERIOR TESTERS INC.

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

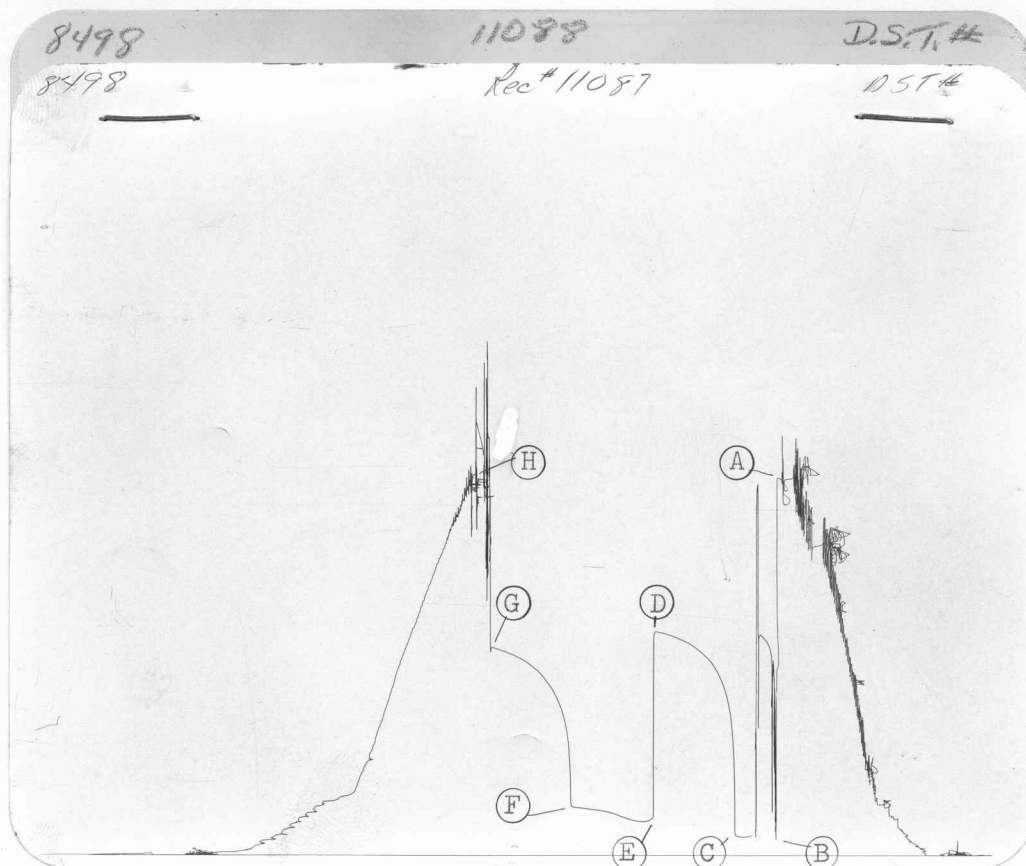
Date 11-19-1985 Location 20 W. C. & 16-21-22 Elevation _____ County Hodgeman
 Company Sage Drilling Company Number of Copies _____
 Address 202 South St. Francis Wichita Kansas 67202
 Charts Mailed to 202 South St. Francis Wichita Kansas 67202
 Invoice Mailed to 202 South St. Francis Wichita Kansas 67202
 Lease Wieland Well No. 2 Formation Tested Mississippi Test No. 1
 Depth 4399 Tested from 4378 to 4399 Packer Size 6 3/4" Anchor Length 21
 Top Packer Depth 4373 ft. Bottom Packer Depth 4378 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 Sage Drilling Rig #9
 Length Drill Pipe 3800 I.D. Drill Pipe 3.80 Tool Joint Size 4 1/2" X.H.
 Length Weight Pipe NONE I.D. Weight Pipe NONE Tool Joint Size NONE
 Length Drill Collars 548 I.D. Drill Collars 2.25 Tool Joint Size 4" H-90
 Tool Open I.F.P. from 9:20 p.m. to 9:50 p.m. 30 min
 Tool Closed I.C.I.P. from 9:50 p.m. to 10:50 p.m. 60 min
 Tool Open F.F.P. from 10:50 p.m. to 11:50 p.m. 60 min
 Tool Closed F.C.I.P. from 11:50 p.m. to 12:50 p.m. 60 min
 Initial Hydrostatic Pressure [A] 2121 P.S.I. Final Hydrostatic Pressure [H] 2121 P.S.I. Maximum Temp 119 °F
 Initial Blow WEAK building to the bottom of a 5 gallon bucket in 5 min.
 Final Blow WEAK building to the bottom of a 5 gallon bucket in 8 min.
 Gas to Surface NONE Min. Oil to Surface NONE Min. Mut Weight 89 Viscosity 50
 Gas Guaged NONE
BETWEEN Shut-In tool & Hydraulic tool pure clean Gassy oil
240 FEET of GAS in the Pipe Gravity
 Recovery 1228 FEET of CLEAN Gassy Oil (39 Corrected)
25% GAS 75% Oil
156 18% GAS 40% Oil 40% mud 2% WATER
156 20% GAS 50% Oil 20% mud
 Remarks 60 225 GAS 20% Oil 50% mud 5% WATER
Tool insurance '60.00 1600 FEET of total fluid RECOVERED
 Extra Equipment-Jars \$300.00 Safety Joint \$65.00 Extra Packer NONE Straddle NONE Hook Wall NONE
 Top Recorder No. 11087 Clock no. 23914 Depth 4393 Clr. Sub 25.00 Sampler NONE
 Bottom Recorder No. 11088 Clock No. 26182 Depth 4396 Chlorides - pits 6000 D.S.T. _____
 Price of Job \$1060.00
 Tool Operator Gene Spauldy
 Approved By _____

from [B] <u>210</u>	P.S.I. to [C] <u>320</u>	P.S.I.
[D] <u>1188</u>		P.S.I.
from [E] <u>497</u>	P.S.I. to [F] <u>585</u>	P.S.I.
[G] <u>1155</u>		P.S.I.

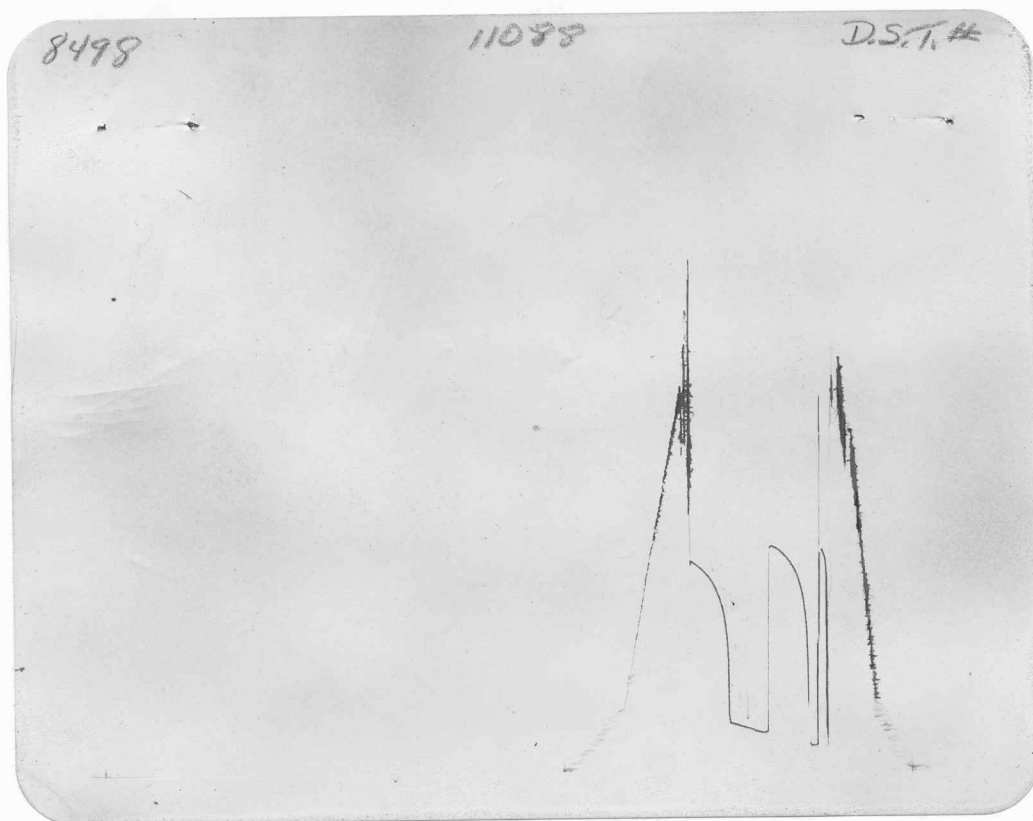
SUPERIOR TESTERS, INC. SHALL NOT BE LIABLE FOR DAMAGE OF ANY KIND TO THE PROPERTY OR PERSONEL OF THE ONE FOR WHOM A TEST IS MADE, OF FOR ANY LOSS SUFFERED OR SUSTAINED, DIRECTLY OR INDIRECTLY, THROUGH THE USE OF ITS EQUIPMENT, OR ITS STATEMENTS OR OPINION CONCERNING THE RESULTS OF ANY TEST. TOOLS LOST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

Ticket N° 8497

6000
425



POINT	PRESSURE		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	2143	2160	P.S.I.
(B) First Initial Flow Pressure	99	98	P.S.I.
(C) First Final Flow Pressure	110	112	P.S.I.
(D) Initial Closed-in Pressure	1287	1282	P.S.I.
(E) Second Initial Flow Pressure	187	216	P.S.I.
(F) Second Final Flow Pressure	276	272	P.S.I.
(G) Final Closed-in Pressure	1177	1192	P.S.I.
(H) Final Hydrostatic Mud	2110	2124	P.S.I.



POINT	PRESSURE		
	FIELD READING	OFFICE READING	
(A) Initial Hydrostatic Mud	2143	2160	P.S.I.
(B) First Initial Flow Pressure	99	98	P.S.I.
(C) First Final Flow Pressure	110	112	P.S.I.
(D) Initial Closed-in Pressure	1287	1282	P.S.I.
(E) Second Initial Flow Pressure	187	216	P.S.I.
(F) Second Final Flow Pressure	276	272	P.S.I.
(G) Final Closed-in Pressure	1177	1192	P.S.I.
(H) Final Hydrostatic Mud	2110	2124	P.S.I.

SUPERIOR TESTERS ENTERPRISES, INC.

WELL IDENTIFICATION DATA

COMPANY : SAGE DRILLING CO. WELL NAME : WIELAND #2
ADDRESS : 202 S. ST. FRANCIS, LOCATION : 16-21-22
STATE & COUNTY : KANSAS, HODGEMAN FIELD :
ELEV. (GR) : (KB) : TEST DATE : 11-20

EQUIPMENT AND HOLE DATA

FORMATION TESTED : MISSISSIPPI DRILL PIPE LENGTH(ft) : 3820
TEST INT. KB : 4399 to 4411 DRILL PIPE O.D. (in) : 3.82
ANCHOR LENGTH(ft) : 12 WEIGHT PIPE LENGTH(ft) : NONE
TYPE OF TEST : Conventional WEIGHT PIPE ID : NONE
TOTAL DEPTH(ft-kb) : 4411 DRILL COLLAR LENGTH(ft) : 548
MAIN HOLE SIZE(in) : 7 7/8 DRILL COLLAR I.D. (in) : 2.259
MUD WEIGHT : 9.1 TOP PACKER DEPTH(kb) : 4394
MUD VISCOSITY : 50 BOTTOM PACKER DEPTH(kb) : 4399
MUD CHLORIDES : 6000 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) : 140 TEST TICKET NUMBER : 8498

EXTRA EQUIPMENT : -JARS -SAFETY JOINT

ELEMENT SERIAL NO. : 11087
RANGE : 0 - 4350 CLOCK RANGE : 12 HOURS
CAL. EQU. : 1094.24 * Defl. + 5.06

SURFACE BLOW

1st Opening : WEAK BUILT TO BOTTOM OF BUCKET IN 24 MIN.
2nd Opening : WEAK BUILT TO BOTTOM OF BUCKET IN 29 MIN.

RECOVERY

Recovered 60 feet of GAS IN PIPE
Recovered 75 feet of FREE CLEAN GASSY OIL - 39 CORRECTED GRAVITY
Recovered 120 feet of 32% OIL - 40% WATER - 28% MUD
Recovered 180 feet of 15% OIL - 65% WATER - 20% MUD
Recovered 240 feet of 5% OIL - 90% WATER - 5% MUD

REMARKS :

WITNESSED BY : RAYMOND PALMER

TOOL OPERATOR : DAN OCHS

INTERPRETATION BY : SUPERIOR TESTERS ENTERPRISES, INC.

SUPERIOR TESTERS ENTERPRISES, INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : SAGE DRILLING CO.
DATE OF TEST : 11-20
DEPTH : 4405.0

WELL NAME : WIELAND #2
LOCATION : 16-21-22
SERIAL NO. : 11087

COMMENTS	TIME min	DEFL in	----- CALC	PRESSURE PSIG CORR	----- CORRECTED
TEST NO.:2					
Depth : 4405.0 ft-kb					
-1ST HYDROSTATIC	0.0	1.965	2155.24	5.24	2160.48
-19:00 1ST FLOW	0.0	.089	102.45	-4.43	98.02
- 19:01	1.0	.879	966.90	1.17	968.06
- 19:02	2.0	1.017	1117.90	1.88	1119.78
- 19:03	3.0	.226	252.36	-3.46	248.90
- 19:03	3.0	.994	1092.73	1.77	1094.51
- 19:03	3.0	.775	853.09	.43	853.52
- 19:04	4.0	1.070	1175.89	2.13	1178.02
- 19:09	9.0	1.128	1239.36	2.40	1241.76
- 19:12	12.0	1.150	1263.43	2.50	1265.93
- 19:13	13.0	.663	730.54	-.36	730.18
- 19:14	14.0	1.931	2118.03	5.33	2123.36
- 19:15	15.0	.101	115.58	-4.35	111.23
- 19:15	15.0	.137	154.97	-4.09	150.88
- 19:17	17.0	.107	122.14	-4.30	117.84
- 19:21	21.0	.090	103.54	-4.42	99.12
- 19:26	26.0	.099	113.39	-4.36	109.03
- 19:29	29.0	.102	116.67	-4.34	112.33
-19:29 END FLOW	0.0	.102	116.67	-4.34	112.33
- 19:32	3.0	.645	710.84	-.49	710.35
- 19:35	6.0	.792	871.70	.55	872.25
- 19:38	9.0	.861	947.20	1.04	948.24
- 19:40	11.0	.918	1009.57	1.42	1010.99
- 19:43	14.0	.959	1054.43	1.61	1056.04
- 19:46	17.0	.993	1091.64	1.77	1093.41
- 19:49	20.0	1.017	1117.90	1.88	1119.78
- 19:52	23.0	1.038	1140.88	1.98	1142.86
- 19:55	26.0	1.056	1160.58	2.06	1162.64
- 19:57	28.0	1.072	1178.08	2.14	1180.22
- 20:00	31.0	1.088	1195.59	2.21	1197.80
- 20:03	34.0	1.101	1209.82	2.27	1212.09
- 20:06	37.0	1.112	1221.85	2.32	1224.18
- 20:09	40.0	1.122	1232.79	2.37	1235.16
- 20:12	43.0	1.130	1241.55	2.41	1243.96
- 20:15	46.0	1.139	1251.40	2.45	1253.85
- 20:17	48.0	1.146	1259.06	2.48	1261.54
- 20:20	51.0	1.153	1266.72	2.51	1269.23
- 20:23	54.0	1.158	1272.19	2.54	1274.73
- 20:26	57.0	1.162	1276.56	2.56	1279.12
- 20:29	60.0	1.165	1279.85	2.57	1282.42

SUPERIOR TESTERS ENTERPRISES, INC.

SUBSURFACE PRESSURE MEASUREMENTS

COMPANY : SAGE DRILLING CO.
DATE OF TEST : 11-20
DEPTH : 4405.0

WELL NAME : WIELAND #2
LOCATION : 16-21-22
SERIAL NO. : 11087

COMMENTS	TIME min	DEFL in	----- CALC	PRESSURE PSIG CORR	----- CORRECTED
TEST NO.: 2					
-20:29 1ST SHUT-IN	0.0	1.165	1279.85	2.57	1282.42
-20:29 2ND FLOW	0.0	.197	220.63	-3.67	216.96
- 20:33	4.0	.181	203.12	-3.78	199.34
- 20:38	9.0	.179	200.93	-3.79	197.14
- 20:42	13.0	.180	202.02	-3.79	198.24
- 20:46	17.0	.185	207.50	-3.75	203.74
- 20:50	21.0	.195	218.44	-3.68	214.76
- 20:55	26.0	.208	232.66	-3.59	229.07
- 20:59	30.0	.218	243.60	-3.52	240.09
- 21:03	34.0	.225	251.26	-3.47	247.80
- 21:08	39.0	.231	257.83	-3.42	254.41
- 21:12	43.0	.235	262.21	-3.40	258.81
- 21:16	47.0	.237	264.40	-3.38	261.01
- 21:20	51.0	.240	267.68	-3.36	264.32
- 21:25	56.0	.243	270.96	-3.34	267.62
- 21:29	60.0	.247	275.34	-3.31	272.03
-22:29 END FLOW	0.0	.247	275.34	-3.31	272.03
- 22:32	3.0	.603	664.89	-.79	664.10
- 22:35	6.0	.710	781.97	-.03	781.94
- 22:38	9.0	.773	850.91	.42	851.32
- 22:40	11.0	.821	903.43	.76	904.19
- 22:43	14.0	.857	942.82	1.01	943.83
- 22:46	17.0	.890	978.93	1.24	980.18
- 22:49	20.0	.915	1006.29	1.40	1007.69
- 22:52	23.0	.940	1033.64	1.52	1035.16
- 22:55	26.0	.960	1055.53	1.61	1057.14
- 22:57	28.0	.979	1076.32	1.70	1078.02
- 23:00	31.0	.993	1091.64	1.77	1093.41
- 23:03	34.0	1.008	1108.05	1.84	1109.89
- 23:06	37.0	1.020	1121.18	1.89	1123.08
- 23:09	40.0	1.032	1134.31	1.95	1136.26
- 23:12	43.0	1.040	1143.07	1.99	1145.05
- 23:15	46.0	1.040	1143.07	1.99	1145.05
- 23:17	48.0	1.056	1160.58	2.06	1162.64
- 23:20	51.0	1.065	1170.42	2.10	1172.53
- 23:23	54.0	1.072	1178.08	2.14	1180.22
- 23:26	57.0	1.078	1184.65	2.16	1186.81
- 23:28	59.0	1.083	1190.12	2.19	1192.31
-22:29 2ND SHUT-IN	0.0	1.083	1190.12	2.19	1192.31
-2ND HYDROSTATIC	0.0	1.932	2119.13	5.33	2124.45

SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : SAGE DRILLING CO.
DATE OF TEST : 11-20

WELL NAME : WIELAND #2
LOCATION : 16-21-22

RECOVERY INFORMATION

LIQUID RECOVERY

Total Fluid Recovered : 615

Recovered	60	feet of	GAS IN PIPE
Recovered	75	feet of	FREE CLEAN GASSY OIL - 39 CORRECTED GRAVITY
Recovered	120	feet of	32% OIL - 40% WATER - 28% MUD
Recovered	180	feet of	15% OIL - 65% WATER - 20% MUD
Recovered	240	feet of	5% OIL - 90% WATER - 5% 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	.22
Gas			.03
Water	.45	3.1E-6	.62

CALCULATED RECOVERY ANALYSIS

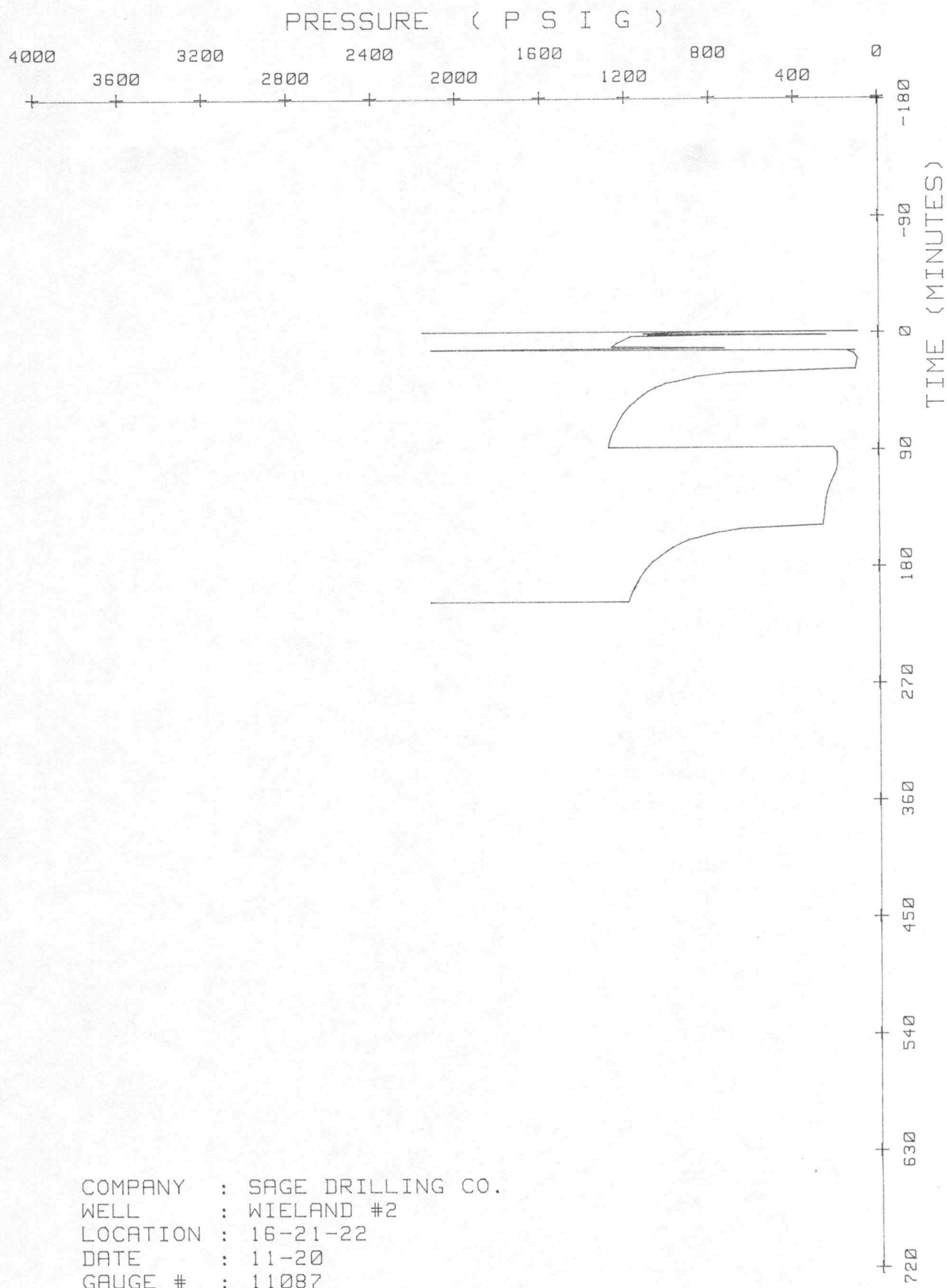
DST Number:2

Test ticket number:8498

Sample #	Total Feet	***** Gas ***** %	***** Gas ***** Feet	***** Oil ***** %	***** Oil ***** Feet	***** Mud ***** %	***** Mud ***** Feet
1	75	25.00	18.75	75.00	56.25	0.00	0.00
2	120	0.00	0.00	32.00	38.40	28.00	33.60
3	180	0.00	0.00	15.00	27.00	20.00	36.00
4	240	0.00	0.00	5.00	12.00	5.00	12.00
TOTAL	615	3.05	18.75	21.73	133.65	13.27	81.60

Sample #	Total Feet	***** WATER ***** %	***** WATER ***** Feet	Chlorides (ppm)	Resistivity (ohms)	Temperature (deg)
1	75	0.00	0.00	0.00	0.00	0.00
2	120	40.00	48.00	0.00	0.00	0.00
3	180	65.00	117.00	0.00	0.00	0.00
4	240	90.00	216.00	0.00	0.00	0.00
TOTAL	615	61.95	381.00			

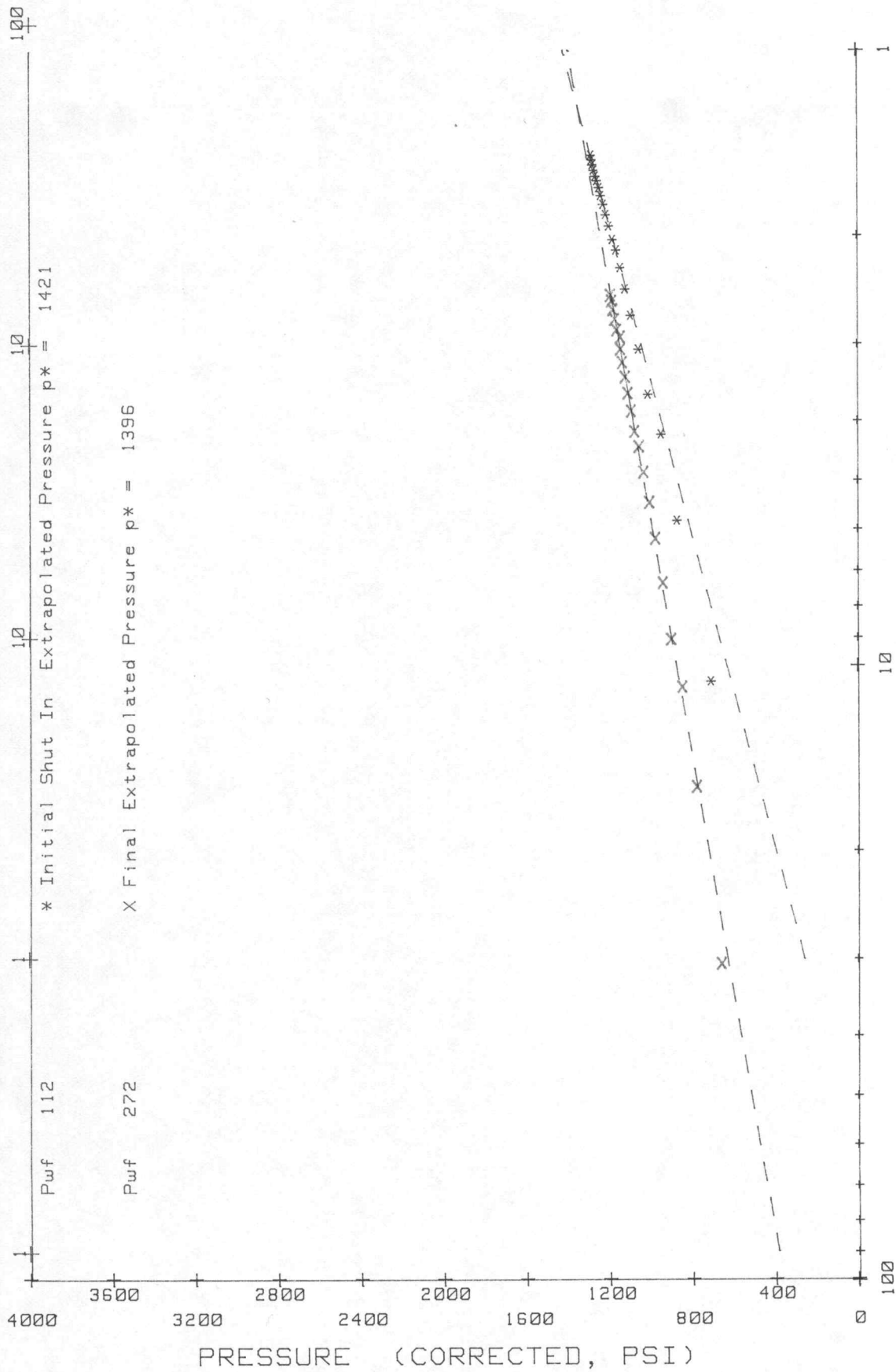
INTERPRETATION BY : SUPERIOR TESTERS INC.



LOCATION : 16-21-22

DATE : 11-20

GAUGE # : 11087



SUPERIOR TESTERS ENTERPRISES, INC.

HORNER ANALYSIS

COMPANY : SAGE DRILLING CO.
 WELL NAME : WIELAND #2
 LOCATION : 16-21-22
 STATE & COUNTY : KANSAS, HODGEMAN
 DATE OF TEST : 11-20
 TEST INT. KB : 4399 to 4411
 TOTAL INTERVAL (ft) K.B. : 12.00
 ELEV. (GR) : (KB) :
 FIELD :

ELEMENT SERIAL NO. : 11087
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES CORR PSIG
Refer. depth : 4405.0 ft-kb			
-19:29 END FLOW	0.00	0.00	112.33
	3.00	10.67	710.35
	6.00	5.83	872.25
	9.00	4.22	948.24
	11.00	3.64	1011.01
	14.00	3.07	1056.17
	17.00	2.71	1093.61
	20.00	2.45	1120.04
	23.00	2.26	1143.17
	26.00	2.12	1163.00
	28.00	2.04	1180.62
	31.00	1.94	1198.24
	34.00	1.85	1212.56
	37.00	1.78	1224.67
	40.00	1.73	1235.68
	43.00	1.67	1244.49
	46.00	1.63	1254.41
	48.00	1.60	1262.11
	51.00	1.57	1269.82
	54.00	1.54	1275.33
	57.00	1.51	1279.74
	60.00	1.48	1283.04
-20:29 1ST SHUT-IN	0.00	0.00	1283.04

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : SAGE DRILLING CO.
DATE OF TEST : 11-20
DST. NO : 2

WELL NAME : WIELAND #2
LOCATION : 16-21-22
SHUT-IN PERIOD : 1

INTERPRETIVE DATA (OIL)

EXTRAPOLATED RESERVOIR PRESSURE (psi):	1421.00
Slope of Build-up Curve (psi/log cycle):	783.56
Effective Producing Time (min):	29.00

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

HORNER ANALYSIS

COMPANY : SAGE DRILLING CO.
 WELL NAME : WIELAND #2
 LOCATION : 16-21-22
 STATE & COUNTY : KANSAS, HODGEMAN
 DATE OF TEST : 11-20
 TEST INT. KB : 4399 to 4411
 TOTAL INTERVAL (ft) K.B. : 12.00
 ELEV.(GR) : (KB) :
 FIELD :

ELEMENT SERIAL NO. : 11087
 LATEST CALIBRATION :

COMMENTS	TIME min	(T+dt)/dt min	----- PRESSURES ----- CORR PSIG
Refer. depth : 4405.0 ft-kb			
-22:29 END FLOW	0.00	0.00	272.03
	3.00	30.67	664.10
	6.00	15.83	781.94
	9.00	10.89	851.32
	11.00	9.09	904.19
	14.00	7.36	943.83
	17.00	6.24	980.18
	20.00	5.45	1007.71
	23.00	4.87	1035.24
	26.00	4.42	1057.27
	28.00	4.18	1078.19
	31.00	3.87	1093.61
	34.00	3.62	1110.13
	37.00	3.41	1123.35
	40.00	3.23	1136.56
	43.00	3.07	1145.37
	46.00	2.93	1145.37
	48.00	2.85	1163.00
	51.00	2.75	1172.91
	54.00	2.65	1180.62
	57.00	2.56	1187.22
	59.00	2.51	1192.73
-22:29 2ND SHUT-IN	0.00	0.00	1192.73

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : SAGE DRILLING CO.
DATE OF TEST : 11-20
DST. NO : 2

WELL NAME : WIELAND #2
LOCATION : 16-21-22
SHUT-IN PERIOD : 2

INTERPRETIVE DATA (OIL)

EXTRAPOLATED RESERVOIR PRESSURE (psi):	1396.00
Slope of Build-up Curve (psi/log cycle):	514.93
Effective Producing Time (min):	89.00

INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS ENTERPRISES, INC.

DATA SUMMARY

COMPANY : SAGE DRILLING CO.
DATE OF TEST : 11-20
DST. NO : 2

WELL NAME : WIELAND #2
LOCATION : 16-21-22
SHUT-IN PERIOD : 2

INTERPRETIVE DATA (OIL)

TRANSMISSIBILITY

Oil (md.ft/cp):	6.06
Gas (md.ft/cp):	0.00

EFFECTIVE PERMEABILITY

Oil (md):	.59
Gas (md):	0.00

TOTAL MOBILITY (md/cp):	1.71
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TOTAL COMPRESSIBILITY (psi ⁻¹):	4.10E-06
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ESTIMATED DAMAGE RATIO:	.47
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CALCULATED DAMAGE RATIO:	.52
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Reservoir Temperature (F):	140.00
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Formation Porosity :	.20
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Formation Thickness (ft):	10.00
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Wellbore Radius (in):	3.94
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Reservoir Compressibility (psi ⁻¹):	4.80E-07
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Calculated Skin Factor :	-2.35
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PRODUCTION WITH DAMAGE REMOVED (bbl/D):	9.90
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PRODUCTIVITY INDEX (bbl/psi):	.02
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Final Flow Pressure (psi):	272.00
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APPROXIMATE RADIUS OF INVESTIGATION (ft):	56.83
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Total Flowing Time (min):	89.00
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EXTRAPOLATED RESERVOIR PRESSURE (psi):	1396.00
--	---------

Slope of Build-up Curve (psi/log cycle):	514.93
--	--------

Effective Producing Time (min):	89.00
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INTERPRETATION BY : SUPERIOR TESTERS INC.

SUPERIOR TESTERS

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

Date 11-20-85 Location 20 W. C. St. 16-21-22 Elevation _____ County Hodgeman

Company Sage Drilling Company Number of Copies _____

Address 202 South St. Francis Wichita Ks. 67202

Charts Mailed to 202 So. St. Francis Wichita Ks. 67202

Invoice Mailed to 202 So. St. Francis Wichita Ks. 67202

Lease Wieland Well No. #2 Formation Tested Mississippi Test No. 2

Depth 4411 Tested from 4399 to 4411 Packer Size 63/4 Anchor Length 12

Top Packer Depth 4384 ft. Bottom Packer Depth 4359 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 Sage Drilling Rigs #9

Length Drill Pipe 3820' I.D. Drill Pipe 3.80" Tool Joint Size 4 1/2" X hole

Length Weight Pipe none I.D. Weight Pipe none Tool Joint Size none

Length Drill Collars 548' I.D. Drill Collars 2.25" Tool Joint Size 1 1/2" H 90

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

Tool Closed I.C.I.P. from 7:30 p m to 8:30 p m 60 min

Tool Open F.F.P. from 8:30 p m to 9:30 p m 60 min

Tool Closed F.C.I.P. from 9:30 p m to 10:30 p m 60 min

from [B] 99 P.S.I. to [C] 110 P.S.I.
[D] 1287 P.S.I.
from [E] 187 P.S.I. to [F] 276 P.S.I.
[G] 1177 P.S.I.

Initial Hydrostatic Pressure [A] 2143 P.S.I. Final Hydrostatic Pressure [H] 2110 P.S.I. Maximum Temp 140 °F

Initial Blow Weak built to bottom of bucket in 24 min

Final Blow Weak built to bottom of bucket in 29 min.

Gas to Surface none Min. Oil to Surface none Min. Mut Weight 9.1 Viscosity 50

Gas Guaged none

60' Gas in Pipe

Recovery 75' Free clean gassy oil 25% Gas 75% oil (39 corrected grav)
120' 32% oil, 40% water, 28% Mud
180' 15% oil, 65% water, 20% Mud
240' 37% oil, 90% water, 5% Mud (615' Total Fluid)

Remarks _____

Extra Equipment-Jars \$300.00 Safety Joint \$65.00 Extra Packer no Straddle no Hook Wall no

Top Recorder No. 11087 Clock no. 23914 Depth 4405 Cir. Sub no Sampler no

Bottom Recorder No. 11088 Clock No. 26182 Depth 4408 Chlorides - plts 6000 D.S.T. _____

Price of Job _____

Tool Operator plan dcha

Approved By Raymond E. Palmer

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° 8498